Lexia Core5® Reading
Passage Reference Guide

This resource includes the full text of passages in the Lexia® Core5® Reading student program.

The Passage Reference Guide is designed to support a detailed review of program passage content. Additional program content, including word- and sentence-level content, images, and questions, can be viewed using the product's Educator Mode.

Core5 Program Passages

LEVEL 1 | NURSERY RHYMES

Units 1–10: Instruction

One, two, buckle my shoe / Three, four, open the door / Five, six, pick up sticks / seven, eight, lay them straight.

Unit 1: Humpty Dumpty

Humpty Dumpty sat on a wall, / Humpty dumpty had a great fall. / All the king's horses, and all the king's men, couldn't put Humpty together again.

Unit 2: It's Raining, It's Pouring

It's raining, it's pouring, / The old man is snoring. / He bumped his head, And went to bed, And he couldn't get up in the morning.

Unit 3: Mary had a Little Lamb

Mary had a little lamb. Its fleece was white as snow. / And everywhere that Mary went, the lamb was sure to go. / It followed her to school one day, which was against the rule. / It made the children laugh and play, to see a lamb at school.

Unit 4: Hickory Dickory Dock

Hickory dickory dock, the mouse ran up the clock. / The clock struck one. / The mouse ran down, hickory dickory dock.

Unit 5: The Spider

The itsy bitsy spider went up the water spout. / Down came the rain and washed the spider out. / Out came the sun and dried up all the rain. / Now Itsy Bitsy spider went up the spout again!

Unit 6: Three Little Kittens

Three little kittens they lost their mittens, and they began to cry, / Oh mother dear, we sadly fear that we have lost our mittens. / What! Lost your mittens, you naughty kittens! Then you shall have no pie.

Unit 7: Little Bo Peep

Little Bo Peep has lost her sheep, and can't tell where to find them. / Leave them alone, and they'll come home, / Wagging their tails behind them.

Unit 8: Little Miss Muffet

Little Miss Muffet sat on a tuffet, eating her curds and whey. / Along came a spider who sat down beside her / And frightened Miss Muffet away.

Unit 9: Old Mother Hubbard

Old Mother Hubbard, Went to the cupboard, to get her poor dog a bone. / But when she got there, The cupboard was bare, / And so her poor dog had none.

Unit 10: Diddle Diddle Dumpling

Diddle, diddle, dumpling, my son John, / Went to bed with his trousers on. / One shoe off, and one shoe on. Diddle, diddle, dumpling, my son John!

LEVEL 1 | PRINT CONCEPTS

Unit 1: Our Changing Sky

Look up! What does the sky look like? Sometimes, the sky is bright blue. Sometimes, the sky is blue and white. Sometimes, the sky is dark. The sky is always changing.

Unit 2: Pig Can Fly

Pig looked up. Crow was flying fast and high. "I want to fly fast and high," Pig said to Crow. "Can you help me fly?" Pig asked. "Maybe I can," Crow answered. "I will make something to help Pig fly," Crow said. "WHEEE!" Pig cried. "I can fly fast and high!"

Unit 3: The Sense of Touch

You use the sense of touch to feel things with your skin. Your skin feels hot things and cold things. Your skin feels smooth things. Your skin feels rough things, too. The sense of touch is very strong in fingertips. How does something feel? Use the sense of touch to find out.

Unit 4: Two Little Jumps

Kay, Ray, and Fay went for a walk. They came to a stream. "I will leap across," said Kay. Kay fell into the water. "Watch me leap," said Ray. Ray fell into the water. Fay found a spot with a rock. She jumped and jumped. Lesson: Two little jumps can be better than one big leap.

Unit 5: Ants on a Log

Are you hungry for a snack? Make some ants on a log! You will need a butter knife, celery, cream cheese, and raisins. First, fill the celery with cream cheese. Next, add raisins. They look like ants on a log! At last, take a bite! Mmmm, ants on a log taste great!

Unit 6: Counting Together

Five friends walked together. Are all five of us here? asked one. Each friend counted the others. I count four! each said. "Oh, no!" they cried. "One of us is missing!" Another friend watched. The friend said, "Put your caps on the ground. Then count them." The friends counted five caps. "We are all here!" they said happily.

Unit 7: Signs All Around

Signs are all around us. Some signs keep us safe. Signs show us where to go in and where to go out. Signs show us the rules to follow. Signs show us the places we want to find. Signs are all around!

Unit 8: Bella's Dream

"It's too early for bedtime," Bella said to her mother. "When you're bigger, you can stay up later," Mother said. "I wish I were bigger," Bella said. Soon she fell asleep. Bella began to grow. She grew bigger, and bigger, and BIGGER! Morning came. Bella felt glad to be just the right size.

Unit 9: How Many Wheels?

Wheels help things move easily on the ground. One wheel can be enough for a ride! A bicycle, motorcycle, and scooter are alike. Each has two wheels. Tricycles have three wheels. Most cars and trucks have four. Some buses have six wheels. Some big trucks have 18 wheels!

Unit 10: Seeing Things

Look at that beautiful butterfly, said Henry's father. "Where?" asked Henry. "Your friend is waving hello," said Henry's sister. "Who?" asked Henry. "Catch this!" said Henry's brother. "What?" asked Henry. Henry's mother brought him to Dr. Koo. Henry liked his new glasses. He liked knowing where, who, and what.

LEVEL 2 | PICTURING STORIES 1

Units 1–10: Instruction

A cat rides a bike. A girl rides a blue bike. A girl with a pink shirt rides her red bike.

The dog runs from the cat. The brown mouse runs from the cat. The yellow mouse runs from the white cat.

Unit 1: Pia the Piglet

Pia the Piglet jumped out of the plane. Pia's pink parachute opened up. Pia the Piglet landed safely on the grass.

Unit 2: Bobby Bunny

Bobby Bunny pulled a carrot from the garden. Bobby Bunny brought the carrot to his home. Bobby Bunny shared the carrot with the other bunnies.

Unit 3: Carlos the Cat

Carlos the Cat baked a cake. Carlos put the cake in a big box. Carlos the Cat gave the cake to his friend.

Unit 4: Tina Tiger

Tina Tiger went on a train ride. Tina Tiger handed the conductor her ticket. Tina Tiger looked out the window and enjoyed the ride.

Unit 5: Daisy Dragon

Daisy Dragon fell asleep. Daisy had a dream that she was dancing. When Daisy Dragon woke up, she danced with her doll.

Unit 6: Franco the Fish

Franco the Fish swam near a big whale. Franco was very frightened and quickly swam home. Franco learned he should swim near his mom.

Unit 7: Nina the Newt

Nina the Newt goes to the corner store. Nina wants to buy fruit, like nectarines. Nina purchases nine nectarines.

Unit 8: Sanjay the Sea Turtle

Sanjay the Sea-Turtle walked to the store. Sanjay ordered a small smoothie. Sanjay then offered to share his drink with another sea-turtle.

Unit 9: Mason the Mouse

Mason the Mouse took some milk from the refrigerator. Mason poured himself a large glass to drink. Mason the Mouse took a sip and gave himself a milk mustache!

Unit 10: Loretta the Ladybug

Loretta the Ladybug lays down a picnic blanket. Loretta's friends bring food to the picnic. Loretta hands out slices of watermelon to all her friends.

LEVEL 3 | PICTURING STORIES 2

Units 1–10: Instruction

A cat rides a bike. A girl rides a blue bike. A girl with a pink shirt rides her red bike.

The dog runs from the cat. The brown mouse runs from the cat. The yellow mouse runs from the white cat.

Unit 1: The Ballet Dancer

The dancer starts her routine by gracefully lifting her arms above her head. Then, she balances on one foot and spins around. The crowd stands and claps for the dancer at the end of the performance.

Unit 2: A Scuba Diver

A scuba diver plunges into the sea from a boat. Her wetsuit keeps her warm in the deep, cold water. The scuba diver takes out her small, black camera. Good thing it is waterproof! She takes a photo of a speckled sea turtle chasing a fish.

Unit 3: A Pilot

A pilot pulls on her round helmet and goggles. The airport tower tells her it is safe to go. The jet speeds down the runway. The noise is deafening. The jet leaves behind a trail of white smoke.

Unit 4: The Elephants

Three gray elephants stop to drink water from the river on a hot sunny day. The smallest elephant snorts up some water and blows it on his own back. He is giving himself a shower. The other two elephants go for a swim in the clear, blue water.

Unit 5: A Skateboarder

A boy wearing a black t-shirt and jeans jumps on his skateboard. He skates down the busy sidewalk through the crowd of people. He arrives at the park and sees his friend skating on the ramp doing tricks and turns.

Unit 6: The Artist

An artist paints orange stars on the side of a building. Then she paints a brown and white spotted owl sitting in a big tree. Finally, the artist paints a picture of a cat sitting under the tree.

Unit 7: The Nurse

The nurse walks through the hospital in plain blue clothing called scrubs. The nurse also carries a special clipboard. The nurse visits a sick patient in an exam room and uses a thermometer to check her temperature. Finally, the nurse and a doctor talk with the patient about how they can help her feel better and recover.

Unit 8: The Farmer

A farmer with purple overalls and a straw hat fills a bucket with water. The farmer's brown horse drinks the water from the bucket. The farmer brushes the horse while the horse is drinking.

Unit 9: A Black Puppy

A black puppy with big, floppy ears chases a ball across the living room floor. The puppy knocks the ball into a green lamp beside the purple couch. The lamp topples over and crashes into a million pieces on the floor.

Unit 10: The Tennis Player

A tennis player with long, curly hair and black shorts steps onto the tennis court. He throws the yellow ball high into the air and lunges at it with his green racquet. After the ball lands, he throws his hands in the air to celebrate his win.

LEVEL 4 | SEQUENCING 1

Units 1–20: Instruction

Pam woke up and got ready to go to school. She walked to the bus stop. The bus driver drove her to school.

Mother made a peanut butter sandwich. Sam ate the whole sandwich. Now Sam can have a cookie.

First, the boy ate dinner. Then, the boy brushed his teeth. Finally, he went to bed.

Unit 1: Demonstration

Jad's mom often takes him to the library after school. He loves to see all the beautiful books stacked up on the shelves. He's excited to pick adventure books to bring home to read.

Unit 1: Maya and Her Dad

Maya sees her dad raking red, orange, and brown leaves into a large pile. Maya suddenly runs and jumps into the big pile of leaves. Maya's dad laughs and jumps in after her.

Unit 2: Chan and the Snow Day

Chan wakes up and sees snowflakes falling from the sky. Chan quickly puts on his warmest coat and snow boots. As Chan steps outside, he sees that his parents are holding something behind their backs. It is a brand new red sled!

Unit 3: Kelly's Chores on the Farm

The rooster wakes Kelly up early to start her chores on the farm. She does many jobs, including gathering eggs from the chickens. She brings the eggs home for breakfast and enjoys breakfast with her family.

Unit 4: Diego and His Cat

Diego's cat hops into the empty bags when he unpacks his groceries. When Diego serves dinner, his cat tries to steal the fish from the plate. As Diego goes to sleep, his cat curls up on top of his head.

Unit 5: Sara and Jose at the Beach

Sara and Jose love to play in the ocean waves at the beach. After they swim, Jose builds a sand castle with his yellow pail while Sara plays with her beach ball. At the end of a long day of fun, Sara and Jose have a picnic with their mom and dad.

Unit 6: Ali and Becky at the Circus

Ali likes to watch the funny clown acts. Becky prefers to watch the trapeze acts. They are both big fans of the elephant and horse acts.

Unit 7: Abdul and Tim

Abdul and Tim enjoy a snack on a bench at the park. When they are done eating, they hop on the swings and pump their legs very fast. Before they head home, Abdul and Tim spring to the tunnel slide and slide down the long tube.

Unit 8: Abe and His Parrot
Each morning, Abe's parrot Polly sings a wake up song. Polly plays peek-a-boo with himself in the mirror. Polly pecks at fruit seeds on his perch near the kitchen window.

Unit 9: Gia and the Honeybee
One spring day, Gia smells a flower and, to her surprise, out flies a honeybee. The honeybee bounces from flower to flower collecting pollen. Gia watches the honeybee fly quickly back to her home in the tree to make honey.

Unit 10: Rosa Goes Camping
Rosa and her family set up their tent at the campsite in the desert. Rosa spots a family of green lizards sitting in the cactus plants next to her tent. Rosa starts to walk toward the lizards and they quickly scamper away.

Unit 11: Steve and His Bike
When Steve rides his bike, he always puts on his helmet. Steve rides carefully along the side of the road. Steve always gets off his bike and looks both ways before crossing the street.

Unit 12: A Class Getting Ready to Learn
After playing outside, the children enter the classroom loudly and with a lot of energy. The teacher has an idea to help everyone feel calm. The children sit on the colorful rug and take three slow, deep breaths. Finally, the children return to their seats to begin work on their projects. The class is calm and ready to learn.

Unit 13: Manny and His Dog
Manny and his dog hike through the forest collecting pine cones. A small owl perches high in a pine tree watching Manny and his dog pick up pine cones. The owl lets out a screech and startles Manny and his pup.

Unit 14: The Family Garden
Mom and Dad pull up potatoes from their flourishing vegetable garden. A plump rabbit hides in the carrot patch and munches eagerly. Mom and Dad see the rabbit and chase it off.

Unit 15: Bo and Missy at the Fair
When the fair comes to town, Bo tries the ring toss. Missy enjoys riding the rollercoaster. Missy and Bo both enjoy eating fried dough and cotton candy.

Unit 16: Bella's Birthday
At Bella's birthday party, her friends wore party hats and blew loud horns. Bella blew out seven birthday candles as her friends sang the Happy Birthday song. They laughed with excitement as a frog jumped into the cake.

Unit 17: Three Brothers at Home

Danny, Noah, and Sam dusted and mopped the kitchen floor. Noah and Danny washed the dishes, while Sam dried them. The three boys used straws to blow big bubbles in the soapy water.

Unit 18: The Petting Zoo

Annie rode a pony at the petting zoo, while her Grandma watched. They offered handfuls of the food to the sheep and chickens. Annie chased after the chickens with her arms in the air and Grandma laughed.

Unit 19: Amil and His Dog

Amil and his dog, Buster, arrive at the park for their morning run. Buster runs as fast as a jet, making all the other dogs chase him. Hot from all the games, Buster lies down in a muddy puddle.

Unit 20: A Walk in the Neighborhood

Every morning after breakfast, Gabriella and her grandfather, Abuelo Luis, leave their home to go on a walk. They stop to buy a newspaper from the newspaper stand. "Gracias!" Gabriella says. "Thank you!" Abuelo Luis hands Gabriella the comic section, and they read the newspaper sitting side by side.

LEVEL 5 | SEQUENCING 2

Units 1–20: Instruction

Pam woke up and got ready to go to school. She walked to the bus stop. The bus driver drove her to school.

Mother made a peanut butter sandwich. Sam ate the whole sandwich. Now Sam can have a cookie.

First, the boy ate dinner. Then, the boy brushed his teeth. Finally, he went to bed.

Unit 1: Demonstration

Every morning, Sasha the lifeguard puts on her red bathing suit and grabs her whistle. At the pool, Sasha sits on a tall, white chair so she can see the swimmers. Sasha has to blow her whistle and get everyone out of the pool when a duck lands in the deep end!

Unit 1: The Chef

A chef is a person who prepares food in a restaurant. In the morning, the chef gathers fresh ingredients she will need to make her favorite dishes. In the afternoon, she chops and cooks the ingredients. In the evening, people visit the restaurant to taste the chef's delicious, healthy meals.

Unit 2: A Creative Carpenter

A carpenter is a person who builds things out of wood. First, he gathers a pile of wood in his shop, and plans what he will build. Next, he uses a hammer and nails to put the pieces of wood together. Last, the carpenter sands and paints his creation - this time he has built a giant rocking chair!

Unit 3: Sliding Practice

Coach Jamal heads to baseball practice at the field in his clean, white uniform. During practice, the players take turns sliding into a base while Coach Jamal and the others watch and cheer. At the end of the day, Coach Jamal and all of the players are extremely filthy from sliding in the dirt!

Unit 4: Becoming a Sea Turtle Scientist

Aisha loves sea turtles. When she was young, she enjoyed reading books about them with her stuffed sea turtle by her side. Then, when she was older, Aisha did a project for her school science fair that shared information about what sea turtles eat. Now, Aisha is an environmental scientist. She studies sea turtles and protects the beaches where young turtles hatch.

Unit 5: Ice Fishing

Every winter my grandpa goes ice fishing. First, he walks out onto a frozen lake and drills a hole in the ice. Then he drops his fishing line into the cold water and waits patiently for a fish to bite. Finally when an enormous fish bites, my grandpa tugs hard and reels the fish up through the hole in the ice.

Unit 6 The Singing Barber

Marco is everyone's favorite barber. Kids have to wait in a long line to get their hair cut at Marco's barber shop. While Marco cuts one boy's hair, he sings songs with kids who are waiting. He works fast, and hair flies all around! When he is finished, Marco hands a mirror to the boy and shows him his new haircut.

Unit 7: An Actor

Kayla is an experienced actor. She began her career as a bumblebee in her preschool play. In middle school, Kayla played a princess who ate a poisoned apple and fell asleep for one hundred years. Now, Kayla is a professional actor and she performs in a play about astronauts in front of a large audience!

Unit 8: A Careful Mechanic

Max the mechanic has many cars in his shop that need repairs, but one car is making a strange noise. He has to check every engine to find the car that is beeping and squeaking. Max checks the last car, and when he pulls a squeaky toy out of the engine, the noise stops!

Unit 9: The Butterfly Field Trip

Before a class field trip to the butterfly farm, the teacher helps the children learn about caterpillars and butterflies. When it's time for the trip, she gives them each a name tag and a lunch bag, and they line up at the door. As they wait for the bus, the children imagine the kinds of butterflies they will see at the butterfly farm.

Unit 10: The Firefighter

Jason the firefighter is at the station, washing the red fire engine to make it shine. A group of kids are playing on the pavement outside and wave to Jason as he dries the fire engine. Jason and the other firefighters open up a fire hydrant so the kids can play in the stream of water to cool off!

Unit 11: An Artist's Silly Pictures

Maria is an artist. She draws pictures with pencils and keeps her favorite drawings in a big book. Maria opens the book to show her friends a picture she drew. Her friends laugh when they see that Maria has drawn a picture of them all making funny faces!

Unit 12: A Helpful Librarian

A librarian is a person who helps students look for books at the library. First, the students tell the librarian what things they like to read about. Next, the librarian uses the computer to search for book titles. Last, the librarian brings a towering stack of books for the students to take home.

Unit 13: The Custodian

Each morning, Mike the custodian unlocks the gym using the keys on his key chain. He empties the trash from the trash cans and then washes the gym floor. When the students arrive, Mike takes a basketball into the gym and lets them practice.

Unit 14: The Doctor

A doctor is a person who can help people when they are sick. First, the doctor talks to her patient and finds out that he has a sore throat. Then she asks him to say 'ah' so she can look at his throat. After she looks closely, she gives the boy medicine, and a cherry lollipop for being a good patient!

Unit 15: A News Reporter

The reporter wants to write a news story about the town's new school. First, she visits the school and talks to the teachers. The reporter writes down what she learns. Later, she sits at her computer and types the news story about the school. She carefully checks her notes to make sure the facts are correct. Finally, her story is finished and printed in the newspaper. People read the paper and learn about the town's new school.

Unit 16: A New Learning Game

Everlee is a computer programmer who designs learning games. First, she uses her imagination to think of a fun new game. Then she sits at her computer and types using special code. This code builds the game on the computer. When her game is complete, Everlee visits a school and watches children as they play the game she designed.

Unit 17: A Farmer's Party

Every year, Farmer Bryson has a harvest party in the fall and gathers his friends to go on hayrides. He gives everyone blankets and hot apple cider to keep them warm as they ride through the fields. At the end of the party, Farmer Bryson and his friends dance in the crowded barn, and even the animals join in!

Unit 18: The Busy Vet

Mr. Tan, the vet, takes care of every kind of pet that comes into the animal hospital. In the morning, he removes a cast from an iguana's leg. Later, he teaches a young girl to feed a kitten from a bottle. At the end of the day, Mr. Tan meets a new patient - a potbellied pig named Ruffus.

Unit 19: A Saxophone Concert

Each morning in her living room, Priya takes out her saxophone and practices playing her instrument. Priya is going to perform in a concert! She takes the bus to the concert hall, carrying her saxophone in its case. When the concert begins, Priya stands on stage under a bright spotlight and performs on her saxophone in front of a crowded audience.

Unit 20: The Police Officer

A police officer can help children get to school safely. Each morning, the officer stands in the middle of a busy intersection. When children are ready to cross the street, he stops traffic so they can walk safely. After the children cross, he waves and says 'good morning' to the drivers as they pass by.

LEVEL 7 | SENTENCE COMPREHENSION 1

Unit 1: Demonstration
Dan sees a big bug. He hit the bug with his hat. The bug got mad.

Unit 1: Sam and the Cat
Sam has a big cat. The cat sat on a hat. The hat has a cat on top.

Unit 2: Ben, Liv, and the Dog
Ben has a black and tan dog. Liv said, "Can the dog and I run?" "Yes!" said Ben, and they all had fun.

Unit 3: Tim and the Bug
Tim hit a bug with his hat. The bug got mad. The bug bit Tim on the leg.

Unit 4: Mac and the Sub
Mac had a yellow sub. The sub had a blue tip. Mac sat with the sub in the tub.

Unit 5: Bob and His Dad
Bob and his Dad sat on the rug. The rug was in the den. The rug was big and green.

Unit 6: Cam and the Pit
Cam dug a big pit. Cam hid a hat in the pit. Then she hid a bat in it.

Unit 7: Peg and the Dog
Peg has a dog on her top. The dog is big and brown. The top is soft and yellow.

Unit 8: Kip on a Log
Kip sat on a log. There was a red dot on the log. The dot was a red bug.

Unit 9: Tim in the Sun
Tim sat on a log in the sun. The sun was hot on his neck. Tim put on his big hat.

Unit 10: Jen Plays Ball
Jen got a red bat. She hit a ball with the bat. Then, she ran in the mud.

Unit 11: Mud
Mud is brown and wet. A kid can get in the mud. Mud can be a big mess.

Unit 12: Bug
A bug can be green. This bug has six legs. It can fit on the lid of a can.

Unit 13: The Run
Yas and Kat go on a big run. They run on the path by the pond. In the pond, they see a red fish.

Unit 14: The Wig
You can get a wig at a shop. It will have a tag to tell you the cost. This wig is green and red.

Unit 15: Dogs
A dog is a pet that can jog with you. A dog can run fast. It is fun to jog with a dog.

Unit 16: The Pet Shop
Max wants a new pet. Max and her dad go to the pet shop. At the shop, Max gets a big black cat.

Unit 17: Hugs
Ray sat in her mom's lap. Her mom had a big hug for her. Ray was glad to be with her mom.

Unit 18: The Sun
The sun can be hot. A bus will get hot if it is in the sun. It is not fun to sit in a hot bus.

Unit 19: The Bag
The bag is on his back. He can fill the bag to go on a trip. He can pack it with lots of stuff.

Unit 20: The Fox
A fox has a red back and black legs. It can get fish from the pond. It can go in a den to rest.

LEVEL 8 | SENTENCE COMPREHENSION 2

Unit 1: Demonstration
Dan sees a big bug. He hit the bug with his hat. The bug got mad.

Unit 1: Tess Goes Swimming
At the pond, Tess went for a swim. It was so much fun to have a swim in the pond. Tess was sad when she had to go back.

Unit 2: Frogs
You can see frogs on land and in ponds. They can jump on rocks and grass. Frogs can lay eggs in a pond.

Unit 3: The Nest
Jaz sees some eggs in a nest. A brown hen sits on the eggs. She sees chicks with yellow fuzz hatch!

Unit 4: Trips on Ships
You can go on a long trip in a ship. Ships have lots of fun things to do on them. On a ship, you can have a long rest.

Unit 5: Sam Goes to Camp
Sam went to the camp with his pals. They sat on logs and sang songs. Sam had fun with his pals.

Unit 6: The Fast Ride
A sled can go fast down a long hill. It is fun but you can hit a bump. Do not go so fast that you fall off!

Unit 7: Skip and His Dog Spot
Skip and Spot had fun at camp. Spot got a stick and gave it to Skip. Spot ran down the hill to catch it.

Unit 8: Plugs
Plugs in sinks can get stuck. This can make a big, wet mess. You have to fix the plug and the mess.

Unit 9: Brad in the Crib
Brad and his twin were in the crib. His twin was glad but Brad was sad. Dad held Brad and he was glad.

Unit 10: Plums
Plums can make a fine snack. A plum is small and fits in a bag. You can have a plum on a bench.

Unit 11: Fran's Big Test
Fran had a big test in math. She had a trick to help with one math fact. Fran did well on the test with the trick.

Unit 12: A Run on a Track
You can run fast on a flat track. You do not have to stop. You can go on a long run and do lots of laps.

LEVEL 9 | SEQUENCING SENTENCES

Unit 1: Demonstration
Glen saw a black bug. Glen hit the black bug with his hat. Then the bug got mad at Glen.

Unit 1: Sled
Take the sled to the top of a big hill. Sit down on the sled and hold on to the sides. Then, you can sled fast down the hill!

Unit 2: Stan and the Slug
There was a black slug in the grass. Stan went to grab the slug with his hand. He did not grip the slug well and it fell.

Unit 3: Crabs
To find crabs, walk down the path to the beach. At the beach, dig a hole in the sand. Then, you can pick up a crab from the hole.

Unit 4: Glen and Rex
Glen and his dog, Rex, go to the shop. At the shop, Glen sees a dog bone. Glen gets the dog bone for Rex.

Unit 5: The Bike Ride
Trang woke up with a smile and ate in a rush. Then, Cam rang the bell, so Trang got her bike. In the end, they rode their bikes to the lake.

Unit 6: Brad Plays Ball
Brad runs to the ball on the grass. Then, he kicks the ball to his twin. His twin gets the ball and kicks it in the net.

Unit 7: Set Up a Tent
When you camp, pick out a flat spot for the tent. Then take out the tent and set it up. In the end, you can take a long nap in the tent.

Unit 8: Kim and Ann
Kim and Ann swim to the raft. At the raft, Kim gets on but Ann is stuck. Kim helps Ann get on the raft.

Unit 9: Skip and the Truck
Skip got a new green truck. A man put the new truck on a long ramp. It was wet and the truck slid down the long ramp.

Unit 10: Get Strong

To get strong, hike up to the top of a hill. At the top, take a quick rest on the rocks. Then, hike down the hill as fast as you can.

Unit 11: Fish

You can go to a pet shop to get a fish. Pick out the fish you like the best. Then, take the fish home with you in a cup.

Unit 12: Get Logs

Drive the big truck to the shed to get the logs. At the shed, load the stack of logs on the truck. Take the stack of logs back home in the truck.

LEVEL 10 | BUILDING SENTENCES

Unit 1: A Girl in a Pool
The girl jumps. She makes a big splash. The pool is cool.

Unit 2: A Band Plays a Song
Dave plays the drums. Liz plays with him. The crowd cheers.

Unit 3: At the Pump
Noor stops at the pump. She fills the tank. Then she drives off.

Unit 4: Cats Have Fur
Cats have lots of fur. The fur is soft. You can brush a cat's fur.

Unit 5: The Sun Can Burn
Be safe in the sun. The sun can burn your skin. A burn from the sun stings.

Unit 6: A Boy in the Mud
A boy yells for his dad. He is stuck in the mud. Dad saves him from the mud.

Unit 7: The Sailboat
A boat can have two sails. The sails fill with wind.

Unit 8: Corn from the Farm
We eat corn from the farm. Corn is good for you. You can eat corn on the cob.

Unit 9: A Girl and Her Bike
The bike leans on a pole. The girl grabs her chain. She locks the bike.

Unit 10: A Team and Their Coach
The team stands on a line. The coach tells them to run. The team runs to make a goal.

LEVEL 11 | TEXT CONNECTIONS 1

Unit 1: Demonstration A

Sam hops on his bike. He rides his bike to the bookstore. When Sam gets to the bookstore, he leans his bike on the pole. He then grabs a chain from his bag. Then he locks the bike to the pole. In the store, Sam asks the store clerk for a book on bikes. The store clerk shows him two books. Sam takes one book and pays the clerk. He slips the book into his bag and gets back on his bike. Sam rides home as fast as he can so he can read his new book.

Unit 1: Demonstration B

Uncle Bob was teaching Dave to ride a bike. He held the bike by the seat and Dave put his feet on the pedals. "Go!" said Uncle Bob. Dave pumped his legs and the wheels turned. His hands gripped the bars.

"I'm with you!" said Uncle Bob as he ran. The bike swayed from side to side but did not fall. Dave was glad that Uncle Bob was holding the seat.

"Keep it up! Do not look back," said Uncle Bob.

Dave pushed the pedals fast and the bike stayed up.

At last, Dave put on the brake and jumped off. "Now, I want to ride on my own," he said.

Uncle Bob smiled. "I was not holding the seat," he said.

Units 1–2: Sunflowers

A plant has many parts that help it grow. A sunflower is one plant with many parts that help it grow strong and tall. In fact, some sunflowers can grow as tall as you!

Roots
A sunflower has roots. The roots hold the plant in the ground. Roots help the plant get food and water. It needs food and water to live and grow.

Stem
Like most plants, the sunflower has a stem. The stem holds up the sunflower and brings food and water up from the roots.

Leaf
Each leaf of the sunflower plant is attached to the stem. Plant leaves can make food with help from the sun. Sunflower leaves are flat and wide.

Seeds
The sunflower has flowers that are big and yellow. The flowers make many seeds. The seeds help grow new sunflower plants."

Unit 2: Pine Trees

A pine tree is a plant with many parts. Each part helps the tree grow tall and strong.

Roots

The roots of a pine tree hold it in the ground and help it get food and water. Like other plants, pine trees need food and water to live and grow.

Trunk

A pine tree has a trunk. The trunk is like a plant stem but bigger and stronger. The trunk brings food and water up from the roots.

Needles

Pine tree leaves are called needles. Needles are thin and sharp and grow on branches. Branches are like stems that grow from the trunk. Pine trees are called evergreens because the needles stay green all year. Pine trees don't lose their leaves in autumn like other plants.

Seeds

A pine cone is the part of a pine tree that holds the seeds. Some pine cones need heat to let go of their seeds."

Unit 3: Interview with a Forest Ranger

Interviewer: Hello! Thanks for helping us learn more about forest fires.

Forest Ranger: A big part of my job is teaching people how to prevent forest fires. But not all forest fires are caused by people. Lightning can also start a forest fire."

Interviewer: What happens after a forest fire?

Forest Ranger: Forest fires can destroy huge areas of land. Plants and trees die, and the animals that lived in the forest need to find new homes. But fires can sometimes be good for a forest!"

Interviewer: How can fire be good for a forest?

Forest Ranger: Forest fires leave behind ashes that make the soil a healthy place for new plants to grow. Some trees, like pine trees, won't release their seeds without the heat of a forest fire. A fire can also clear trees and leave open land. This lets sunlight reach the seeds to help them grow."

Units 5–6: The Girl and Her Milk

One day, a girl got a full bowl of milk from her cow. She set off for home with the bowl on her head and joy in her step.

As the girl walked she made plans. "The milk in this bowl will give me cream," she said. "Then, I will churn the cream to make butter. When I sell the butter, I'll have money to buy eggs. The eggs will hatch, and I'll have a lot of chickens!"

The girl made more plans. "I'll sell some of my chickens," she said. "And I'll buy a new drum." She thought about the loud beats she would make with her new drum, but she forgot about the bowl on her head. The bowl fell off, the milk spilled, and the girl was mad because her plans had come to an end.

The moral of this tale is: Don't count your chickens before they hatch.

Unit 6: The Boy and His Oil

A boy once had a pot of oil to sell. He balanced the pot on his head and set off for the market.

As the boy walked, he began to think. "When I get to the market, I'll sell my oil for two gold coins," he said. "I'll use the gold to buy goats. One day, I'll have many goats. Then, I'll sell some and buy land. Then, I'll buy a house and start a family!"

The boy smiled to think of his goats and his land and his house and his family. "I'll have many children who will take care of me when I am old," he said.

But then, the boy remembered how some children yell and cry. He shook his head as if to say, "No, no, not my children." This made the oil pot fall to the ground and spill. The boy's plans had come to an end.

Unit 7: The Man and His Bird

Long ago, there was a poor man who had a special bird. "Listen to this bird! It sings so beautifully!" he would say.

The man loved his bird, but he was greedy. One day, he decided to sell the bird.

The man thought about what he'd do after he sold his bird.

"I'll sell my bird and get gold in return. Then, I'll buy more birds to sell for even more gold," he planned. "Before long, I'll be as rich as a king. If people beg for my riches, I'll just tell them to go away."

The man waved his arms in the air to show how he would make people go away. He knocked over the birdcage, and the bird flew away.

"Oh no!" he cried. "Now I have no bird to sell for gold to buy more birds to sell for even more gold to make me as rich as a king."

Unit 9: Map of Bryce Canyon

The Rim Trail is two miles long. One of the best times to hike is just before the sun sets. The Peek-a-Boo Loop Trail is five miles long. People can ride a horse on this trail if they don't want to hike. There are bus stops at the start and end of the trails. People can take the bus if they don't want to hike or ride a horse. This shop sells food and other things that people might need to camp in the park. The tent site is a spot for people who want to sleep near the trails. They can set up a tent or sleep out in the open. Tall, thin rocks can be seen from both trails. These rocks were made by years and years of snow and rain.

Unit 10: How Do Hoodoos Form?

Bryce Canyon is a rocky area in the western United States. There is a deep canyon, or valley, with tall cliffs on both sides. There are also tall, thin rocks called hoodoos. The land in this area is special. There are layers of soft rock and hard rock. Some of the layers are brown, some are orange, some are red, and some are almost white. Millions of years ago, the land was flat. Over time, ice made cracks in the flat land. Years and years of snow and rain wore away the soft parts of the rock. Wind also blew away some of the rock. Today, the rock is shaped like tall, thin spears that look like sand castles you might see on the beach. These rock shapes are called hoodoos. The weather transformed, or changed, the land.

Unit 11: A Hike at Night

"Let's go see what Bryce Canyon looks like at night!" says the park guide. It is near the end of our trip, and there's a full moon. Dad and I can see odd rocks on all sides of the trail.

I can't wait to see the hoodoos at night. The tall, thin rocks make me think of sand castles. I run up the trail in front of the group.

Just then, a dark shadow falls over me. Is it a mountain lion? A black bear? I try to shout for help, but Dad and the others are too far back to hear.

But wait! I have a flashlight! When it lights up the shadow, I have to laugh. It isn't a mountain lion or a bear. It's a hoodoo! Still, I think I'll stay with Dad for the rest of the hike.

Unit 13: *Last Stop on Market Street*

An excerpt from a book by Matt de la Peña

The bus creaked to a stop in front of them. It sighed and sagged and the doors swung open. They sat right up front. The man across the way was tuning a guitar. An old woman with curlers had butterflies in a jar. Nana gave everyone a great big smile and a "good afternoon." She made sure CJ did the same. A man climbed aboard with a spotted dog. CJ gave up his seat. "How come that man can't see?"

"Boy, what do you know about seeing?" Nana told him.

"Some people watch the world with their ears."

"That's a fact. Their noses, too," the man said, sniffing at the air.

"That's a mighty fine perfume you're wearing today, ma'am."

Unit 14: *Last Stop on Market Street*

An excerpt from a book by Matt de la Peña

"Why don't you ask the man if he'll play us a song?" CJ didn't have to. The guitar player was already plucking strings and beginning to sing."

"To feel the magic of music," the blind man whispered, "I like to close my eyes."

Nana closed hers, too. So did CJ and the spotted dog. And in the darkness, the rhythm lifted CJ out of the bus, out of the busy city. He saw sunset colors swirling over crashing waves. Saw a family of hawks slicing through the sky. Saw the old woman's butterflies dancing free in the light of the moon. CJ's chest grew full and he was lost in sound and the sound gave him a feeling of magic.

Unit 15: Picture of a Community

The man plays and sings a song for the people on the bus. He likes that he can make them smile.

CJ drops a coin in the man's hat. Then, he starts to clap as the sound fills the bus. CJ feels good when he is lost in the sound of the man's song.

Nana smiles as she looks at the people on the bus. Nana smiles at CJ, too. She feels proud of CJ when he gives a coin to the man who sings.

The people on the bus smile and clap to the beat of the song. Some people put a coin in the man's hat. They are glad to be part of a group and help each other.

LEVEL 12 | PASSAGE FLUENCY 1

Unit 1: Cat and Mouse Dreams

Cat took a nap on the chair and had a dream. In the dream, Cat saw a mouse. The mouse ran off when Cat came near. Again and again, Cat made a dash for the mouse. The mouse was too fast and always got away. Cat was glad to wake up. That was a bad dream!

Mouse went to sleep and had a dream. In the dream, Mouse saw a cat. It had sharp teeth! Mouse hid on a shelf. The cat made a leap to the shelf. Mouse hid by a chair. When the cat came close, Mouse ran fast. Mouse felt glad to wake up. That dream was bad!

Unit 2: Swimming at the Lake

Mom drove the car. Joe and Dee sat in the back seat. They were on the way to the lake. "I want to jump in the water," said Dee. "I want to swim to the raft," said Joe. Mom drove down a dirt road. They saw the lake at last, and Mom parked the car. Joe and Dee jumped out!

At the lake, Joe and Dee ran to the water. The water felt so cool and fresh! Dee swam to see some ducks, and Joe swam to the raft. It was fun to jump off the raft. At the end of the day, they drove home. "I like the lake," said Dee. "Me too," said Joe.

Unit 3: Zane's New Sled

Zane had a new red sled. He could not wait to ride his new red sled. But where was the snow? Weeks went by, but no snow fell. One day, Zane saw gray clouds in the sky. "It will rain," he said, but then he saw big white flakes. Zane sang out, "Snow at last!"

Zane took his new sled to the park. A big hill was there and it was white with snow. Zane went all the way to the top of the hill. He sat down on the sled. "Here I go!" he said. The ride down was smooth and fast. "This sled is the best!" said Zane.

Unit 4: The Frogs' New Home

Big Frog and Small Frog had a home in a pond. But now their pond was dry. "We must find a wet place to live," said Big Frog. The frogs set out from the pond. They came to a deep hole. It was a well that people had dug. The frogs saw water in the well.

"This deep well has water," Small Frog said. "We can live here!" Big Frog said, "We left the pond because it was dry. What will we do if this well dries up? We will not have a way to get out. The hole is too deep. " Big Frog was wise. The frogs set out again.

Unit 5: Sam Bakes a Cake

Sam had ten fresh eggs. "I can use these eggs to bake a cake," he said. "I want to make a big cake." Sam took out six boxes of cake mix. He took out six pans. Sam made six round cakes. He set one on top of the other. Sam felt proud of his big cake.

Sam gave his big cake a sniff. "Mmmm, this will be a real treat," he said. Sam got out a fork. But he did not take a bite. "This cake is too big," he said. Sam set out six forks and six plates. Then he went to call his friends. The cake was not too big for his six friends.

Unit 6: Rock Climbing

Is there an activity you love to do? If you're looking to try something new, you can go to a rock climbing gym. This is a place where climbers use their strength to climb up tall walls. Rock climbing is for everyone!

A young woman in a wheelchair loves to rock climb. She must lift both her body and her chair up the wall. She is stronger than many other rock climbers.

The walls have plastic shapes called holds. Climbers use these to grab and step on. Some holds are big and round. Others are small and hard to grip.

A man who is blind climbs with a partner who stays on the ground. She tells the climber where the closest holds are. He listens to her and decides which hold to reach for.

Rock climbing can be done in many different ways, but no matter what, it takes great strength.

Unit 7: Cat Plays Chase

A cat sat on the grass. It had soft black fur. A crow flew down and sat on a rock by the cat. The cat saw the crow and the crow saw the cat. They sat still. Then the cat got down on her four paws. She made a big leap to the rock and the crow flew off.

The cat crept up a tree. The sun was hot, but it was cool in the shade. Then the cat saw a dog and heard the dog growl. The cat went to the top branch in the tree. The dog could not get up there. He was stuck on the ground, so he went home. The cat came down from the tree.

Unit 8: Fox and Crow

Fox sat on the grass, and Crow sat next to him.

"I know lots of tricks," said Fox.

"I know one trick," said Crow. Crow saw a bear and she flew off.

"This is my trick," she said. Fox did not know what to do. He knew too many tricks.

"Run fast!" said Crow, and Fox did.

Fox stops for a rest. He looks up. He sees some grapes. He jumps and then jumps again, but it is no use. He cannot reach the grapes. "Who cares?" says Fox. "Those grapes are bad and taste sour." "How do you know?" says Crow. "You did not eat the grapes. You are just upset." "Yes, you are right ," says Fox with a sigh.

Unit 9: The Girl and the Bird

One day long ago, a young girl saw a flash of yellow on the ground. She took a closer look and saw a small yellow bird. The bird's leg was trapped in a wire, and the bird could not fly off.

The child gently removed the wire and set the bird free. Before the bird flew off, it turned its head to stare at the girl. The girl thought the bird was thanking her.

Many weeks passed. One cold day, the girl was picking up branches to bring home for a fire. Snow started to fall thick and fast. The girl could not find the path home. She was lost!

All at once, the girl saw a flash of yellow. It was the bird again. The yellow bird flew by the girl and chirped at her. It waited for her to follow it. The yellow bird led the girl home.

Unit 10: Life on Gray Street

There is lots of noise on Gray Street. Birds sing in the trees and some small children yell and shout. Four girls ride by on their bikes and ring their bike bells. A car drives by. The man in the car honks his horn. Three boys sit on a porch. They tell jokes and laugh.

It is a nice fall day on Gray Street. Some tree leaves are red, and other trees are gold. One man rakes leaves in his yard. His children play in the piles of leaves. It is late and it starts to get dark. People go in to turn on their lights. The sky turns black. The moon shines down on Gray Street.

Unit 11: Eve Makes a Mask

Eve had a big brown bag. She wanted to make a mask with it. First, Eve cut two holes on one side of the bag. She set the bag on her head. She looked out from the holes. That was a good start. Next, Eve wanted to make hair, a mouth, and a nose.

Eve made a wig from orange yarn. She glued it on top of her brown bag. She then drew big red lips on the bag. She cut a round shape out of green cloth. She then glued the round green nose on the bag. What did Eve's mask look like? It was a clown!

Unit 12: Roy's Big Race

It is the day of the big race. Roy knows he can run fast. He wants to win. "On your mark, get set, GO!" calls Coach Fred. Roy sets off on the track. He runs fast. He reaches the first turn. Then his foot slides, and he trips. Roy falls down on the track. Roy knows he cannot win the race.

After Roy fell, he stood up fast and started to run again. He pumped his legs hard. He did the best he could, but he did not win. "I wish I had come in first," Roy said to Coach Fred. "You did not give up," Coach Fred said to Roy. "You ran a good race."

Unit 13: Frog and His Boat

Frog sat in his boat. Duck asked, "May I join you?" Frog said, "This boat should still float with two friends in it." Duck got in the boat. Crab came by and asked, "May I join you?" "I think this boat will still float with three friends in it," said Frog. Crab got in. The boat floated low in the water.

Frog, Duck, and Crab sat in Frog's boat. Rat came by. "May I join you?" Rat asked. "I think this boat will float with four of us," said Frog. "But I could be wrong." Rat got in. The boat did not float. It sank. Frog said, "It is a good thing we all like to swim." They all swam to shore.

Unit 14: A Show at the Beach

It was late in the day when Yuna said to Kai, "Let's go to the beach to see a show."

"What show is at the beach?" Kai asked.

"You will see," Yuna said. Many people were at the beach, but Kai and Yuna found a good area on the sand.

"Where is the show?" Kai asked.

"Just watch, and you will find out soon," Yuna said.

Yuna pointed to the sun, which was a big orange ball low in the sky. The sun seemed to be sinking into the sea. The sky turned orange, pink, and purple, and the water shone with a yellow glow. The sun slid down, down, down. Everyone clapped for the beautiful sunset.

"Wow!" Kai said. "The sun put on a great show."

Unit 15: Russ and Ben Go Camping

Russ went on a trip with his friend Ben. They hiked in the woods. Then they came to a place to camp. Ben's dad made a fire. They sat by the fire and cooked hot dogs. Russ helped set up a tent. Russ and Ben slept in sleeping bags in the tent. The camping trip was fun. Russ liked sleeping in the tent.

Russ liked camping. He wished he had a tent at home. Russ took a sheet from his bed. He hung one side of the sheet on a chair. He hung the other side on a shelf. The sheet looked like a tent! The next day, Mom came in to wake up Russ. Russ peeked out from his hanging sheet. "I like my tent, " he said.

Unit 16: A Cave Full of Bats

Every spring, female bats fly north from Mexico. They fly to caves and other places. There, they give birth to their babies and take care of them.

Bracken Bat Cave is home to the most bats in the world. Twenty million bats live there! During the day, these furry bats hang upside down in the cave. Their tiny, pink babies hang with them. Bat bodies cover the cave walls and ceiling.

As the sun goes down, the adult bats leave the cave to hunt for insects. At first, a few bats circle around outside the cave. Then, more and more bats fly out. They pour out by the millions.

They rise into the sky like a giant cloud. The black cloud spins and then disappears. The bats fly off to find their dinner.

Unit 17: Liz Meets a Friend

Liz handed Dave a note and in her note she wrote: "Meet me at the East Gate of the park at three." Liz got to the gate at three and she was mad when Dave was late. Then she looked up and saw WEST GATE. Oops, this was the wrong gate! Liz ran. She saw Dave standing by the East Gate. He was not late. She was.

Liz felt bad that she was late. "I did not mean to make you wait, " she said. "I did not mind," said Dave. "I was reading my book." Dave's book was about whale sharks. "Sharks scare me!" Liz cried. "Whale sharks are not mean, but they are as big as whales," said Dave. "Can I read your book?" asked Liz. "I want to learn more."

Unit 18: A Card for Chang

Chang had a cold and May wanted to help her sick friend. "I will make him a card," May told Mom. "A card will cheer him up." May had scraps of felt that were red and blue. She cut them up and glued them to her card. She painted a yellow sun and wrote GET WELL SOON! "Chang will like this card very much," said Mom.

May sent her card to Chang and then Chang called on the phone. "I like your card," he said. "I am glad you like it," said May. "How do you feel?" "I do not feel too bad, " said Chang. He had a cold and had been sick for three days. "I hope you get well soon," said May. "I have a new game we can play."

Unit 19: A Trip to the Farm

Ms. Tran took her class to a farm. The cows were resting in the grass. They had white coats with black spots.

"What do we know about cows?" Ms. Tran asked her class.

"I know they make milk for their babies," said Arthur.

"And some humans drink cow's milk, too!" said Roz.

"Want to hear a fun fact about cows?" asked Ms. Tran. "An adult cow can drink more than 30 gallons of water a day. That's about as much water as a bathtub holds!"

Ms. Tran's class also saw pigs at the farm.

"What do we know about pigs?" asked Ms. Tran.

"I know pork comes from pigs. My uncle makes tacos from pork!" exclaimed Marco.

"My family doesn't eat any meat that comes from pigs," said Nora.

"Here is a fun fact about pigs," said Ms. Tran. "When humans get hot, we sweat, and this cools us down. But pigs can't sweat. Instead, they like to roll in mud. The mud cools them off and protects them from the sun."

Unit 20: Friends at the Park

Lin, Rex, and Meg walked to the park. The park has lots of trees and children were on the swings. They swung up in the air. The three friends did not feel like swinging, so they sat on the grass by the trees. "I have a ball with me, " said Meg. "We can play with the ball." "Yes!" yelled Rex. "Throw the ball to me!"

"What trees do you like best?" asked Lin. "I like elm trees because I like sitting in their shade when it gets hot," said Rex. "I think pine trees are nicer," said Meg. "Why?" asked Rex. "Pine trees stay green all year," said Meg. "Your turn," Rex said to Lin. "What trees do you like best?" "Tall trees because I like to climb tall trees!" said Lin.

LEVEL 12 | PASSAGE COMPREHENSION 1

Unit 1: Demonstration

Sam hops on his bike. He rides his bike to the bookstore. When Sam gets to the bookstore, he leans his bike on the pole. He then grabs a chain from his bag. Then he locks the bike to the pole.

In the store, Sam asks the store clerk for a book on bikes. The store clerk shows him two books. Sam takes one book and pays the clerk. He slips the book into his bag and gets back on his bike. Sam rides home as fast as he can so he can read his new book.

Unit 1: Mixed Up Bear

Bear woke up. He had not slept well. "I feel mixed up," he said with a yawn.

He made breakfast. He drank his milk with a fork and used eggs to make a cup of tea. He also put toast on his jam.

He washed his face with toothpaste and brushed his teeth with soap.

He got dressed. He put his legs in his shirt and his pants on his head. He also put his socks on his hands.

Bear yawned and said to himself, "I am too mixed up to start the day." He went back to bed and slept for a long time.

Unit 2: Hide and Seek

Ann and Abe were playing hide and seek. It was Ann's turn to hide. Abe checked under the beds and looked behind the doors. In the living room, he saw Ann's shoes peeking out from under the curtains. "Ha-ha," he said to himself. "I'll give my sister a funny scare."

Abe tiptoed to the curtains. He lifted them and yelled, "BOOO!" But Ann was not there. All at once, Abe felt a tap on his back. It gave him such a scare that he jumped and screamed.

Ann was standing there with a grin. She had set her shoes under the curtains but she had been hiding behind a chair.

"That was a funny trick," said Abe. "Now it's my turn to hide."

Unit 3: A Day at the Park

Bert and his friend Lin were in the park near their home. Bert went over to some flowers growing near a bench. He sniffed a red rose and sneezed. Then he sniffed another rose and sneezed again.

"You should not go near flowers," said Lin. "They make you sneeze and that's too bad for you. I love flowers because they smell so nice!"

But Bert did not listen to Lin. He kept sniffing all the flowers, and he kept sneezing and sneezing and sneezing.

"Wow," said Lin. "You must really like to smell flowers!"

"I don't like flowers," said Bert. "But I really like to sneeze!" He ran over to a lily and sneezed again.

Unit 4: Mystery at the Dog Shelter

Strange things were happening at the Battersea Dogs and Cats Home in London, England. The workers at this shelter were puzzled. On many mornings, they arrived to find dogs running freely. Food was spilled in the kitchen. Someone had let the dogs out of their kennels at night. But who? And why?

A surprising answer came after video cameras were set up in the shelter. Caught on video was a dog named Red. As night arrived, Red went to work. He used his nose and mouth to pull back the steel bolt that locked his kennel door. He went to the kitchen for some snacks. Then he hurried back to unlock another kennel, and another. He freed his pals—up to a dozen dogs. All shared a feast in the kitchen. They played, made a mess, and enjoyed their night of freedom.

When the videos were made public, Red became famous. People knew about dogs that could open a lock and run free. But nobody had ever heard of a dog that freed its friends too. More than 300 people called the shelter. They all wanted to adopt Red. Two weeks later, Red left the shelter for his new home.

Unit 5: A Very Unusual Family

Mr. and Mrs. Collito lived in a trailer park in Massachusetts. In June 1999, they discovered something amazing nearby. A lost baby kitten was being cared for by a loving mother. But Mama was a crow! The Collitos began watching.

Mama crow fed the kitten insects and worms. She protected her baby, driving off animals and people. She cawed frantically if the kitten got too near the dangerous road. And she played with her, jumping and rolling around.

After a while, the Collitos took the kitten in, naming her Cassie. Every morning, Mama crow, now called Moses, showed up. She pecked on the back-door screen. She wanted Cassie to come out and play. The two would spend hours together.

For five years, Moses kept coming, even when she had a nest of babies nearby. Suddenly, she stopped. Wild crows live about seven years. Moses had probably died.

This story may seem hard to believe, but it's true. The Collitos' pictures and videos have been in many news stories.

Unit 6: Anything for You

Forget that it's your birthday? Never! \ Reveal your deepest secrets? No way! \ Include you in my plans? Forever! \ Encourage you to dream? Okay! \ Need a helping hand or hug? I'm there! \ Don't have your lunch today? I'll share! \ Sweet friend, I hope you know I care.

Unit 7: Pip Learns to Fly

Pip was a baby penguin who lived where it was quite cold and snowy. One day, she looked up and saw birds flying in the sky. It looked like fun.

Pip flapped her small wings, but she couldn't fly. She ran to Dad and asked, "I'm a bird and I have wings. Why can't I fly in the sky?"

Dad shook his head and said, "Penguins don't fly in the sky. Wait till you get older and grow a bit. Then Mom and I will show you where we fly."

When it was time, Dad and Mom took Pip to the water. "Jump in and follow us," they said.

Pip plunged into the water. Soon she was flying . . . through the water!

Unit 8: Becoming a Frog

What looks like a fish, swims like a fish, and breathes like a fish—but is not a fish? The answer to that riddle is a tadpole. A tadpole is not a fish. A tadpole grows and changes to become a frog.

Tadpoles begin their lives in water. Tadpoles hatch from eggs laid by an adult female frog. A tadpole has a round head and a tail. It breathes through gills, like a fish. The newly hatched tadpole rests at first. Then, as its tail grows bigger and stronger, the tadpole uses it to swim about. Its main food is bits of water plants.

Over time, the tadpole's body changes. The changes may take weeks, months, or even years. The tadpole begins to grow legs. The hind legs appear first, and then the front legs. A tongue forms in its mouth. Inside its body, lungs take shape. Lungs are what land animals use to breathe on land. The tadpole's gills disappear.

Finally, the animal leaves the water. It may still have a tail, which begins to shrink. The animal is not a plant eater anymore. It uses its long tongue to catch insects. The tadpole has become a frog.

Unit 9: A Different Way to Grow

As children grow, the bones inside their bodies grow longer and bigger. That's also true of some animals, but not all of them. Some living things, like insects, grow in a different way.

Insects do not have bones. Instead, an insect has a hard outer shell. The outer shell cannot grow bigger. It becomes too small to hold the insect's growing body. But the insect has a way to solve that problem. It molts.

What happens when an insect molts? Molting takes place in stages. First, the insect's hard shell splits apart. Next, the insect squirms out. Its body is soft. Finally, the insect's outer parts harden to form a new shell. As the insect keeps growing, it may molt many times. It stops molting when it reaches its adult size.

Look for signs that an insect has molted. Its empty shell looks just like the insect that once lived inside.

Unit 10: The Bike Ride

Uncle Bob was teaching Dave to ride a bike. He held the bike by the seat, and Dave put his feet on the pedals.

"Go!" said Uncle Bob.

Dave pumped his legs, and his hands gripped the bars as the wheels turned.

"I'm with you!" said Uncle Bob as he ran. The bike swayed from side to side but did not fall. Dave was glad that Uncle Bob was holding the seat.

"Keep it up! Do not look back," said Uncle Bob.

Dave pushed the pedals fast and the bike stayed up.

At last, Dave put on the brake and jumped off. "Now, I want to ride on my own," he said.

Uncle Bob smiled. "I was not holding the seat," he said.

Unit 11: The Camping Trip

Max was camping out for the first time. He and his friend Sho were sharing a small orange tent in Sho's backyard.

"This is fun!" cried Sho.

Yes, this is fun!" cried Max, trying to be brave. He was scared of the dark but he didn't want Sho to know that.

Just then, there was a WHOOOOO sound.

"EEK!" Max screamed. "What's that sound?"

"Only an owl," said Sho. "Let's tell scary tales!"

"That will be fun," said Max, but he really didn't think it would be fun at all.

"Here, shine this flashlight on your face," said Sho. "It'll look scary."

"Why did you bring a flashlight?" asked Max.

"I'm scared of the dark," Sho admitted in a shy voice.

"Me too!" cried Max. "Why don't we tell funny tales?"

Unit 12: You Are a Hero, Jessica Watson!

It was May 15, 2010, a sunny afternoon in Sydney, Australia. Thousands lined Sydney Harbor. Thousands more watched on TV. They were waiting for 16-year-old Jessica Watson to come home. She'd been gone for 210 days.

Jessica had just become the youngest person to sail around the world all by herself. She had battled terrible storms and terrifying waves as big as four-story buildings. She had been lonely and homesick. But there had been special moments, too: watching a beautiful sunrise; spotting a blue whale, the biggest creature on Earth; seeing a shooting star race across the wide night sky.

Now she was being escorted into Sydney Harbor by a crowd of boats, large and small. Spectators cheered when they spotted her yacht, named Ella's Pink Lady. As Jessica stepped ashore, her legs wobbled. She hadn't been on land for seven months. She fell into her parents' arms.

Later, important people made speeches. Jessica was called a hero. She didn't agree. "You don't have to be someone special to achieve something amazing," she told the audience.

On January 25, 2011, Jessica Watson was named Young Australian of the Year. It was a great honor for a brave young sailor.

Unit 13: Dancing Lions

A Dance from the Past

In January or February every year, you might see lions in the streets. But don't worry, they aren't real lions. They're dancers in colorful lion costumes. They're celebrating a tradition that began in China. It's meant to bring good luck in the coming year.

Typically, a lion is made up of two dancers. One dancer controls the lion's head. The other controls the tail. There are different kinds of lion dances. The most spectacular might be jong, or pole jumping. In pole jumping, lion dancers perform on very tall poles.

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"I think of it as a sport," says Anthony Huang, age 16. He's on a lion dancing team in New York City.

It's important to Anthony to pass on this historical dance. "This tradition really represents me," he says.

Changing Times
Lion dances were once performed mostly by males. These days, the activity is open to everyone.

Anyone can try lion dancing, says team member Ananda Tang-Lee, age 17. "You have to have confidence that you can do it."

Lion dancing will likely continue to change over time. But the way the team helps and supports each other will never change.

"We call it a family," Ananda says about her team. "It's really great, because we always have each other's backs."

Unit 14: A Traditional Craft

Welcome to the state of Oaxaca (wa-ha-ka), Mexico. The Zapotec people have been living in the area for thousands of years.

Look around Oaxaca, and you'll spot wooden animal carvings. These figures are called tonas. Creating them is a Zapotec tradition. The craft has been passed down over many years.

Today, young people are often leaving Oaxaca to find work in larger cities. Fewer people are learning how to make tonas.

One group hopes to change that. This group has classes that teach kids as young as 5 how to make tonas. Itzel Zuñiga works there. "We're trying to preserve the local Oaxacan culture," she says.

The carvings take time and skill to create. They are made of soft wood from copal trees that grow in the area. Each one tells its own story with tiny pictures called glyphs. The glyphs are painted on the wood. "Every glyph you see… means something for Zapotec culture," Zuñiga says.

Kids gather together at these special classes to learn from expert teachers. In the classes, the kids learn about copal trees. Then they get a tona to decorate.

Some of these students might become expert teachers one day. Those who do will pass on the Zapotec art of making tonas.

Unit 15: Brooms and Buñuelos

On the morning of New Year's Eve, Marco's grandmother, who he called Abuela, held up a broom. "Time to sweep!" she said. "Cleaning the floor on Nochevieja is an important tradition."

Abuela had recently left Mexico to live with Marco and his mother in the United States. Abuela loved to share the way she did things back home. Marco knew his family valued carrying on traditions. This made them feel close to their extended family—despite the distance between Mexico and their home in Colorado.

"What is Nochevieja?" he asked.

"Nochevieja means 'old night' in Spanish. It's what we call New Year's Eve in Mexico," she told him. "Sweeping the floor is like cleaning out the old to let in the new!"

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"Abuela, I have a New Year's tradition, too! Mamá and I make buñuelos!" Marco said. He loved eating buñuelos. Marco shaped the dough. Mamá fried it and then rolled the doughy goodness with cinnamon and sugar. "Will you make them with us this year, Abuela?" Marco asked hopefully.

"Of course!" she said. "Nothing would make me feel more at home than celebrating with two family traditions."

Abuela handed the broom to Marco with a grin. He took it, thrilled to try out a new tradition!

Unit 16: A Visit to the Park

Slimy, heavy, dry, tall: these are properties of an object that you can see or feel. Let's pretend to go for a walk in a park. What might we observe, or see, as we walk?

Slimy or Rough

Children play near the pond. The ground is covered in soft, wet mud. The children are careful as they play on the wet, slimy moss and the rough stones.

Large and Heavy

Parks have large trash cans so park visitors can throw away their trash. Park rangers must lift the heavy trash bags once they are full. Thank them for keeping the park clean!

Wet or Dry

People have picnics at the park. They lay out food and drinks to share. Perhaps someone knocks over their drink. The liquid spills across the picnic blanket. No problem! A dry cloth can soak up the wet mess.

Tall and Wide

People visit the park to exercise. Some people at the park practice tai chi. They can make their bodies change shape. They reach their arms up, so they are tall. Then they stretch their arms out so they are wide. The moves can improve their health.

Take time to notice objects you see in the park or any other place. Think about how they look and feel and what words describe those objects.

Unit 17: Nasir and Baba Make Breakfast

"Ouch! This is hot, Baba!" Nasir exclaimed to his father as he picked up the hot teacup filled with chai.

"Please be careful, Nasir. Let's use a saucer." Nasir's father placed the teacup on a small plate and handed it to him.

"That's better!" Nasir said as he held the saucer and carried the chai to the table.

"Mama! Api!" Nasir called up to his mother and sister. "Come have breakfast before you leave!" He placed a plate of toast on the table. But when placing the toast, Nasir knocked over the chai.

"Oh no! Baba! I spilled the chai!" Nasir exclaimed.

"Are you alright?" Nasir's father rushed to him.

"I'm fine.

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"I'm glad you didn't burn yourself." Nasir's father said as he poured another cup of chai for his wife. "Can you please clean up the mess?"

Nasir reached for paper towels, but his father stopped him.

"Here, take this cloth towel. Paper towels will clean the mess, but you'll have to throw them away. This cloth towel will soak up the liquid too, but you can rinse and reuse it!" his father explained. "It's important to not be wasteful."

"Good idea! Thank you, Baba."

"Thank you for being a good helper."

Unit 18: Good Egg or Bad Egg?

A Tasty Dish
Many people enjoy fried rice. Some Taiwanese peoples like me cook fried rice using these ingredients: rice, onions, and eggs!

Is This Egg Fresh?
My friend Yanbo wants to cook fried rice. But before he cooks, he needs to make sure his eggs are fresh. An experiment can help him check! An experiment is a set of steps you can follow to find out the answer to a question.

What to Do
1. Get two eggs.

2. Get two clear drinking glasses.

3. Fill half of each glass with water.

4. Gently put each egg into a glass.

5. Watch each egg to see what it does.

What Can Happen
If an egg sinks to the bottom, it means the egg is fresh. If an egg floats on the water, it could be old or rotten.

Why It Happens
Why shouldn't Yanbo cook an egg that floats in water? An air bubble can grow inside an egg as it gets older. The air bubble makes the egg float because it makes the egg lighter in weight. Fresh eggs should not have much air inside, so they are heavier and sink. Yanbo needs fresh eggs for his delicious Taiwanese fried rice!

LEVEL 13 | PASSAGE FLUENCY 2

Unit 1: Jaden and the Bird Nest

A tree grew next to Jaden's house. One spring day, Jaden passed by the tree and saw a nest in it. A little gray-green bird was in the nest. It sat very still. Jaden did not want to scare the bird, so she did not get too close. She spoke in a soft voice. "Keep your eggs warm and safe," Jaden said to the bird. "I want to see them hatch."

Every day, Jaden spoke to the little bird in its nest. "When will your eggs hatch?" Jaden asked. One day, the bird was not in its nest. Jaden saw the bird on a branch. It had a large insect in its beak. Jaden leaned in to look at the nest. Three tiny birds had their mouths wide open. "They hatched!" Jaden whispered. She stepped back so that the bird could feed its babies.

Unit 2: Mike's Big Move

Mike lives on Oak Street. A park is at the end of the street. Mike rides his bike on the path there. He plays ball in the park, too. Mike likes his house on Oak Street. He feels sad because he must leave it. His family is moving to a new house on Pine Street." I don't want to move to Pine Street," Mike says. "I will miss Oak Street so much!"

Now, Mike lives on Pine Street. The street is safe for bike riding. Mike plays ball in a field across the street. The town pool is near Mike's house. Mike is taking swimming lessons there. On the day his family moved to Pine Street, Mike met Allen. Mike and Allen live next door to each other. They are best friends now. Mike says, "I'm glad I moved to Pine Street. I like it here!"

Unit 3: A Guessing Game

Carlos and Lin played a guessing game. "Guess what is in my hand," Carlos said. "The first letter is 's'."

"Is it a stone?" Lin asked. "No, the second clue I will give you is that it is long," said Carlos. Lin asked, "Is it a straw?" Carlos shook his head no and said, "The last clue is that you use it to tie things."

"Is it a string?" asked Lin. "Yes," said Carlos and he showed the string in his hand.

Lin held out her closed fist to Carlos and said with a smile, "Guess what is in my hand. The first letter is 'b'."
"I think it's a beetle," said Carlos.

"Guess again," said Lin. "The second clue is that it is round and smooth.

"Carlos asked, "Is it a button?"

"That's an excellent guess, but I'm not holding a button," said Lin. " The final clue is that it's yummy to eat."

"It's a berry!" said Carlos, and he was correct.

Unit 4: Making Craft Projects

Do you like to draw? Try making a scratch drawing. You will need a sheet of drawing paper, colored crayons, a black crayon, and a toothpick. Start by coloring the paper different colors. Fill the whole sheet. Next, use the black crayon to cover the sheet with black. Then use the toothpick to draw lines. The toothpick will scratch away the black and show the colors under it. What will your scratch drawing show?

Here is a different craft project to try. You will need white glue, waxed paper, colored markers, and a string. Squeeze the tube of white glue over the waxed paper. Make a shape with the glue. Let the glue dry. Next, use markers to color the hard glue. Then pull the shape off the waxed paper. Tie a string to the shape. Hang your shape by the window to catch light from the sun.

Unit 5: The Rules of Tennis

Have you ever seen a tennis match? A net stretches across the middle of the court. There may be one player on each side of the net or a team of two players. Each player swings a racket to hit the ball over the net. The player tries to aim the ball so that the player on the other side cannot hit it back. Tennis players run and leap to keep the ball flying.

Tennis players use their rackets in different ways. To start a game, a player serves it. To serve, the player throws the ball up, then hits it over the net. The other player swings the racket to hit the ball back. A player may make the ball drop just over the net. The other player must run fast to reach it. An overhead smash is a strong, fast shot. A smash is hard to hit back.

Unit 6: All About Glass Snakes

Some animals do not match their names. The glass snake is not made of glass. It is not even a snake. The glass snake is really a lizard. Most glass snakes have no legs, just like snakes. So a glass snake moves along the ground like a snake. It slithers. Snakes cannot blink, but glass snakes can blink. Snakes have long bodies and short tails. But glass snakes have short bodies and long tails.

Glass snakes can live in places where it's hot. They hunt at night, when it's cooler. They get their names because of their tails. The tail can break off, like a handle breaks off a glass cup. The glass snake does this when being hunted. The broken tail keeps wiggling like it's alive. The hunter attacks the tail. The glass snake races away. Soon it grows a new tail. But the new tail is shorter than the old one.

Unit 7: Your Teeth

Your teeth start growing before you're born. They start to come in when you're six to twelve months old. These are your baby teeth. You have twenty baby teeth in your mouth. Then these teeth start falling out, one by one. This begins to happen when you're about five. The tooth feels loose and you can move it back and forth. At last, it comes out! You have an empty space where you once had a tooth.

It takes years to lose all your baby teeth. You'll be done losing them when you're about 13. Now, you'll have adult teeth and you'll have more teeth than before. Instead of 20 baby teeth, you'll have 28 adult teeth. A few years later, most children get four more teeth. These are called wisdom teeth. They grow at the back of the mouth and these are the last teeth to grow in. Now there are 32 teeth.

Unit 8: Marta and Sam Play in the Snow

It was a cold winter's day and bright white snow covered the ground. Marta and Sam wanted to make something.

"We could make a snowman," said Sam.

"Let's make a snow-pet," said Marta.

"Is a snow-pet a pet made of snow?" asked Sam.

"Yes," said Marta.

"My cat is always sleeping by the window, so let's make a sleeping cat," said Sam. They shaped the snow so that it looked like a sleeping cat.

Marta and Sam paused, thinking about what pet to make next. "My pet dog always barks, so let's make a barking dog," said Marta. They piled up snow to make a dog and started shaping the dog's open mouth.

"I thought this would be easy, but it's actually hard," said Marta. Eventually Marta said, "Yes, the mouth looks perfect now!" They looked at the silent dog, admiring their work. "I don't mind him barking if I can't hear him," laughed Marta.

Unit 9: Keesha Gets the Flu

Keesha needed to stay in bed because she had the flu. Sometimes her fever gave her chills and sometimes her fever made her hot. She felt sore all over and her nose was stuffed up. "Oh, I hate this nasty flu!" moaned Keesha.

"Poor Keesha," said Dad. "Would you like some soup to eat?"

"I would like to feel well," said Keesha. "Could you wave a magic wand and make me better?"

"I wish I could," said Dad.

Keesha had felt ill for a week, but now she felt much better. "Can my friends visit me?" she asked.

"Yes, you can invite your friends over," said Dad.

Betsy and Rosa came over and the three girls sat in Keesha's room.

"What's it like?" asked Betsy. "I've never had the flu."

"It's awful," said Keesha. "One second, I'm burning up, and the next second I'm freezing. You do not want to get the flu!"

Unit 10: First Snow

Rafe and his father had just moved to a new country. They were finding that life in their new home was very different.

Where they came from, the weather was very hot, and they weren't used to the cold. Rafe and his father got warm clothes so they wouldn't freeze.

One day, when Rafe woke up, everything had changed. A thick white sheet covered the ground outside. Small white feathers were falling from the sky.

"It's snow," Papá said, smiling. "Quick! Get dressed, and we'll go outside."

Rafe put on his new heavy jacket and warm boots. He pulled a hat over his ears and followed his father outside.

Soon, they were walking in the snow. It crunched under their feet. Rafe let the snowflakes fall on his face.

"It feels like cold rain," he cried. Papá reached down and scooped up some snow in his gloves. So did Rafe. They shaped them into balls and threw them at each other. It was their first snowball fight!

Unit 11: The Best Birthday Gift

Ben wanted to give his mother a birthday gift she would like, but he had no money. Ben made a picture book and on each page, he drew something his mother did to help the family. He showed her going to work. He showed her helping with homework and cooking a meal. He showed her giving hugs. Ben wrote words to go with each picture. His book showed ten things on ten pages.

Ben's mother opened her birthday gifts excitedly. Frankie gave her perfume. "Thank you! I love it!" exclaimed Momma, as she sprayed it on her wrist. Ben's sister gave her a colorful scarf. "Thank you! I love it!" exclaimed Momma. Aunt Val gave her a fuzzy sweater. "Thank you! I love it!" exclaimed Momma. Finally, Momma opened the book Ben made that showed all the things she did to help the family. She looked at each page carefully, but she did not speak. "Thank you," she whispered in Ben's ear. "I love it."

Unit 12: New Year's Eve

Taye's typical bedtime was eight o'clock, but he rarely felt ready to sleep when eight o'clock arrived. He wished desperately he could stay up later.

"I want to go to bed at midnight," Taye said one night as he got into bed.

Taye was surprised when his father said, "Okay. On Friday, you can stay up 'til midnight. We'll all stay up that night." Then Taye remembered that Friday was New Year's Eve. On that holiday, his dad and older sister Zuri always stay awake until midnight to celebrate the new year.

When Friday night finally arrived, Taye was thrilled to celebrate New Year's Eve. At midnight, a new year would begin and Taye wanted to witness that happen. After dinner, the family played games. They danced to music and then they watched a movie on the television.

"What time is it?" Taye asked his sister with a yawn. Zuri told him it was 10pm. The next thing he knew, it was morning and he was in bed.

"I couldn't stay up 'til midnight," he said to his father bashfully. "But then again, I guess I'll always have the opportunity next year!" Taye exclaimed with a smile.

Unit 13: Turtle's Travels

A turtle living in a river bank was bored. "I want to travel," she said. "I want to see the world."

As the turtle spoke, two ducks swam by. One duck told the turtle, "We fly to distant lands. We can carry you with us, but you must do just what we tell you." The ducks told the turtle to hold the middle of a stick in her mouth. The turtle bit on the stick.

"Keep biting on that stick," one duck said.

"Don't let go!" said the other duck. The two ducks held the ends of the stick and rose into the air and the turtle hung between them. Her trip had begun!

"What a silly sight!" said a crow. "Turtles can't fly!"

Turtle didn't like hearing that. "I CAN fly!" she said, but when she opened her mouth to speak, she fell to the ground. Her trip was over.

Unit 14: Ecobricks

Did you know that one million plastic bottles are sold per minute around the world? Much of that plastic is used once and then thrown out. It can go into oceans and harm wildlife. One way to make better use of plastic is to turn it into something else—an ecobrick!192

An ecobrick is a plastic bottle stuffed with small pieces of plastic. These bottles can be combined with materials like mud and straw and used to build things like fences or furniture. When bottles are turned into ecobricks, it means less plastic waste in the environment.

You can even make your own ecobricks. First, gather plastic bottles from your home or from friends and family.

Next, save all of your plastic waste, such as straws and food wrappers. Wash it and let it dry so bacteria won't grow inside your ecobricks. Carefully cut up the plastic into small pieces, and start filling a bottle with plastic bits. When the bottle is full, put the cap on. You now have an ecobrick!

When done well, ecobricks are one way to reuse plastic. But the best way to help the environment is to limit your use of plastic overall!

Unit 15: A Budgie: The Perfect Pet

Many children want a pet. Cats and dogs are great pets. Other animals can make fine pets too. One animal that is friendly and likes to play is a budgie. A budgie is also called a parakeet. It is a small, lively bird. Wild budgies live in flocks in Australia. A pet budgie comes from a pet shop. But like all budgies, it doesn't feel happy alone. It wants to be with its human family.

A budgie needs proper food and care. Its cage should have a wooden bar for a perch. A swing can give a budgie something to do in its cage. But a budgie also needs to fly freely every day. With training, a budgie will perch on a finger. Many people choose budgies as pets because these birds can copy the sounds of a human voice. With training, a budgie can learn to talk!

Unit 16: Lighthouse Facts

Lighthouses are towers with lights on top and they are found beside water. Their lights are used at night or in storms. The light must be big and bright so it can be seen from far away. Lighthouses have two purposes. They guide ships into a harbor and they warn ships of danger. Perhaps there are rocks sticking out of the water. The lighthouse is there to help and protect ships.

One of the first lighthouses was in Egypt. It was built 2000 years ago. It was amazing. It was as tall as a city skyscraper. Every night, a huge fire was lit at the top and sailors saw it from far away. It stood for hundreds of years, but it was wrecked by an earthquake. Once there were few lighthouses, but more were built as more people began to travel by sea.

Unit 17: Carmen Tries to Take a Nap

Carmen came in from working in her garden. She was tired and wanted to take a nap. She crawled into bed and snuggled down. She shut her eyes and was soon asleep. The phone rang. "Who is calling me right now?" Carmen wondered. It was a wrong number, so Carmen flopped back and fell asleep. A car horn woke her up. "Who is honking that horn?" Carmen wondered. The noise stopped and Carmen fell back asleep.

Carmen had just begun to nap when some children started playing under her window. They woke her up. "Please play somewhere else," Carmen asked them. "I'm trying to take a nap." As the children left, a dog started barking. After a while, the dog was silent. Carmen lay in bed, but she wasn't sleepy now. "I might as well get up," she said. She went back into her garden to take care of her flowers.

Unit 18: Wild Animal Advice

Some wild animals look cute and cuddly. They seem tame and friendly. Think about a hungry squirrel, digging for food. You might think you're doing it a favor by feeding it, but you're not! You don't know what kind of food squirrels need and the squirrel won't know you're trying to help. It may just get scared and run away or it may get mad and bite you! So, don't forget this rule: Never feed wild animals.

Pets aren't wild animals, but you need to be careful around pets you've never met. You don't know how they'll act. Maybe they're scared of strangers. A scared pet might try to bite you. Ask the pet's owner if the pet is friendly. The owner can help you make friends with the pet. If there's no owner around, leave the pet alone. Stay away. That way you'll stay safe.

Unit 19: Yoko's Lost Phone

Yoko couldn't find her phone, so she tried to remember the last time she had used it. "I talked to Mandy this morning," she thought. "I was in my bedroom when we talked." Yoko looked in her bedroom. She checked her bedside table and she checked her shelves. She looked on her desk and under her bed, but she didn't find her phone. "I must have taken it with me, but where did I take it?" she thought.

Yoko looked for her brother and found Kento in the kitchen washing dishes. "I can't find my phone," she told him frantically. "I checked the last place I used it. I lost it!" "Let's retrace your steps," said Kento in a calm voice. "We'll find it." They searched every single place where Yoko had gone, but they didn't find her phone. "Wait!" said Kento, "I'll use my phone to call your phone." They followed the ringing sound and finally found Yoko's phone.

Unit 20: Cave Paintings

Long, long ago, humans started making tools. Some of these tools were used to hunt or to cook food. Other tools were used for painting. Painters made brushes from twigs, feathers, leaves, and hair. They mixed paints from things they found. These painters could make red, black, brown, and yellow paints. They painted on the walls of caves. They mostly painted animals they knew, such as deer and horses.

Most paintings were done deep inside caves. That way, the paintings were protected from weather. The painters needed light to see in the dark caves so they set up torches. The paintings mostly show animals that look very real. The painters would only draw stick figures for the humans. Some cave artists signed their work. They didn't use words. Instead, they drew an outline around their hand. Even long ago, people liked to draw!

LEVEL 13 | PASSAGE COMPREHENSION 2

Unit 1: Demonstration

Some insects live together in a kind of insect city. Insects such as ants and bees live like this. Termites do, too. Termites have strange eating habits. They like to eat wood and also eat plastic. They eat a huge amount of food every day. Termites often live underground. They travel through tunnels to get around. When their termite city gets too crowded, they grow wings and fly off. They set up a bigger home in a new place.

Some termites live where it's hot. Their underground cities rise up as mounds. Termites don't live in the mounds. They live deep underground.

Some mounds are large. They look like sand castles on a beach. But they're bigger and stronger. They may be taller than a two-story house! They're made from a mix of soil and food that termites eat. Mounds have hollow pathways that wind travels through. Wind moves hot air out and cool air into their underground homes.

Unit 1: The Great Idea

Let's write a story about taking a trip," Miss Wing said to the class. "Who has visited an interesting place?"

Liz had not been on any trips, so she did not raise her hand.

"I visited a farm," said Reed.

"I went on rides at a theme park," added Jane.

Carl talked about sailing on the sea. Rose had camped in the woods.

Everyone but Liz had gone to an interesting place.

Miss Wing asked Liz, "Where have you visited?"

An idea popped into Liz's head and she blurted out, "I went to the moon!" Then she added, "Well, in a dream that I had."

The class chose the idea they liked best. Their story was called, "Our Trip to the Moon."

Unit 2: The Fishing Trip

Mike looked out at the rain and frowned. He had planned to go fishing with Gramps today, but it was raining too hard.

With a sigh, he sat on his bed and said to himself, "I wish this bed was a boat in a lake. Then I could fish from it." Suddenly, he got an idea.

He found a string, a stick, and a magnet. He tied one end of the string to the stick and the other end to the magnet. Then he dropped paper clips on the floor. From his bed, Mike held the stick and tried to pick up the clips with the magnet. He was pretending to fish.

Gramps came by. "What a clever fishing rod!" Gramps said. "I'll make one, too, and we can see who gets more fish."

Unit 3: A Sweet Invention

What is an invention? It is something that is made for the very first time. Every invention—from airplanes to zippers—has a story behind it. Here is the story behind the invention of a popular treat.

In 1930, Ruth Wakefield and her husband opened the Toll House Inn in the state of Massachusetts. Ruth made the food for the guests. Because she was an expert baker, many people came to the inn for her delicious desserts.

Ruth used baker's chocolate to make butter cookies. Baker's chocolate melts when heated. But one day, as she was mixing up the batter, she saw that she had no baker's chocolate. She decided to use a chocolate candy bar instead. She chopped the bar into small pieces and added it to the batter she was mixing. She expected the little pieces to melt when she baked the cookies. But the pieces didn't melt. The cookies came out of the oven with bits of soft, creamy chocolate in them. They were delicious!

Ruth Wakefield invented the world's very first chocolate chip cookie.

Unit 4: The Unbelievable Bamboo

If you strolled through a bamboo forest, you'd think you were surrounded by tall trees. You'd see delicate green leaves sprouting overhead. You might think the straight tree trunks were odd, especially if you knocked on one. It would be hollow. As plant experts know, trees are not hollow, but grasses are.

Now here's the amazing part: Bamboo isn't a tree. Could a plant this tall be a grass? In fact, that is exactly what bamboo is. It's a grass—a gigantic grass! A full-grown bamboo plant may grow 130 feet (40 meters) high. That's taller than most 12-story buildings.

Bamboo is unusual in other ways. It is the fastest-growing grass in the world. Many grow a foot (30.33 centimeters) in a single day. Some actually grow 3 or 4 feet (91-121 centimeters) in 24 hours. You wouldn't think something that grows so fast could be strong, but woody bamboo stems are incredibly strong. Bamboo has a tensile strength similar to steel. This means it is about as easy to tear apart bamboo as it is to tear apart steel. Bamboo also holds up under pressure better than concrete.

This amazing plant has over a thousand uses. Bamboo is used to build things from fences to floors, lamps to ladders, boats to bikes to bridges! It can be used to make fabric as soft as cotton. It's even good to eat!

Unit 5: City of Trees

Karachi, Pakistan, is one of the hottest cities on Earth. After a terrible heat wave, Shahzad Qureshi, who lives in Karachi, took action. He started a group that plants native trees in cities in Pakistan.

Trees cool the air in two ways: they provide shade and they release moisture through their leaves. Trees can help lower summer temperatures in cities by several degrees.

For its first project, Qureshi's group planted about 1,300 trees in a park in Karachi. The group used a method that helped them grow quickly. In just three years, the trees were 30 feet tall. Qureshi hopes that one day, this park will become a forest of 50,000 trees.

Keeping Things Cool

Qureshi and his team have helped cool the air by planting a number of urban forests in Pakistan. The trees also provide a habitat for a variety of animals and food for the community. And they create a shady spot where people can rest and relax.

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Qureshi also helped plant an urban forest at a school. First, he met with students there. He taught them about how trees help the environment. Then the students pitched in. They helped plant saplings in the schoolyard that will eventually grow into bigger trees.

The trees attract birds and eye-catching butterflies. Students go outside during science class to study the forest. "It's like a library of native trees in front of the kids," Qureshi says. "They can identify the native species and insects that are around. It's a beautiful thing to see."

Unit 6: Nana's Special Medicine

Haldi is a plant root used in traditional medicine of India. It is known to kill germs, bring down swelling, and heal scars on the skin.

"You can't catch me, Nana!" Muhsin squealed as he dodged his grandfather.

Muhsin zoomed away, laughing. Not paying attention to what lay ahead, Muhsin stumbled and rolled his ankle.

"Ouch! Nana!" Muhsin cried.

Muhsin's grandfather scooped him up tenderly. "Does it hurt much, meri jaan, my dear? Let's see whether I have something to make you feel better."

Muhsin's grandfather carried him into the kitchen and situated him on a stool, helping him sit comfortably.

"My ankle hurts," Muhsin mumbled, trying not to cry.

"It's okay to cry, meri jaan." Muhsin's grandfather gently examined his ankle.

"Hmm, I might not be a doctor like your mama, but I know how to treat this so it doesn't swell up!" Muhsin's grandfather mixed a yellow powder with other ingredients in a bowl.

"What's that, Nana?" Muhsin asked.

"This is a healing medicine, made from the plant root, haldi. I used to put this on your mama when she got hurt, just like my mama used to do for me when I was little," he explained. He rubbed the medicine onto Muhsin's ankle.

"By the time Mama comes home tonight, your ankle should feel much better!"

Sure enough, by the time Mama walked in the door, Muhsin had forgotten all about his fall.

Unit 7: A Snail Story

These days, snails are very slow, and as they crawl along, they leave a trail of slime. Once upon a time, snails were FAST. They could outrun all the other animals.

The other animals didn't like it and here's why:

Let's say Goat was walking along. ZIP! Snail raced by, too fast to see. WHOOSH! It left a slime trail. WHOOPS! Goat slipped on the slime and fell. "Can you please slow down?" Goat asked.

Again and again, animals slipped and fell after Snail zipped by. Every time this happened, the animals begged Snail to slow down. Finally, the animals went to see the King and Queen. "It's bad for Snail to be so fast," they said. "Because we don't see her or her slime and then we fall."

The King and Queen spoke to Snail. "You have shown that you do not care about anyone but yourself. Now you must live alone. Leave us with nothing but what you can carry on your back."

Snail packed everything she owned into the shell on her back. It was so heavy that she could only crawl along slowly. That is why snails are still so slow today.

Unit 8: The Ant and the Dove

One day, a dove saw an ant fall into a brook. The ant tried to get out, but she couldn't swim. The dove felt sorry for the ant, so he grabbed a leaf and dropped it into the water. The ant hauled herself onto the leaf, and then she floated to shore. The dove smiled as he flew off.

The next day, the ant saw the same dove sleeping in a tree. She also saw a man with a large stone that he wanted to throw at the dove.

The ant bit the man on the heel. He yelled and dropped the stone. The noise woke up the dove, who flew away.

The ant felt good because she had helped someone who had helped her.

Unit 9: The Donkey and The Salt

Long ago, a merchant bought big sacks of salt at the market. He loaded the sacks onto his donkey's back, and the two set off for home.

They came to a stream and began to wade across it. The heavy burden caused the donkey to lose his balance. He slipped and fell into the water. When the donkey stood up again, his load was much lighter. Most of the salt had dissolved in the water.

The merchant returned to the market and bought salt again. Once again, he loaded the sacks onto the donkey's back. When they came to the stream again, the donkey remembered how to lighten his burden. He purposely fell into the water. The salt melted away, and the donkey rose to his feet without the weight of his load.

The merchant watched with a knowing look. Then he led the donkey back to the market. This time, the merchant did not buy salt. He bought a load of sponges. When the donkey came to the stream, he quickly lay down. The sponges filled with water. Back on his feet, the donkey was surprised to find that his load was much heavier than before.

Unit 10: What Happened to the Giant Kangaroo?

Australia was once home to a kangaroo that could reach over 8 feet (2.5 meters). This giant had hoof-like toes with claws. As it roamed the forests, it easily reached up into trees and grabbed leaves to eat.

Giant kangaroos died off over 40,000 years ago. Why? Little evidence has been found. But scientists have offered two theories about what killed off the giant kangaroos:

- Climate change made them extinct. Fossil evidence shows that giant kangaroos struggled through bad droughts. These long periods of time without rain killed off the plants that the kangaroos ate. In between droughts, there were huge floods. Flooding destroyed more of the plants and killed off kangaroos weakened by drought.

- Humans made them extinct. Fossil evidence also shows that the first humans arrived in Australia about 43,000 years ago. They cleared away forests to plant crops. So giant kangaroos had less and less to eat. Meanwhile, humans hunted and killed them. Before long, giant kangaroos were wiped out.

In 2010, an Australian scientist named Gavin Prideaux wrote a paper. He argued that both theories could be true: The droughts killed off many kangaroos. Those left were soon killed off by humans.

Scientists continue to search for evidence. Maybe they'll finally solve the mystery!

Unit 11: The Clownfish's Poisonous Home

The clownfish is a cheerful-looking little fish. Most are bright orange with three up-and-down white stripes outlined in black. These fish have a strange home. They prefer living among the long arms, called tentacles, of certain sea anemones. These tentacles have sharp tips filled with poison. Anemones use their tentacles to protect themselves and catch prey to eat. Their sting is strong enough to kill small fish.

Clownfish are small fish. Yet they stay safe among the anemone's tentacles. They don't seem to get stung. Scientists think this is because a clownfish's scales are covered with a thin layer of slime. This slime seems to keep the anemone from stinging.

Living together works out well for both animals. The clownfish eats the anemone's leftovers. It gets fed while keeping the anemone clean. The anemone protects the clownfish. Clownfish are poor swimmers and would be easy prey out on their own. They constantly move around, skirting and staying away from the anemone's tentacles. Clownfish also protect the anemone. They dart out and chase away butterfly fish and other fish that like to nibble on and eat the tentacles.

The clownfish and the anemone are not exactly friends. But they do help each other out!

Unit 12: The Tricky Death Cap

Mushrooms sold in supermarkets are good for you. Many wild mushrooms, though, are poisonous. One is really dangerous. Scientists call it Amanita phalloides (a-muh-NIE-tuh fuh-LOY-deez), but it's known as the Death Cap. People die every year from eating poisonous mushrooms. Ninety percent of them ate Death Caps.

The Death Cap grows all over the world, but mostly in Europe and the United States. This mushroom is tricky in two ways:

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1. The Death Cap doesn't look deadly. It resembles a lot of harmless types of mushrooms. It doesn't smell bad. (Some people think it smells like roses.) It tastes good. You wouldn't spit it out.
2. You probably won't know you ate a deadly mushroom. It takes from 6 to 24 hours to get sick. Then your stomach feels terrible, and you throw up. After a while, you feel better. Inside, though, the mushroom is hurting you.

There is no cure for the poisonous Death Cap. But if you get medical help sooner rather than later, you have a pretty good chance of surviving. Here's the best plan: NEVER eat a wild mushroom!

Unit 13: Play a Party Game

You and your friends can have fun playing the party game Camouflage. Something that is camouflaged is hard to see because it blends in with its background. In the game of Camouflage, players try to find things that are hidden in plain sight.

First, gather about ten small objects to hide in a room. Examples include: marbles, pencils, crayons, a piece of tape, and paper clips, to name a few.

Next, list the names of the objects on a sheet of paper. Make copies of the list to give to the players.

After that, place each object in a spot where it is camouflaged. Use its color or shape to choose a good spot. Do not put it behind or under anything.

Then give a list to each player and explain the rules. Say, "Roam around the room, looking for objects on the list as you walk. Do not touch anything. If you find an object, come to me and whisper where you found it. I'll check off that name on your list."

The first player to find all the objects is the winner.

Unit 14: Telling the Truth

"No, I didn't take the cookie," Jayden told his mother. He wore a smile that he hoped looked innocent.

"Then why are there chocolate crumbs on your face?" Mama asked. "Have you lied to me?"

"Oops," said Jayden, wiping his mouth with his sleeve. He had been caught! "I knew I wasn't supposed to have a cookie before dinner," he said. "Sorry I broke the rule about that."

"In fact, you broke two rules," said Mama. "You ate a cookie when you weren't supposed to, but you also lied about it. Lying is against the rules, and lying is worse than taking a cookie. Promise me that you'll never lie again."

Jayden felt ashamed, so he said sincerely, "I promise never to lie again and always tell the truth."

That evening, Auntie Brandi came by to visit. She was wearing a new hat. "The salesperson said this hat is the latest fashion," Auntie Brandi told Jayden's Mama. "Do you like it?"

"It's lovely," said Mama.

Auntie Brandi turned to Jayden and asked him, "What do you think of my hat?"

Jayden looked at Auntie Brandi in her hat and remembered his promise. "I think it looks like someone dumped a bowl of spaghetti on your head," he said.

Unit 15: Fair Bike Rules

The city council here in Karlinsburg is going to vote on a new rule: No bicycles on sidewalks. This rule is unfair to youngsters in this community.

First of all, riding bikes in the street is too dangerous for children. Car drivers may not see a bike in time to stop. The door of a parked car may suddenly open. Bicyclists are injured as a result.

The sidewalk is safer than the street. Some people have complained about bicyclists on sidewalks. They say that speeding bikes have knocked down pedestrians who cannot get out of the way. But instead of banning bikes on sidewalks, how about making a few simple rules for safe riding?

- Slow down.
- Politely ask pedestrians if you can pass them.
- Walk the bike if the sidewalk is crowded.
- Stop at every driveway and cross street.

Sidewalk rules like these can give everyone a safe way to get around. When a Karlinsburg youngster learns to ride a bike, these rules can be part of the training. Please let council members know that they should vote for safe riding on sidewalks, not for banning bicycles.

Unit 16: Today We Make Frybread

"I need your help," Michael's grandmother calls to him.

Michael sees a large bowl and a bag of flour. "Are we having frybread?" He thinks about biting into the fluffy warm bread piled high with meat, cheese, and tomatoes.

Michael watches his grandmother add water to the bowl of flour and use her hands to knead the dough, shaping it into a large ball.

She hands him a piece of the dough. Michael looks at it, eager to try kneading it, but hesitates.

"What if I make a mistake?" Michael asks.

"Watch me first." Michael's grandmother forms a piece of dough into a round flat disk with the palms of her hands.

Michael tries but the dough sticks to his hands, making it hard to form the right shape. He thinks his frybread looks more like a lumpy mess than a neat circle.

"I can't do this," Michael sighs.

"You just need practice," his grandmother says. She describes a time when their people didn't have a lot of food so their ancestors and other Native American peoples used flour to create something delicious. "Frybread tells the story of our survival; how we made something from nothing."

Michael keeps trying. His disks become rounder. His grandmother takes one to fry it in oil.

Michael's grandfather walks in and says, "The frybread smells amazing!" He puts his hand on Michael's shoulder. "I can't wait to taste your hard work."

Unit 17: A Record Jump

Every four years, the world's best athletes compete at the Summer Olympic Games. Sometimes, athletes set new records in their events. And once in a while, an athlete does something that makes everyone gasp in wonder. That is what Bob Beamon did in 1968.

That year, the Olympic Games were held in Mexico City. Bob Beamon was a 22-year-old American competing in the long jump.

Beamon ran down the runway at top speed. He leaped from the take-off board set on the ground. He rose high into the air and soared over the sand pit. When he landed in the sand, he knew he had jumped farther than he had ever jumped before. Had he set a new record?

The scoreboard showed the distance he had jumped—8.9 meters, or 29 feet 2 1/2 inches. That would be like leaping over five bicycles lined up end to end! Beamon fell to the ground in shock. He had beaten the world's record by more than half a meter, almost two feet! None of the other athletes could even come close. Bob Beamon's amazing long jump record lasted almost 23 years.

Unit 18: A New Record!

Cast of Characters
ANNIE: a 6-year-old girl

IAN: Annie's 11-year-old brother

OMAR: Ian's 11-year-old friend

Scene 1
[One afternoon in the kitchen of IAN and ANNIE's home. ANNIE, IAN, and OMAR are sitting at a table. IAN and OMAR are enthusiastically reading a book together.]

IAN. Omar, look at this! This guy set a record for smashing concrete blocks with his hand!

OMAR. [Reading] 90 blocks in one minute! [Pointing to another page] What did they do?

IAN. They rowed that boat all the way across the Atlantic Ocean.

OMAR. [Reading] They broke a speed record doing it!

ANNIE. What's a record?

IAN. That's when someone does something better or longer or faster than ever before. [To OMAR] Look at this picture.

OMAR. That crowd broke a record for the world's largest snowball fight! That sounds like fun.

[ANNIE stands and exits through the kitchen door. IAN and OMAR keep turning pages and commenting. Curtain.]

Scene 2

[15 minutes later. IAN and OMAR have put the book aside and are making snacks. ANNIE bursts in through the door.]

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ANNIE. [Breathlessly] I did it, Ian! I did it! I broke a record! [IAN and OMAR give each other puzzled looks.] I did three cartwheels in a row without falling!

IAN. Uh, Annie, that's cool, but I don't think that three cartwheels can get someone in the record book. You'd probably have to do thousands of them.

ANNIE. [Still excited] The most I could do before was two cartwheels. Now I did three! I broke a record!

OMAR. [Shrugging] Well, she DID break her own record.

IAN. [To ANNIE] You're the champ!

[ANNIE stands tall and pumps her fists over her head. Curtain.]

LEVEL 14 | PASSAGE FLUENCY 3

Unit 1: Learning to Swim

Bert and Kuri were at a pool and they dangled their legs in the water. Bert was learning to swim.

"Slide into the pool and hold onto the side," said Kuri.

Bert slid in and tried to smile, but he was nervous.

"Watch me and I'll show you a simple way to swim that's called the doggy paddle," said Kuri. Kuri paddled around in the pool. Then, it was Bert's turn but he splashed and splashed and almost sank.

"Was that OK?" asked Bert.

Kuri worked hard to teach Bert how to swim. She was teaching him the doggy paddle in the town pool.

"Don't splash so much," she said. "When you paddle with your hands, keep them under the water and pretend you're a dog running in the water.

Bert tried to follow her advice and it worked! "That was much easier than before," he said. "All that splashing wasn't fun, but now I know why you enjoy swimming so much!"

Unit 2: Yayoi Kusama

Yayoi Kusama is an artist who grew up in Japan. Kusama has been making art since she was a young child. She loved to draw and took her sketchbook everywhere.

One day, Yayoi was in a field of flowers. All of a sudden, it seemed like the flowers started talking to her. They looked like dots that went on forever. She went home to make more art, inspired by things she saw that others did not.

When she was older, Yayoi moved to New York to create art full-time. Though she faced many challenges in her life, her dream of becoming a famous artist came true.

Yayoi is often called the Princess of Polka Dots, because many of her paintings and sculptures include hundreds and hundreds of dots. The dots are many different colors and sizes.

She also sets up rooms that are filled with mirrors and small, flashing lights. The lights make the space seem huge and endless. When you stand inside, you feel like you might disappear. And that's exactly Yayoi's message. She sees our planet as just one tiny polka dot in a universe filled with millions of dots.

Unit 3: Gestures Around the World

We don't have to speak words out loud to show people how we feel. When we're angry, we frown or we may fold our arms or stomp around, and when we're cheerful, we smile or laugh. If we're sad, we might cry or sigh, and if we're cold, we shiver. Maybe we dislike the food that we're eating and to show that feeling, we make a face. We don't have to tell others how we feel because they can tell by looking at us.

We show our feelings when we laugh, cry, or frown, and people all over the world will understand. But what if we nod? What if we shake our heads? These movements mean different things in different places. Often, a nod means yes and shaking your head means no. However, in some places, it's the other way around. A nod means no and shaking your head means yes. When you visit a new place, make sure to find out how to show yes and no.

Unit 4: Building Sand Castles

Dev and Shawn were at the beach and Dev wanted to build a castle made of sand so he asked Shawn for help. "That's what little children do," said Shawn.

"Not if we build a really fancy castle," said Dev. Shawn agreed, so the boys began making their castle.

After a while, a girl came over. "I found lots of shells on the beach. Can I put them on your castle?

"The two boys smiled and said yes.

Two boys started making a castle made out of sand and then a girl joined them. Soon other children wanted to help, too. One girl carved out windows on each side of the castle and another girl helped her. Another boy helped make towers on top of the castle and another boy helped to make a door. At last, the castle was finished and all the workers stood up.

"Wow, our castle looks perfect!" said Dev. "We all made a great team!"

Unit 5: Amber's Party

Amber had planned a big party and had invited all the children in her class to come. She sent out cards that said, "Come to my party on Sunday at one o'clock.

"Amber and Dad put up decorations and helped Mom make lots of good food to eat. At one, Amber's classmates showed up, but one girl was missing. Lily wasn't there and Lily was Amber's best friend.

"Oh, no, I forgot to tell her!" cried Amber.

Amber raced inside and called Lily on the phone right away.

"What do you want?" sniffled Lily, sounding very upset."

Oh, Lily, I was going to tell you to come, instead of sending you a card," said Amber. "Please come to my party. You're my best friend!"

"Wow, I'm glad to hear that," said Lily, laughing. "I'll be right over!"

"Hurray!" said Amber as she hung up the phone. Now it would be a good party.

Unit 6: A New Way to Have Fun

Minhee hurried to the cafeteria. Every day at her after-school program, students signed up for an activity. Minhee always chose football, but she was running late today.

She found the sign-up sheets and groaned. There were no more spots left for football! The only choice left was knitting. Minhee didn't think that sounded exciting at all, but she put her name down anyway.

With a sigh, she sat down at the knitting table. Terrell sat next to her. She didn't know him well. That's because he usually chose relaxing, quiet activities. Most of Minhee's friends were like herself: full of energy!

A teacher showed everyone how to start knitting a scarf. Minhee tried to work fast, causing her yarn to get tangled. Terrell suggested she slow down. Minhee frowned.

"Knitting takes too long," she said.

"Knitting is supposed to be relaxing," Terrell replied. "It makes me feel calm."

Minhee took a deep breath and then tried again, slowly this time. She soon got the hang of it. She and Terrell talked quietly as they knitted. When her dad arrived, Minhee showed him what she was working on. "Knitting's fun," she thought. "And I have a new friend!"

Unit 7: Lightning Safety

"It's only the afternoon, but it's getting dark outside. Look out the window, and you'll see why. A big gray-black cloud is in the sky. All at once, a zigzag of bright light flashes from the cloud. It is a streak of lightning.

The lightning causes the air around it to become super-hot. The extreme heat causes sound waves to travel through the air. You may hear rumbles or claps or you may hear a big BOOM. These are the sounds of thunder."

When you see a flash of lightning, start counting the seconds. Sound travels much slower than light. That means you'll hear the thunder after you see the lightning. If you count five seconds, the lightning strike is about a mile away. Lightning can be exciting to see and thunder can be thrilling to hear, but it's best to see and hear a thunderstorm in a safe place. Run indoors when a thunderstorm starts. The safest place to be in a thunderstorm is inside a house or building.

Unit 8: Building Bridges

A path in the woods leads to a wide stream. Someone has pulled a log over the stream. The log has been turned into a bridge. A log bridge is the simplest kind of bridge. It's likely that it was the very first bridge people ever made. As time passed, bridge builders laid stone piles in the water and set wooden planks over them. Still later, people learned that a curved shape called an arch added strength. Early arch bridges were made from stone.

Wood and stone were used to build bridges in the past. Today's bridges are built mainly with steel and concrete. They cross rivers and lakes. They cross over highways and deep valleys. Many modern bridges have roadways that hang from steel ropes called cables. Cars, vans, and trains travel on the roadway. Those cables are strong! Bridges are useful. They are also pleasing to look at. A bridge is like a work of art for people to enjoy.

Unit 9: The Planet Earth

We live on planet Earth. Our planet is a rocky body that travels around a star. The name of the star is the Sun. We often say that Earth circles the Sun, but that is not quite true. Earth's path around the Sun is not a round circle. It is more like a circle that has been tugged on two sides. The path around the Sun is called an orbit. It takes a year for Earth to complete one orbit around the Sun.

Planet Earth spins as it orbits the Sun. Earth takes 24 hours to complete one spin. That time is one Earth day. We have daylight when our spot on Earth faces the Sun. We have darkness when we spin away from the Sun. Earth spins at a tilt. We have seasons because of Earth's tilt. The northern half of Earth tilts away from the Sun in winter. At the same time, Earth's southern half is having summer because it tilts toward the Sun.

Unit 10: A Trip to the Farm

First, the class picked berries from the farm's fruit field, and Dontel gathered a huge basket of blackberries. He popped a few of the ripest berries in his mouth, and his lips turned blue from the sweet juice.

The farm also had an area where farm animals were penned behind a wooden fence. Dontel grabbed some hay and held his hand out to a baby goat inside the pen. The goat nibbled the hay right out of Dontel's hand!"

"How was your trip to the farm?" Dontel's mother asked him when he returned home after his field trip.

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Dontel said, "I thought it might be a good day when a ladybug landed on my arm, and I was right! I tasted the most delicious snack: fresh blackberries, picked directly from the bush. I petted a baby goat, and it ate hay straight from my palm!"

"Were you nervous that the goat might nibble your fingers instead of the hay?" his mother asked.

"No way!" Dontel replied to his mother. "The baby goat's tiny tongue tickled me, so I couldn't stop giggling!" he exclaimed.

Unit 11: Hermit Crabs

Hermit crabs are strange animals, but they are not really true crabs. Crabs have hard coverings all over, while hermit crabs have hard coverings on their legs, not on their bodies. But they've found a way to solve this problem. They use empty snail shells to protect their soft bodies. Once they find a good-sized shell, they tuck their bodies inside and carry the shell around. It becomes their home. When these crabs are in danger, they hide inside their shells.

Hermit crabs have five pairs of legs. The first pair are claws for eating and for fighting off danger. Three pairs are for walking and the last pair hangs onto the shell. Hermit crabs keep growing. When they outgrow their shells, they find bigger ones. These crabs never walk around something. If they run into an object, they climb over it or dig under it. Hermit crabs can live for a long time. Some live to be thirty years old.

Unit 12: Animal Helpers

People aren't the only ones who help each other. Animals help each other, too. After an earthquake in Japan, many people and animals were hurt or sick. As rescue crews searched for them, they found a tired-looking dog protecting a hurt dog. The guard dog wouldn't leave its friend. Sometimes it stroked the sick one with its paw. At first, it wouldn't let anyone come near, but then it allowed people to rescue both of them.

Moko the dolphin is a famous animal helper. She liked to visit a certain beach and would play with swimmers in the waves. One day, two whales got stuck on this beach. People tried to get the whales back into the sea, but the whales were tired and confused. Suddenly, Moko appeared and swam to them. No one knows what she did. But the whales turned and followed her. She saved them. Playful Moko was a hero that day.

Unit 13: Pablo's Problem

"Can you help me with a problem I want to solve?" Pablo asked his dad. "I have nothing to do, so I'm really bored," Pablo said.

"You could read a book, or you could clean your room," Dad suggested.

"I've already read all my books and cleaned my room," Pablo responded, sighing.

Dad looked thoughtful for a minute and then said, "You could help me prepare lunch." Pablo agreed since he was hungry.

"Let's make tomato soup and grilled cheese for lunch," Pablo suggested to his dad.

"That's a terrific idea!" Dad said.

Dad heated the soup in a pan on the stove, and Pablo made the sandwiches. He placed cheese between two slices of bread. Then, he put the sandwiches in a frying pan with butter. Dad heated that pan, too, until the cheese melted and the bread was toasted on both sides.

When lunch was ready, Pablo and Dad sat down to eat. Pablo smiled and said, "This was fun—and delicious!

Unit 14: Ellen at the Park

Ellen walked into the public park, sat on a bench and looked around. Two boys rode by on their bikes and a lady was walking a fuzzy black dog. In the ballpark, two teams played ball, while nearby, a girl and her mom flew a kite. A family was having a picnic and they sat on a red blanket spread out on the grass. Ellen leaned back with a smile. The park was the perfect place to do so many things!

Ellen sat under a tree in the park, pulled a book out of her backpack and started reading. Suddenly, she felt something cold and wet. A little white dog was licking her hand. "Hi!" she said.

A lady hurried over, looking upset, and cried, "Snowball, bad doggy! You shouldn't bother the nice girl while she's reading."

"That's OK," said Ellen, grinning.

The lady clipped a leash on her dog, smiled at Ellen, and walked away.

"Goodbye, Snowball!" called Ellen.

Unit 15: Insect Cities

Some insects, such as ants and bees, live together in a kind of insect city. Other insects that live like this are termites. Termites have strange eating habits: they like to eat wood and also eat plastic. They eat a huge amount of food every day. Termites often live underground and travel through tunnels to get around. When their termite city gets too crowded, they grow wings and fly off to set up a bigger home in a new place.

Some termites live where it's hot. Their underground cities rise up as mounds, but termites don't live in the mounds. They live deep underground. Some mounds are large and look like sandcastles on a beach, but they're bigger and stronger. They may be taller than a two-story house! They're made from a mix of soil and food that termites eat. Mounds have hollow pathways that wind travels through. Wind moves cool air in and hot air out of their underground homes.

Unit 16: The School Fair

Students are making a game for the school fair. They have three big cartons. On one carton, they paint a monster's face and cut a hole for the mouth. The hole is bigger than a beach ball. The students paint a clown's face on the second carton and cut a hole for the mouth. It is bigger than a softball. On the third carton, the students paint an elf's face and the hole for the mouth is bigger than a golf ball. Their game is ready.

The school fair was held in the gym where there were booths with games. Children had their faces painted. One game was a big hit. Players tried to throw a beach ball into the open mouth of a painted monster. They aimed a softball at the big mouth of a clown. They aimed a golf ball at the little mouth of an elf. The game was hard to win, but fun to play and the students felt proud of the game they had made.

Unit 17: The Housewarming Party

Mom said, "Uncle Dean and Aunt Fran just moved to a new home and we're going to their housewarming party."

Lew had never heard of a housewarming party. Was his uncle and aunt's new house too cold? How could a party warm it up? Mom baked two pies for the party and Dad cooked chili. Lew saw steam rising from the pies and the chili would taste spicy hot, but could pies and chili warm up a house? Lew went with his family to his uncle and aunt's new home.

"Welcome to our housewarming party," said Uncle Dean. "Throw your coats on the bed in the bedroom."

Lew took off his coat. He didn't feel chilled and he bent down to feel a floor grate. "The heat is on," he said. Friends and family were at the party and people were talking, laughing, and eating. As Lew looked around, he saw that the living room seemed full of happy feelings. "Oh, I get it," Lew said. "At a housewarming party, good feelings warm a new home!"

Unit 18: The Sport of Log Rolling

A log is floating in the swimming pool. The log is long and covered in carpet. Two young girls are standing on top of the log. Both girls take tiny steps to spin the log under their feet, and their legs are a blur. This is a high-speed balancing act because each girl is trying to make the other fall off the log first. This sport is called log rolling and strength and balance are needed to play. Log rolling is an exciting sport for people of all ages.

Log rolling is a sport for people of all ages. The sport began long ago in logging camps when loggers showed off their skill at balancing on logs in a river. They also showed off their skill at ax chopping, sawing, and tree climbing. Loggers are also called lumberjacks.

Today, lumberjack contests are not just for lumberjacks. They are for anyone. In big contests, players compete for prizes and thousands of people come to watch the events. Lumberjack sports are spreading all over the world.

Unit 19: Lucky Ladybugs

What do some people do when an insect lands on them? They slap it or brush it away, but what if the insect is a ladybug? Many people let them stay and they might even say, "How cute!" Ladybugs are also called lady beetles or ladybird beetles. A ladybug is a small beetle with a round body. Ladybugs may be bright red or yellow, with spots of black or another color. Pictures of ladybugs are on T-shirts, greeting cards, and other things. People just seem to like ladybugs.

Why do people like ladybugs? One reason is that ladybugs seem gentle and they don't bite or sting. Another reason is that most ladybugs are helpful. These beetles eat insects that eat farm crops. Ladybugs have been carried to farms to eat pests. A ladybug's bright colors are really a warning. The colors warn, "I taste bad." Animals that eat insects learn to stay away from ladybugs, but to people, a colorful ladybug seems to say something else. "Come close. See how pretty I am!"

Unit 20: Missing Homework

Jackson wrote a story for homework. His story was about a boy with a magic cap and the cap helped the boy fight monsters. The boy wore his magic cap to track a monster to its cave, where they had a big fight, and the boy won. Jackson then printed out his story and put it away. Two days later, Jackson's homework was due and he looked for his story. "I know my story is in a safe spot," Jackson said. "But where did I put it?"

Jackson looked for his story. He checked his backpack twice and he looked in his desk. "Where did I put that story?" he asked himself. If Jackson did not find his story soon, he would have to go to school without his homework. "I wish I had a magic cap that would help me solve this," Jackson said to himself. Then he snapped his fingers. He ran to the closet and grabbed his story. It was just where he had left it, inside his cap.

LEVEL 14 | PASSAGE COMPREHENSION 3

Unit 1: Demonstration

Some insects live together in a kind of insect city. Insects such as ants and bees live like this. Termites do, too. Termites have strange eating habits. They like to eat wood and also eat plastic. They eat a huge amount of food every day. Termites often live underground. They travel through tunnels to get around. When their termite city gets too crowded, they grow wings and fly off. They set up a bigger home in a new place.

Some termites live where it's hot. Their underground cities rise up as mounds. Termites don't live in the mounds. They live deep underground.

Some mounds are large. They look like sand castles on a beach. But they're bigger and stronger. They may be taller than a two-story house! They're made from a mix of soil and food that termites eat. Mounds have hollow pathways that wind travels through. Wind moves hot air out and cool air in to their underground homes.

Unit 1: Louis Braille

Louis Braille was born in France in 1809. He became blind at the age of three because of an accident. At the village school, Louis learned by listening. He wished he could learn by reading.

When he was ten, Louis began living at a school in Paris. This school for blind children was the first of its kind. The students learned to read using books that had big raised letters for fingers to feel. The thick, heavy books had only a few words on a page. Reading each page took a long time.

Another way to read by touch had just been invented. Dots and dashes were punched into cardboard with a pointed tool. Fingertips could sense the bumps on the other side of the cardboard. The raised dots and dashes stood for sounds in words.

Louis and other students were eager to learn the new system. But soon they were disappointed. Many dots and dashes were needed for just one word, so reading was much too slow.

But Louis liked the idea of fingertips touching little bumps. He tried to think of ways to make the dot-and-dash system simpler. He began spending all his free time with a pointed tool and thick paper, punching little holes. He kept trying to make patterns that were easy to understand.

After three years of trying, Louis finally had a system that made fast reading possible. In his system, raised dots stood for letters and numbers. Each set of six dots fit under a fingertip. By sensing which dots were raised in a set, a reader could quickly make out the letter or number. Louis Braille invented this system when he was only fifteen years old.

This system of raised dots worked so well that it is still used today. It is called braille.

Unit 2: The Invasion

It was exactly sixteen minutes past noon. Time for Dr. Marvel to test his Critter-Twitter machine that he had been experimenting with in his basement for years. He put on the headphones and picked up the mind-microphone. His eyes sparkled with excitement as he aimed the mind-microphone at his pet cat who was sitting on the bookshelf, cleaning her fur.

The scientist turned on his machine and through the headphones, he heard a low, purring voice: "Clean my leg. Keep cleaning and keep cleaning. What else? Clean my other leg. Keep cleaning and cleaning."

"Ha! Ha! Ha!" Dr. Marvel snickered happily. "I've done it! My machine can read an animal's thoughts!"

He turned the mind-microphone on his dog, who was lying on the floor looking up at him. He heard a whiny voice: "Food, am I getting food? No, no. Play, are we going to play? No, no. Out, am I going out? No, no..."

Suddenly the headphones screeched, and Dr. Marvel pointed the mind-microphone at the window while he adjusted his machine.

Strange whispering noises filled his headphones. "It was such a long journey, but we're here! Our invasion was successful and we can take over this place!"

Dr. Marvel ripped off his headphones and looked around in terror. "Yikes, I'm getting messages from space! I'm hearing creatures from another planet, and they're invading Earth! I must pack up my car and head for the mountains where I'll live in my cabin. But those invaders won't get my machine!"

He smashed his Critter-Twitter machine to pieces and then scrambled upstairs with his pets. He never noticed the long line of ants crawling in from the window. They were invading his basement.

Unit 3: Then and Now: Interview with My Grandmother, Sally Luff

ADAM RUIZ (AR): The topic for my school assignment is how communication has changed since long ago. Can you tell me about technology when you were a child in the 1960s?

SALLY LUFF (SL): I'm happy to tell you all about it.

AR: Thanks, Grandma. Okay, my first question is: What is a big change in communication since you were my age?

SL: Well, telephones have certainly changed. In my childhood, we had no wireless connections—no cell phones or smartphones. Our phones had to stay plugged into the wall. And, if you can imagine, they all had dials that you turned by poking a finger into a hole. A phone was just for talking.

AR: Did you have a computer at home?

SL: In the 1960s, only big companies had computers. Personal computers weren't invented yet.

AR: Did you have a television?

SL: Yes, we did. A big rooftop antenna picked up signals that stations were broadcasting. There were only six stations, and we moved a dial on the TV to change the channel. There were color TVs, but the one in our house showed pictures only in black and white. When a favorite program was broadcast, we all watched the show together.

AR: Would you want to go back to the days when there were no smartphones, personal computers, or online video?

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SL: No, because now I expect instant communication of all kinds. But, I think that all our digital devices have brought less of what we're enjoying right now—talking face to face.

AR: Has anything not changed since you were growing up?

SL: When I was your age, I had the same school assignment you have! So that hasn't changed. Like you, I interviewed my grandmother. She was born in 1890, and I was surprised to learn that she grew up without electric lights or indoor plumbing. Maybe your grandchildren will interview you someday. What do you think will surprise them?"

Unit 4: Finding Home by the Water

On Saturday morning, Luna sat rubbing her eyes sleepily in her father's truck. She asked, "Papá, why are we up so early?"

"It's a surprise!" he said.

She yawned and leaned her head against the window of the truck. Earlier, Papá had woken her up by chanting," Despiértate, Lunita! Wake up, little Luna!" Luna did not like to wake up early.

Luna's father pulled onto a narrow road near a glistening lake, the pink sunrise mirrored in the water. He stepped out of the truck, stretched his arms wide, and said, "We're going fishing!" Luna grinned and hopped out to join her father.

Later that morning as they sat fishing on the shore of the lake, Luna's father asked, "Did you know that Minnesota is called the Land of 10,000 Lakes?"

"Are there really 10,000 lakes?" she asked.

"Actually, there are more than that!" he responded. "These lakes formed thousands of years ago when big glaciers scraped the land, carving holes into the ground. Over time, the ice melted and filled the holes."

"What is so great about lakes?" Luna asked, tilting her head. Her father seemed to really love water.

"The lakes were my favorite places to visit when I first moved here," he replied.

"From Texas, right?" she asked.

"Sí fromTejas"

"When I was a kid, I loved going fishing with my Papá. But, in Tejas, you can fish on a boat in the Gulf of Mexico—the water is all around you." He smiled. "We would wake up early and fish in the sun all day."

"All day long?" Luna asked.

Her father laughed and put his arm softly over her shoulder. "When I came to Minnesota, I didn't have any friends or familia here, but I remember seeing the lakes and thinking, at least I can go fishing. It helped me see that I could make a new home here, too."

"Just like Texas?" Luna asked, looking up at her father.

"Sí. Just like home."

Unit 5: Glaciers: Rivers of Ice

Thousands of years ago, during the Ice Age, most of the world was covered with ice. Then, roughly 11,000 years ago, the earth began to warm. These days, you must travel to the North or South Pole or to high mountains to see what's left from the Ice Age. This is where ice fields and glaciers can be found.

What Is a Glacier?

Glaciers are huge masses of ice. The biggest one covers over 620,000 square miles (over 1 million square kilometers). A glacier is like an ice field except for one big difference: movement. Glaciers flow! But most move extremely slowly, less than one foot (30 centimeters) a day.

How Does a Glacier Form?

Glaciers form when more snow falls in winter than melts or dries up in summer. Snow builds up year after year, forming layers. Each new layer pushes down on the layer beneath. This pressure causes last year's snow to turn into grain-like pellets called firn. As more layers form, creating more pressure, the firn turns into ice. The ice finally becomes so thick and heavy, it begins to move.

How Does a Glacier Move?

The whole glacier slowly spreads out as it moves downhill. This general movement of a glacier is called creep. But some parts of the glacier move faster than others. The fastest moving are the top and middle layers, where ice is sliding over ice. The bottom, which rubs against the land, moves more slowly.

What Does a Glacier Do?

As a glacier moves, it changes the land. Its movement wears down the rock surface underneath, slowly carving out valleys. The icy bottom of the glacier also catches on cracks in rock. The heavy, moving ice rips out sections of rock and carries them along. As it continues to flow, the glacier peels back layer after rocky layer. It takes a river of ice to rip up rock!

Unit 6: Watery Forest

Along the seacoasts of warm lands, remarkable trees grow. They are mangrove trees. They have the special ability to live where most trees can't. Mangrove trees survive in salty ocean water. Their roots are able to remove most of the sea salt which can be damaging to plants. Mangrove trees send down roots from their branches. The tangled roots are partly underwater and partly above water. They help to hold up the tree in the soft mud.

Mangrove forests are also called mangrove swamps. A swamp is a kind of wetland. In swamps, the most common plants are trees and shrubs. People have viewed mangrove forests and other swamps as dangerous, useless places. Swamps have mud, mosquitoes, and creatures lurking in the shadows. Around the world, mangrove swamps have been cleared: cut down for houses, shrimp farms, and vacation spots.

However, many people are trying to protect mangrove swamps. They have learned how valuable these wetlands are.

Mangrove forests are a barrier between land and sea. They protect the coastline from strong waves during storms. They also protect the ocean from pollution. Water with chemicals from farms and industries flows into the mangrove swamp. There, tree roots remove pollutants from the water.

The roots also trap and collect silt from the water. Silt is made of tiny bits of rock. When piled up, silt helps build and form more dry land.

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Mangrove forests are centers of life. Reptiles, amphibians, birds, and mammals find food and homes here. The network of roots shelters baby fish and shellfish. The endangered American crocodile lives in the mangrove forests of Florida. The rare Bengal tiger lives in the Sundarbans (SUN-duh-bunz) of Southeast Asia. The Sundarbans is the largest mangrove forest in the world.

When people think about saving the world's forests, they often picture rainforests. Mangrove forests are not as well known. Yet they deserve attention and protection. Mangrove forests are wonderful wetlands.

Unit 7: Interview with an Author: Cynthia Leitich Smith

Sophia Hou goes to school in New Jersey. When she was 11 years old, she had the chance to speak to Cynthia Leitich Smith. Cynthia is an author and book editor. She edited a book titled Ancestor Approved: Intertribal Stories for Kids. Here's part of the interview.

Sophia Hou: Tell me about the book.

Cynthia Leitich Smith: Ancestor Approved takes place at a powwow in the state of Michigan where people from different Native American tribes come together. The book features art and writing by a Native American illustrator and authors.

Sophia: How would you describe a powwow?

Cynthia: Powwows are cultural celebrations. They're a lot about community. Many different people come together at powwows. Powwows honor ancestors, elders, families, and rising young heroes who will take us into the future.

Sophia: What inspired you to put together this collection of stories and poems?

Cynthia: I'm a member of the Muscogee Nation. When I was a young reader, there weren't many books that featured Native heroes and modern-day stories. So I wanted to increase the availability of books about those subjects for kids who are interested.

Sophia: How can your book help readers understand different Native American cultures?

Cynthia: It gives Native Americans a look at people from tribes that are not like their own. So if you are an Ojibwe reader, you might learn something about the Cherokee. If you're not Native, it offers a window into the lives of kids from lots of different tribes. The book shows you some of their cultural practices. But it also shows some of the ways all young people have things in common.

Sophia: What do you want readers to take away from the book?

Cynthia: I want them to celebrate heritage, elders, and the power of friendship and family. I also want them to celebrate the importance of connecting with other people and lifting them up in a positive way.

Unit 8: Nikki's New Shoes

Nikki had brand-new sneakers. They were bright white, and she loved looking at them. "I'm going to be so careful with these sneakers," Nikki announced to Momma. "I promise I won't get a speck of dirt on them."

"You can try," Momma replied. "But you'll have to be very careful."

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Outside, Nikki watched where she stepped on the sidewalk. Her head was down, so she did not see the little boy with the ice cream cone. BUMP! Nikki danced back fast. A blob of strawberry ice cream landed on her shirt. But nothing had dripped on her sneakers.

Nikki walked on with care. When she came to a puddle, she stepped around it. At that moment, a girl on a bike sped through the puddle. SPLASH! Wet splotches of mud spread across Nikki's shorts. "I'm lucky that nothing splashed on my sneakers," Nikki said to herself.

Nikki reached her friend Kayla's house. They ate lunch together. Nikki sat with her feet tucked under her. She squirted mustard on her sleeve by mistake. Some grape juice spilled on her lap.

The girls played outside. Kayla's backyard had a grassy hill that was perfect for tumbling. Nikki took off her sneakers. As she rolled down the hill, the grass stained her socks and clothes.

When Nikki came home, Momma looked at her in surprise. Nikki's clothes had pink, brown, yellow, purple, and green stains on them. "I thought you were going to be careful," Momma said.

"I was careful," Nikki said proudly as she pointed to her feet. Her sneakers were still bright white.

Unit 9: Cricket's Songs

Long ago, Cricket wanted to make the most beautiful music in the world. So on warm summer nights, he would stand out in the meadow, clear his throat, and shriek: "I'm si-i-i-i-i-inging! Isn't it l-o-o-o-o-o-vely! I'm such a great s-i-i-i-i-inger!"

The other animals would roll over in their beds and put their hands over their ears, waiting for him to stop. It was awful to hear. But nobody wanted to hurt Cricket's feelings and tell him how terrible his singing was.

Nightingale tried giving him singing lessons. It didn't help.

Lark tried to teach him her lovely songs. It did no good.

Then one day, Cricket got a bad cold. He couldn't even speak, much less sing. The other animals were relieved not to hear his songs every night. But they were sorry he was sick. So they brought him food every day and tried to cheer him up.

After a while, Cricket got better. But something had happened. That night, he prepared to sing, standing up tall in the meadow and clearing his throat. When he tried to sing, nothing came out. He could still talk, but he couldn't sing!

The other animals were relieved, but Cricket was angry. He lay down and furiously kicked his back legs up and down.

"Creak! Creak! Creak!"

"Did I make that sound?" wondered Cricket. He rubbed his back legs together again.

"Creak! Creak! Creak!"

Cricket was overjoyed. He could still make music for the animals at night, when the weather was warm. The animals were thrilled because they liked his new "creaky" songs. They were like lullabies that helped them fall asleep.

And that is why, on warm summer nights, you'll hear crickets rubbing their back legs together, making lullabies for everyone to hear.

Unit 10: Harlem Renaissance

Swinging at the Savoy
It was past 11:00 p.m. on a spring night in 1931. The neighborhood of Harlem, New York City, was just waking up. Well-dressed men and women walked down the sidewalk. The crowd headed toward the flashing lights of the Savoy Ballroom. Duke Ellington and his jazz band were playing at the Savoy. Ellington was a pianist and composer.

A New Renaissance
In the early 1900s, Harlem's population was growing. Many Black artists and writers lived in the neighborhood. African American art, literature, and music flourished in Harlem. Soon, many people throughout the country embraced Black arts and culture. Historians call this period the Harlem Renaissance.

Many of Harlem's residents came from the South. African Americans faced widespread racism and violence in the South. Southern lawmakers had created strict segregation laws called Jim Crow laws. These laws separated Black people from white people. For example, they could not attend the same schools. Many African Americans hoped to find more acceptance and opportunities in the North.

African Americans found and created their own communities in northern cities. With this urban population boom came a new culture. The Harlem Renaissance was a time of growing racial pride. Black art, music, and writing had political messages. Black artists promoted civil rights in their work. The Harlem Renaissance set the stage for the American civil rights movements as African Americans began demanding equality.

Arts and Entertainment
Jazz is an upbeat style of music. Jazz musicians often improvise, or make up parts of songs as they play. This music defined the 1920s.

Jazz was created in Black communities in Louisiana in the late 1800s. Jazz flourished in big cities such as New York City. Black-owned bars and nightclubs opened in Harlem. They featured jazz music. Famous jazz musicians such as Louis Armstrong, Duke Ellington, and Billie Holiday performed in these places.

The Harlem Renaissance writers and artists wanted to portray African American life truthfully. The art they created continues to influence artists and activists today.

Unit 11: Yusef Learns Tatreez

Tatreez is a form of art that is both beautiful and deeply meaningful to many Palestinian people. To tatreez is to decorate cloth by sewing a picture or pattern on it with colored threads.

"What are we going to do today, Taita?" Yusef asked his grandmother as he removed his backpack.

"Your teacher told me you've been distracted in class," she said warmly, so Yusef knew he wasn't in trouble. "Today, I'm going to teach you something to keep your hands busy."

Taita held up a long panel of embroidered fabric.

"You might have noticed that at night, I sit over here and sew. Now I'm going to teach you how to tatreez."

Yusef couldn't take his eyes off the white fabric with its colorful threads weaving in a crisscross pattern, but he felt unsure. "Do boys tatreez?"

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Taita smiled. "Tatreez is for anyone who wants to tatreez. Do you want to learn?"

Yusef thought of designs he could make. Maybe he would make a special animal, or perhaps he would weave a design for his family. The possibilities were endless.

"Yes! I want to tatreez everything!" Yusef exclaimed.

Taita hugged him tightly. "Let's get started!"

The next day at school, Yusef showed his creation to his friends. "Look what I made!" he said, holding up the bookmark with tatreez he had sewn with colorful threads.

"Nice!" said Muhammad. "I know adults who tatreez. I didn't know children could tatreez, too."

"Tatreez is for anyone who wants to tatreez," Yusef replied proudly.

Later, Yusef held his tatreez bookmark in his lap while his teacher, Mr. Ramirez, read aloud to the class. Yusef ran his fingers over the crisscrossed threads. This motion kept his hands busy, and he was able to listen without getting distracted! Before he knew it, class had finished.

"Yusef, you were so focused in class today," Mr. Ramirez noted.

"I find it easier to focus with my tatreez," Yusef said, beaming proudly at his teacher.

Unit 12: Secrets of Drawing Revealed!

Anna M Lewis is a toy designer and an illustrator. Below, Lewis shares her best tips about becoming a better artist. Learn from a pro about how you can practice expressing yourself by drawing!

Everyone can draw. But just like any athlete, musician, or writer knows, you have to practice, practice, and practice some more to get better at it. Here are some secrets to get your creative juices flowing.

1) Keep a sketchbook
Always carry with you something to draw on. Make sure to grab something to draw with, too.

2) Have a drawing area
Create a special drawing place where you can go when you feel inspired. Set it up with paper, pencils, pens, and things to draw.

3) Gather things to draw

I'll bet you have lots of objects that you can draw around your home. Put them into your drawing place or bag.

4) Make a list of things to draw
There is nothing worse than staring at a blank piece of paper. Brainstorm ten characters to draw, ten different actions that they could be doing, and ten items that they could be wearing. Combine and mix your three lists together and you might have 100 ideas to draw!

5) Copy
When all else fails, copy what you like. Find inspiration from art, cartoon characters, TV shows, movies, and books.

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6) Redraw
If you don't like a part of something you have drawn, you don't have to redraw the whole thing. Place a piece of paper over your drawing, copy the part you like, and try drawing the part you don't like again. (Hint: Taping your papers to a window helps to see through them.)

7) Practice until it's even better
If your sketch doesn't look exactly how you want it to look, draw and redraw it. Keep all your drawings. You never know when you can use a part of a drawing later.

8) Take chances
You are just practicing—so go ahead and try something hard. In fact, no one needs to see your work unless you want them to see it. So have fun with your drawings and let your imagination soar!

Unit 13: Seeds on the Move

A maple tree is growing by the roadside. Nobody planted it here. Nearby are yellow dandelions. Nobody planted them either. How did these plants get here?

Maple trees and dandelions grow from seeds. Most plants make seeds. Each seed holds a future plant. That new plant can grow only if the seed finds a spot with the right soil, sunlight, and water. To reach those spots, seeds must travel.

Many plants rely on the wind to carry off their seeds. Maple trees produce seeds that glide through the air on flat parts that act like wings. Some plants, like dandelions, produce seeds with light hairs attached. The hairs keep the seed aloft in the breeze.

Plants also rely on animals to carry seeds to new places. Some plants make seeds that have fatty parts attached. Ants bring the seeds to their nest, eat the fatty parts, and throw out the seeds. Squirrels bury seeds for later eating, but some seeds stay buried. Birds carry off berries and drop the seeds after eating the fruit.

Some plants, such as cocklebur and sticktight, make seeds that have hooks and spines. These seeds cling to fur, feathers, and clothing. The seeds take long-distance rides.

Some plants make seeds that float. Streams carry the seeds to new shores. Coconut seeds are ocean voyagers. They can float for years.

There are even plants with exploding seeds! It's easy to see why the plants called touch-me-nots have that name. If a ripe seed pod is touched, the seeds shoot out. Other plants explode their seeds, too. The record holder may be the sandbox tree. It can shoot its seeds as far as 148 feet (45 meters).

Seeds are built for travel, but only some of them will have a successful trip. These seeds will put down roots. They may grow into plants that make seeds of their own.

Unit 14: Strange, Squishy... and Smart!

The octopus is unusual: It has no bones, eight arms, a huge head, and a mouth like a parrot's beak. It can change colors, squirt poison, and lift four times its own weight. And, scientists are learning, it seems to be smart!

Here are some behaviors that scientists know about:

- They've filmed small octopuses in the ocean carrying two halves of a coconut shell. When the octopus is in danger, it darts inside one half and pulls the other half over itself.
- Sometimes in the morning, aquarium workers would find fish missing from a tank. Then they'd see watery trails on the floor. They realized that octopuses were getting out of their tanks at night. They were crawling to the fish tanks, eating fish, and returning to their tanks.
- Curious octopuses are interested in toys dropped into their tanks. Scientists at the Lorenz Institute note that octopuses become attached to certain toys. They carry them around like a child with a stuffed animal.
- A giant Pacific octopus was being studied at the Seattle Aquarium. She was given a glass jar with food inside. She figured out how to screw off the top to get to the food all by herself.
- Octopuses have several ways to open shells to eat the shellfish inside. They smash mussel shells. They pry open some clam shells. They use their saw-like tongues to drill into stronger clam shells. Scientist Jennifer Mather and her team decided to trick some octopuses. The creatures were given clam shells that they usually just pried apart. But these shells were wired shut. The octopuses tried different techniques until they were successful.

Why is the octopus so smart? Mather has a theory. She explains that an octopus has no body protection and lives in a dangerous, ever-changing environment. It needs to be clever to survive.

Unit 15: Light Moths, Dark Moths

The white peppered moth gets its name from the black speckles that cover its white wings. These moths often rest on trees.

England is one place where peppered moths live. By the late 1800s, though, people in English cities and towns had noticed a big change in peppered moths. Most now had black wings! What caused the change?

Before the 1800s, peppered moths were hard to see against tree bark. That's because their pale wings and black spots camouflaged them. Camouflaged wings helped peppered moths stay hidden from predators.

During the 1800s, the environment in English cities and towns changed. Coal was burning in homes and factories. The air filled with powdery, black soot as a result. The black powder landed on trees, darkening the bark. White peppered moths were not camouflaged anymore. Birds and other predators found the white peppered moths against the dark, soot-covered trees.

But there were some peppered moths with an unusual trait. Their wings were black. This difference occurred naturally, in the cell parts called genes. Genes are passed down from parents to offspring. When the trees darkened, black-wing peppered moths were camouflaged! Hidden from predators, many of the black-winged peppered moths lived long enough to produce offspring. The moths with white and speckled wings were now much easier for predators to find and eat. Therefore, fewer and fewer white peppered moths survived long enough to reproduce. It was not long before people were noticing that most peppered moths were black.

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In the late 1900s, England reduced the pollution from coal soot in the air. Tree bark lightened. White peppered moths became more common than black ones, again.

Scientific studies of these moths helped show how living things change. The studies also made peppered moths famous.

Unit 16: A Baklava Birthday

"Aamo!" Waseem called out to his uncle. "Today is Maryam's birthday!"

"Yes, today is special," Aamo said, "so let's make your sister a delicious cake, ya albi—my heart of hearts!"

They began collecting ingredients but soon noticed they were missing an important one: sugar. Aamo suggested asking their friend, Zara, who lived next door.

"We have no sugar for Maryam's birthday cake. Do you have any?" Waseem asked Zara.

Zara shook her head. "I rarely bake my treats with the kind of dried white sugar you're looking for. Sorry, Waseem!"

As they headed home, Waseem sighed, feeling discouraged. Then he remembered what Zara said about white sugar. Was there another source of sweetness they could use? "Wait," he declared, "I know what to do!"

Waseem led his uncle to a hive of honeybees in their garden at home. "Aamo, honey is our answer! Maryam loves baklava, which can be made with honey instead of sugar. Let's use this honey!"

"Ah, yes," Aamo smiled. "But first, you must ask the bees for permission." Aamo walked up to the bees and spoke softly. He began gathering pieces of fresh honeycomb in his hands. Then he thanked the bees and explained to Waseem that it was important to respect nature's hard work.

They got to work layering dough with butter, honey, spices, and pistachios. They popped it into the oven and an incredible aroma filled the air. "It's ready!" Waseem said, carefully taking the pan out of the oven with oven mitts. They stuck a candle on top just as Maryam burst through the door.

"Eid milad sa'eed! Happy birthday!" Waseem and Aamo shouted.

As each family member took a piece of the pastry, Waseem looked out the window at the beehive in their garden. "Thank you little bees, for sharing your honey with us," Waseem said softly. Then, he bit into a piece of baklava, savoring the taste of honey and hard work.

Unit 17: A Blue-Ribbon Friend

Gloria and June had been best friends for years. When they heard about a city art contest for kids, they both decided to enter. They got together to paint pictures until they had several to choose from. Then they helped each other pick the best one to send in to the contest. Gloria ended up choosing her picture of a cat sleeping in a window while June chose her picture of a waterfall.

A week later, Gloria called her friend, bubbling with excitement. "The City Art Board sent me a letter. I won, June, I won! They gave me a blue ribbon! Did they call you, too?"

"No," June said faintly and then spoke up. "That's great, Gloria. I told you it was a wonderful picture."

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"Actually, you said it was a purr-fect picture of a cat," Gloria said, laughing a little. "I'm sorry you didn't win anything, June. I really liked your picture."

"Oh, well," said June. "At least we have the party to look forward to."

"What party?" asked Gloria.

"Sachi's party," June answered. "You know Sachi. She's in my class and you met her at my house."

"She didn't invite me to her party. Um, I have to go now," Gloria said quickly. "I just wanted to tell you the news. Bye!"

June felt bad because she knew how much Gloria enjoyed parties so she decided to ask Sachi if Gloria could come, too. Sachi remembered Gloria and happily agreed that she could come. June called Gloria and told her the good news.

The next morning, June found a big envelope with her name on it in the mailbox. Inside was Gloria's blue ribbon and a note: "You deserve a blue ribbon for being such a fantastic friend!"

Unit 18: Dear Advisers

25¢back_jack submitted:
Hey everyone! I have a question... Last year, I went to my cousin's birthday party and gave him an expensive sweater as a gift. When he opened the box, he just frowned. He never sent me a thank-you note, and he didn't give me anything for my birthday. Now I'm invited to his birthday party again, and I don't feel like bringing a gift. Should I? –Jack

i.got.th!s replied:
I can see why you're annoyed. There is no excuse for not showing appreciation for a gift. Your cousin is one rude dude! People like that are just not worth worrying about. In fact, if I were you, I wouldn't even go to his birthday party. Problem solved—if you don't go, you won't have to bring a gift.

i*am*k8 replied:

You should go to your cousin's birthday party, and you should definitely bring a gift. Your cousin may have bad manners, but you don't. Gift giving is the custom at a birthday celebration. Also, it just feels satisfying to be generous without thinking about what you may or may not get in return. By the way, your gift doesn't need to be expensive. It really is the thought that counts!

pro_ad*vice replied:
Have you thought about talking to your cousin? Sometimes a simple misunderstanding can cause hurt feelings on both sides. Perhaps your cousin was embarrassed by such an expensive gift. Possibly he sent a thank-you note, but it got lost by the post office. Or maybe he simply forgot his manners in the excitement of the birthday party. You will never know unless you ask.

25¢back_jack submitted:
Thanks for the tips, advisers. Now, the trouble is, I have too many choices. Which solution should I pick?

Unit 7: Surprise On The Beach

Jade took in a deep breath of ocean air as she walked along the coastline. The seashore was her favorite environment. Suddenly, she came upon a fish, stranded there and lying on its side in the sand. She looked closer.

This was no commonplace, everyday, easy-to-find fish! It was a pufferfish. She could tell by the nonrigid skin on its underside. Pufferfish have soft bellies that are not stiff so when they swallow water, they can puff themselves up. Jade's fish seemed to be the size of her foot, but that was misleading. In an instant, it could grow three times bigger.

Knowing this species of fish could be poisonous, Jade flipped the pufferfish onto its belly using a stick. Its lips started moving! Quickly, she ran to the trashcan and found two old coffee cups, then scooped the fish up and ran into the ocean. The second the saltwater filled the cups, the fish started wiggling. Luckily, it didn't puff up.

When she got past the waves, she spread the cups apart. The pufferfish swam in a semicircle, halfway around her, then glanced up. Jade smiled. The fish dove deeper and swam off. Within seconds, it was gone. But Jade was still smiling.

Unit 8: Frogs Around The World

Frogs come in many shapes and sizes. Scientists have found more than 4000 species around the world! What makes these frogs similar and different?

Staying Alive

Each type of frog has a special way to stay alive in its environment. For example, some frogs are brightly colored to warn animals not to eat them. The poison in their skin makes them nonedible. Other frogs have colors that match nonaquatic plants on land. This way, the frogs can hide near plants when they are not in the water.

From Egg to Adult

All frogs are semiaquatic. That means they spend part of their lives in the water. In fact, the water is where a frog's life begins. Semisolid eggs float in ponds or streams, looking like tiny balls of clear gel. Many changes will follow in a frog's life cycle. Its body goes through several steps of changes to get from egg to tadpole to full-grown.

Frogs in Danger

In the past fifty years, the number of frogs around the world has gone down. Some species have died off and become extinct. Other kinds of frogs are misshapen, with unexpected problems like extra or missing legs. These frogs struggle to stay alive.

Losing our planet's frogs would be a misfortune for all of us. That's why scientists are trying to understand these setbacks and make changes that will help.

Unit 15: Surfing in South America

Carlos was excited about becoming a surfer. La Paloma, where he lived, was well known for its surfable shores. With big waves and sandy beaches, the conditions were perfect for surfing.

There was only one problem. Carlos's dad said he couldn't surf until he was a teenager. It would be too challenging physically. Carlos was not sure this was true and felt uncertain. He was slow to accept the decision because he didn't want to wait that long. Reluctantly, he agreed to it.

Then he read about Quincy Symonds, the "Flying Squirrel." She started surfing when she was four years old. By eight, she could surf in waves twice her size. Carlos showed his dad her video, then asked him to think about it again and reconsider his decision.

His dad said yes! He called Quincy a trailblazer. "She's not only carving a path through the water," he said. "She's creating a way for other kids to follow in her footsteps."

Together, they picked out a preowned surfboard. Even though someone else had used it before, it was fine. Carlos headed into the water with an instructor by his side. He was wobbly at first, but he would improve. Some day, he just might be unstoppable!

Unit 16: Cave Diving

Underwater caves are so remarkable, they're worth talking about. Untouched by waves or wind, the water inside is crystal clear. This makes it easy to see the unusual rock formations found there. Even so, there are only a small number of cave divers in the world. Scuba diving is more common because it is less dangerous.

To make cave diving safer, precautions are taken ahead of time. Though unexpected problems can arise, some things are controllable. For example, divers let out a rope as they go deeper inside the cave. It's called a guideline. This way, they can find their way out when it's time to leave.

Cave divers also bring three flashlights. Two are backups. Moving in pitch black would be very challenging. Plus, it would go very slowly. If the divers take too long to exit, they could run out of air.

Lastly, cave divers save most of their air for the end of their dive. They need the air to get out of the cave and reach the water's surface again. When a third of the supply is gone, divers turn around and retrace their steps, following the guideline. Otherwise, their tank might get dangerously low and they could suffocate.

Underwater caves may not be for everyone. However, their mystery is undeniable.

LEVEL 15 | FLUENT READING 1

Unit 1: Demonstration

The jittery-janglies are on the attack! / Face them head on, don't step back. / They snarl and growl, "You're weak, not strong!" / Just smile and say, "I'll prove you wrong."

Unit 5: The Race

You won't see a track in this kind of race. / Yet the runners keep up a very fast pace. / They travel, give speeches, shake hands, and grin. / They're asking for votes and running to win.

Reading Together

Let's read together. / You first, and then me. / It's more fun this way. / Don't you agree?

Sledding

Sliding down a snowy slope– / it's speedy and so thrilling! / Dragging the sled back up to the top– / well, that is less fulfilling.

Growth

On every birthday, I stand tall / as Dad marks my height on the kitchen wall. / The marks make me think of steps on a ladder. / I wonder where the top step will be. / When I reach it, will I still be me?

Do Wheels Work?

To whoever invented the wheel, / here is a piece of advice: / Your invention is fine for the road, / but try roller-skating on ice!

Classroom Vote

"What kind of pet / should our room get?" / asked our classroom teacher. / We made some notes / and cast our votes / and chose a furry creature.

Unit 10: Poetry Set

The Largest Living Lizard

This giant lizard is a fierce fighter / and what's worse, a deadly biter. / So even if its tail is waggin', / don't go near a Komodo dragon!

Snapping Turtle

Scaly body, spiky tail, shell dome, / the turtle is old–a giant in size. / It climbs with sharp claws from its water home, / and gazes at us with prehistoric eyes.

Seeking a Better Life

When Grandma's grandpa came all alone / to this city, he had nothing of his own, / except a will as strong as stone. / In a faded photo, his smile reveals / how proud and brave the young man feels.

Voting

Grumpy Green says, "Candidates bore me. / Once they're in office, they just ignore me." / If he wants his leaders to change direction, / Grumpy should vote in the next election.

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The Glass Lizard's Trick

The legless glass lizard looks like a snake. / If a hunter grabs it, its tail can break / away from its body and shake, shake, shake. / Has the hunter caught a meal? No, it's not the right kind. / The hunter only caught what this lizard left behind.

"Paul Revere's Ride"

An excerpt from a poem by Henry Wadsworth Longfellow

Listen, my children, and you shall hear / Of the midnight ride of Paul Revere, / On the eighteenth of April, in Seventy-Five: / Hardly a man is now alive / Who remembers that famous day and year.

LEVEL 15 | ACADEMIC VOCABULARY 1

Units 1–2: Not Just Any Race

A marathon is a long-distance foot race. Runners compete on a course of just over 26 miles (42.2 kilometers). That's a long way to run! Marathon racers test their training, skill, strength, and courage. For some athletes, however, attempting a marathon is not challenging enough. These runners compete in ultramarathons—races at least twice as long as a marathon. The Badwater Ultramarathon, for example, is a race course that covers 135 miles (217 kilometers). The race begins in Badwater, a town located in a deep valley in California. Runners follow the course up and across mountains. A winning time is just under 24 hours. However, most runners just want to achieve the goal of finishing. Why attempt such a challenging race? As one coach has said, "This appeals to people who like to see what they are made of."

Unit 5: Extreme Sports

Long-distance swimmer Diana Nyad dreamed of achieving a special goal. She wanted to be the first person to swim the 100 miles from Cuba to Florida. To do this swim, an athlete must swim through challenging waters filled with strong currents, high waves, deadly jellyfish, and hungry sharks. Nyad first attempted the swim in her twenties. However, currents pulled her off course. Many years later, she tried again—and again and again. Each time, she failed. When Nyad was 64 years old, she succeeded at last.

Every year, the world's toughest, most challenging dogsled race is held in Alaska. It's the Iditarod (eye-DIT-uh-rod). Sixteen dogs pull each sled guided by a human driver, or "musher." The mushers compete for prize money and fame. Each team attempts to cross frozen rivers, avoid cracks in sea ice, and deal with sudden storms. Injuries are common. Finishing this risky race is a big achievement. Some people say the race is cruel to animals. Mushers insist, however, that they treat their dogs with love and care.

Units 6–7: Time For Play

For many students, recess is a daily school activity. During recess, students go outside to play. The main benefit is that students get a break from classroom studies.

Recess is simple to understand, right? Well, maybe not. Parents, teachers, and other adults do not all agree about recess. Some doctors concluded that recess has many benefits and even improves learning. Other people decided that recess is not important and can be dropped. There are also people who think recess may sometimes have benefits; however, it matters what students do during that time. In some schools, students must join in physical activities led by adults. In other schools, students are free to do whatever they want during recess and don't have to play physical games. How would you improve recess?

Unit 10: Recess

I believe that students should have at least twenty minutes of recess every day. Recess is a time for physical play. During that time, students are running, jumping, climbing, and playing sports. These activities bring many benefits. They help young people build strength and fitness. A leading doctors' group in the United States has concluded that recess helps children's health. Other studies have shown that physical activity can help improve students' grades. I say yes to recess!

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Doctors and other experts have concluded that children should be active during school. Physical activities have many benefits. They help improve health and fitness. But recess may not be the best way to get children moving. The problem is that many students just sit and talk during recess. Plus, it takes time to get ready to go outside and time to return and settle down. That means less time for learning. The best time and place for physical activity in school is gym class, not recess.

Units 11–12: Voters Decide

Government leaders and lawmakers have important jobs. The people who hold these public offices are chosen by voters who elect them. Before an election, different candidates try to win votes. Voters have a hard and important choice to make. How should a voter choose the candidate who will do the best work?

Imagine that several candidates are running for the office of mayor of a city. Now, imagine that you are a voter. Ask yourself which candidate best represents your own views. That person is likely to make policies that you'll agree with. Although all candidates make many promises about the future, take a look at each candidate's past. What has the candidate already done to help your city? Has that person's policies improved lives? Has the candidate been honest and fair? Your answers will help you choose the candidate who will represent you and what you believe in.

Unit 15: School Election

As we get ready to vote for class president, remember: Isaiah Reynolds is the best candidate. He is a great listener. When he sees someone upset, he asks what's wrong. When there is a problem, Isaiah asks others how they want it solved. I know that, as president, Isaiah will listen to our ideas and represent us well at school-wide meetings. Isaiah will make new policies that help us all. In tomorrow's election, vote for Isaiah Reynolds.

Hello, classmates! We're voting for class president. There's only one candidate who deserves our vote—Gabrielle Martin. Although other candidates claim they will represent us, what we actually need is a president who will speak up. Gabrielle is a born leader. She will help others to do what's right. Gabrielle Martin is the candidate who will be the most fearless president. Not only will she represent us all, she will make sure our views are heard. For the important office of class president, Gabrielle Martin is the best choice!

Units 16–17: Gone Forever

Billions of passenger pigeons once lived in North America. These birds commonly flew in large flocks. Some of these groups were so huge that they darkened the sky. In 1810, one scientist described a flock that was 240 miles long! There were probably more passenger pigeons than any other bird species in North America. In their forest environment, passenger pigeons gathered to feed on nuts and berries. There, the birds were easy targets. Hunters shot millions for food and sport. The supply seemed too great to run out. Extinction seemed impossible. Yet hunting, along with cutting down forests, had a deadly impact. The very last passenger pigeon died in a zoo in 1914. The surprising extinction of passenger pigeons taught people an important lesson. Today, there are more laws and policies in place to protect many species from extinction.

Unit 20: Changes in the Environment

Throughout Earth's history, plants and animals have died off. Commonly, species become extinct because their environment changes. Suppose, for example, that a storm floods the only island where an animal lives. In the flooded environment, that animal might die off. Over the course of Earth's history, changes in nature have caused species to die off suddenly. One instance of this was when a huge rock from space crashed into Earth around 65 million years ago. The crash led to the end of dinosaurs. Earth is always changing, and extinction is part of those changes.

Earth scientists study the impact of changes in air, water, and land. At times, species are not able to live in a changed environment. Then, they become extinct. Some scientists say that a big extinction is happening now. Why are plant and animal species dying off? Commonly, the cause is human activity. For example, people clear the land or bring harmful plants and animals to new places. In addition, some animals are overhunted. As a result, humans are causing the extinction of species.

LEVEL 15 | TEXT CONNECTIONS 2

Unit 1: Demonstration A

Some insects live together in a kind of insect city. Insects such as ants and bees live like this. Termites do, too. Termites have strange eating habits. They like to eat wood and also eat plastic. They eat a huge amount of food every day. Termites often live underground. They travel through tunnels to get around. When their termite city gets too crowded, they grow wings and fly off. They set up a bigger home in a new place.

Some termites live where it's hot. Their underground cities rise up as mounds. Termites don't live in the mounds. They live deep underground.

Some mounds are large. They look like sand castles on a beach. But they're bigger and stronger. They may be taller than a two-story house! They're made from a mix of soil and food that termites eat. Mounds have hollow pathways that wind travels through. Wind moves hot air out and cool air in to their underground homes.

Unit 1: Demonstration B

The octopus is unusual: It has no bones, eight arms, a huge head, and a mouth like a parrot's beak. It can change colors, squirt poison, and lift four times its own weight. And, scientists are learning, it seems to be smart!

Here are some behaviors that scientists know about:

- They've filmed small octopuses in the ocean carrying two halves of a coconut shell. When the octopus is in danger, it darts inside one half and pulls the other half over itself.
- Sometimes in the morning, aquarium workers would find fish missing from a tank. Then they'd see watery trails on the floor. They realized that octopuses were getting out of their tanks at night. They were crawling to the fish tanks, eating fish, and returning to their tanks.
- Curious octopuses are interested in toys dropped into their tanks. Scientists at the Lorenz Institute note that octopuses become attached to certain toys. They carry them around like a child with a stuffed animal.
- A giant Pacific octopus was being studied at the Seattle Aquarium. She was given a glass jar with food inside. She figured out how to screw off the top to get to the food all by herself.
- Octopuses have several ways to open shells to eat the shellfish inside. They smash mussel shells. They pry open some clam shells. They use their saw-like tongues to drill into stronger clam shells. Scientist Jennifer Mather and her team decided to trick some octopuses. The creatures were given clam shells that they usually just pried apart. But these shells were wired shut. The octopuses tried different techniques until they were successful.

Why is the octopus so smart? Mather has a theory. She explains that an octopus has no body protection and lives in a dangerous, ever-changing environment. It needs to be clever to survive.

Unit 1: Iguanas, Then and Now

What is an ancestor? Ancestors are relatives from long ago. We all have ancestors, and even our pets have ancestors!

Many animals alive today look similar to animals that no longer exist. Scientists have found remains of animals and plants that lived long ago that help explain how they used to look. These remains are usually bones and fossils, or remains of animals or plants that have set into rock over time. For example, fossils have taught us about the prehistoric lizards that lived with the dinosaurs. Prehistoric lizards are ancestors to today's lizards.

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They look similar and have many of the same features. On the other hand, most prehistoric lizards were much larger than any living lizard! They had long tails and eyelids that covered their eyes. They did not have proper ears. Instead, they just had holes where other animals have ears. They also had short legs, but this did not stop them from moving extremely fast.

Iguanas are lizards that are a lot like their ancestors. Similar to prehistoric lizards, iguanas have eyelids, small holes where ears would be, and long tails. Unlike meat-eating prehistoric lizards, most iguanas are herbivores that live in trees. They can be found in warm-weather areas, such as Central America. They are cold-blooded, which means that their body temperature drops when the weather turns colder. When it gets really cold, iguanas can fall right out of the trees! This happens because the cold temperature slows their breathing and heartbeat so much that they fall asleep. Then, they can't hold onto the branches anymore. Once the sun warms them up, they wake back up and go in search of a nice warm rock or branch to sit on.

Scientists are using what they know about iguanas to learn even more about prehistoric lizards. For example, they think that ancestors of iguanas most likely had similar coloring. It's amazing that this modern lizard can teach us so much about life long ago!

Unit 2: Diagram of a Prehistoric Ancestor

The iguana's prehistoric ancestor roamed the earth long ago. How long ago? Scientists estimate that these ancient lizards lived 80 million years ago. This means that these lizards lived alongside many dinosaurs.

Similar to an iguana, this ancestor of today's lizards had sharp teeth. These teeth were made to eat small dinosaurs, other lizards, and their eggs. In contrast, most modern iguanas use their teeth to eat plants.

This large lizard—an ancestor of iguanas that can be found today—had a long tail that helped it survive. It used its tail to defend against attackers, and also for balance. An iguana uses its tail in the same way.

Both the iguana and its ancestor had five clawed toes on each foot. (Most dinosaurs had three toes on each foot.) This lizard from long ago most likely used its claws to tear apart its meals. On the other hand, most iguanas alive today use their claws to climb trees and branches.

The color of this ancestor of today's lizards was probably similar to a modern-day iguana. It was around 18 feet (5.5 meters) in length. It weighed more than 1,200 pounds (575 kilograms).

Unlike its giant ancestor, an average iguana is 4 feet (1.2 meters) in length and weighs 15 pounds (6.8 kilograms).

Unit 3: Interview with a Treasure Hunter

Interviewer: Welcome, Dr. Bolić. Tell us about your trip to South America to look for fossils.

Dr. Bolić: I was looking for evidence of animals that lived long ago. I wanted to find fossils, or parts of animals hardened into rock. After a few weeks, I still hadn't found anything interesting, so I was getting ready to pack up and head home.

Interviewer: What convinced you to stay a little longer?

Dr. Bolić: A ten-year-old boy named Mateo had been watching me work almost every day. He told me about something he had found in the desert nearby.

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Interviewer: What happened on the last day of your trip?

Dr. Bolić: Mateo convinced me to take a look at what he had found. It was a nearly complete skeleton of a prehistoric lizard. This ancestor of a modern-day iguana was as big as a car!

Interviewer: Wow! Then what did you do?

Dr. Bolić: We started excavating, or removing, the fossil. First, we used jackhammers to break through the hard rock. We used smaller tools as we got closer to the skeleton. Second, we wrapped the fossil with strips of cloth that were soaked in plaster and left to dry. This wrapping, called a field jacket, protects the fossil.

Interviewer: What was the next step in the excavation process?

Dr. Bolić: The third step was to move the fossil to a museum to study it. We needed a helicopter to lift this one because it was so heavy! Fourth, we carefully unwrapped the field jacket and cleaned the fossil. We used tools like the ones a dentist uses. Finally, we studied the fossil to learn more about the ancestors of today's lizards. We compared it to other fossils and to animals that are alive today. We learn so much from every fossil!

Units 5–6: Mei's First Day

"We talked about this," Mei's mother said as she packed a sparkly lunchbox. "I know you're nervous, but you can do this."

Mei stared at the baozi on the plate in front of her. "I don't want to be the new kid. What if no one talks to me?" She pushed the steamed bun around on her plate.

"You could always try talking to them first," her mother said, smiling as she tried to reassure Mei. She looked at her watch. "Hurry and eat breakfast. I'm looking at a new kid with a bus to catch."

At school, Mei shuffled to her desk at the back of the classroom. She sat next to a girl with two ponytails running down her back. As Mei took her seat, she noticed that she and ponytail girl had the same lunchbox. Mei remembered what her mother had said, but before she could say anything, spelling practice began.

When the bell rang for lunch, ponytail girl's hand rocketed out. The next thing she knew, Mei was shaking hands with a girl named Lisa.

"I was the newest person in class until you got here!" Lisa said cheerfully. "I don't know everything yet, but I can show you around."

Mei was happy and excited to have Lisa as her guide. Together they walked down the hall. They looked at classroom decorations, paintings, and science projects. Lisa talked the entire time.

Just as Mei was making a note of where the bathrooms and drinking fountains were, she felt Lisa pull away and say "…and we can both try out together! It's M-E-I, right?"

Mei looked up at a large poster that read: AUDITIONS FOR SPRING SONG NEXT WEEK. Her name was now scribbled at the top of the list. What had she gotten herself into?

Unit 6: Mei's Way with Words

"I know you're nervous, but you can do this. Breathe, and remember what we practiced," Lisa told her new friend Mei.

"I remember the lines now," Mei said, "but I'm afraid I'll forget them when I get up on stage. I don't think I'll ever get a part in the play."

A loud voice called from the dark theater. "For our next audition, we have Mei Wu!"

Mei walked to the center of the wooden stage, where she nervously introduced herself.

"I'm Mei Wu," she said in a tiny, hesitant voice.

The faceless judge yelled, "A little louder, please!"

"I'm Mei Wu," she repeated loudly. "I'm trying out for the part of Bernie the Bird."

There was a silent moment that seemed to last forever as the judges waited for Mei to continue.

Mei looked for Lisa out in the audience, but the spotlight was hot in her face.

"I'm Bernie the Bird, and in the spring, I love to play and love to sing—"

Mei's voice caught in her throat as she tried to think of what came next.

"I fly around with my wings flap-flapping, um . . . to wake the flowers from winter napping." Mei wasn't sure what came out of her mouth, but a few minutes later the audition was over.

"Mei, where did those lines come from?" one of the judges asked.

Mei was quiet before she confessed in a bold voice, "I just made them up."

"Well, whatever you made up was quite good," the voice said. Mei could hear the judges whispering among themselves.

Mei walked off stage, smiling proudly. Lisa met her with her mouth hanging open.

"That was amazing, Mei! I think they liked your lines better than the original ones!"

Mei laughed and said, "Thanks for being such a good friend. I guess I'd better find a bird costume!"

Unit 7: Diagram of a Nervous Audition

This poster is the only reason I'm trying out for the school play. When I met Lisa on my first day of school, she wrote my name on the audition list. Then, we practiced every day after school.

My brain is foggy. Being nervous makes it hard to think clearly, and I'm afraid I'll forget my lines.

I'm so nervous! My hands are shaking and sweaty. The more I think about my shaking and sweaty hands, the more nervous I feel.

The spotlight is shining in my eyes and making me hot. It's an oven up here on the stage.

It's as dark as night out there, and I can hardly see the judges. The auditorium is a huge, creepy cave.

My legs are cooked spaghetti. They're so wobbly and weak that I feel like I'm going to topple off the stage!

Unit 9: Never Late Again!

"Brrrrrrrrring!" The bell signaling the start of the day pierced the air, just as Shriya and her younger sister Kalini raced up the steps of Jefferson Elementary School. "Oh no!" Kalini cried, seeing the tall figure waiting at the door. "There's Principal Hatchet."

"Girls, this is the third day in a row that you've been tardy," the principal said sternly. "You live just around the corner. We need to find a solution to this problem."

"Don't worry, Principal Hatchet, we'll never be late again! We have a plan," Shriya assured her. Kalini stared at her sister in confusion but remained silent.

"What's the plan?" Kalini finally asked as the two girls hurried to their classrooms.

"I don't know," Shriya frowned. "But we'd better think of something!"

After school, the girls walked to the neighborhood park. Kalini pulled her older sister toward the large slide in the middle of the playground. "C'mon! I love this slide. It's so fast—going down is like skating on ice. Then, it launches you up in the air at the bottom."

"Kalini, that's it! Now we really do have a plan," Shriya exclaimed, hugging her. "There are just a few details we need to work out..."

The rest of the afternoon and evening was spent sketching the design, gathering materials, and building what Shriya named Project Never Late Again. It was long after bedtime when the girls finished, so they had no time for a test run.

"We'll just have to hope for the best," Shriya smiled.

The next morning, Shriya and Kalini hurried to get ready for school. They left their apartment at the usual time, but today they weren't going to walk to school. They were going to slide.

The girls climbed a ladder to the top of the giant slide they had built. They used their hands to push off from the top. The push started them flying down the long, slippery track until they were launched into the air at the end, landing at the top of the school steps. Their project was a success!

Principal Hatchet was waiting at the door. She just shook her head and blinked her eyes as Shriya and Kalini walked into school—on time.

Unit 10: Diagram of Forces at Work While You Play

What pulls a person down a slide? Gravity. Gravity is a force that pulls everything down toward the ground.

When people go down a slide, their skin or clothing rubs against the surface of the slide. This rubbing creates friction. Friction is a force that causes moving objects to slow down.

This boy is waiting for his turn to go down the slide. In science terms, he's an object at rest. What does that mean? He'll stay right where he is until a force—like the push of his arms—sets him in motion.

This girl is sliding down—fast! Is there a force that will make her stop? When the girl reaches the bottom of the slide, the force of her feet hitting the solid ground will stop her until she's ready to put these forces to work again.

Unit 11: Experimenting with Forces

Purpose: Why did I do this experiment?

I wanted to find out what would happen when an object went down a smooth ramp, and then down a ramp with a rough surface.

Materials: What did I use?

- clipboard
- small block
- stopwatch
- ruler
- towel

Procedure: What did I do?

Step 1: I leaned the clipboard against a wall to make a ramp and measured the height.

Step 2: I held the block at the top of the ramp and then let it go. I used the stopwatch to time how long it took to go down the ramp. Then, I used the ruler to measure how far it slid.

Step 3: I covered the ramp with a towel and repeated Step 2.

Observations: What did I notice?

1. On the uncovered ramp, the block took 0.8 seconds to reach the bottom and slide to a stop. The block slid 6 inches (15 cm) in front of the ramp.

2. On the ramp covered by a towel, the block's trip was totally different! It moved much more slowly on the towel, sliding for 2 seconds. Also, the block only slid 1 inch (2.5 cm) in front of the ramp.

Explanation: Why do I think this happened?

The towel made the surface of the ramp rougher. I think that when the towel rubbed against the sliding block, it made more friction. The friction between the object and the surface of the ramp slowed down the block. This experiment showed that an object moves more slowly when there is more friction.

New Questions: What do I want to learn next?

How can I reduce friction so that an object slides even faster? How else can I change a ramp so that an object travels a longer distance?

Unit 13: Picturing the Past

I sat quietly as Grandpa drove, watching the large green fields turn into crowded city neighborhoods. When we turned off the highway, I stared at the tall buildings. Hundreds of people lived in each one. I'd been to the city many times, but I hadn't gotten used to how many people there were.

Grandpa parked the car, and I finally asked, "Grandpa, where are we going?"

"To a museum exhibit I want you to see, Jordan. It's full of art and artifacts from an important time in history."

I was about to ask Grandpa what an artifact was when I saw that the answer was all around us. The exhibit space was filled with photographs, maps, clothing, train schedules, diaries, job postings, and more. There were also drawings, paintings, and sculptures.

One painting caught my eye, and Grandpa explained what I was looking at.

"That's people down south. They're heading to a railroad station with all their belongings," Grandpa told me. "Close to a hundred years ago, my father was one of those people catching a train up north. It was called the Great Migration."

He gestured at other items in the exhibit, pointing out a diary entry about leaving friends behind and a photograph of people standing next to a car loaded with boxes and luggage. I looked at everything and thought of our drive here. I wondered if people back then were overwhelmed by the huge city, too.

"Thousands of Black people, like you and me, moved north," Grandpa explained. "My dad told me all about it."

"Why'd they move, Grandpa?" I asked.

"Northern cities offered them well-paying jobs and a chance at a better life," he answered. "They hoped for a new opportunity for their children."

"Grandpa, thanks for bringing me here today," I said as I hugged him. "It feels good to know our family was part of something so important!"

"I thought you might be proud of our family's history," he smiled. "Now, Jordan, you just need to take care of the future."

Unit 14: Map of the US Great Migration

In the early 1900s, almost all African Americans in the United States lived in the South. Most of these families lived and worked on farms. In the next century, the African-American population shifted. After the 1970s, there were far fewer African Americans living in the South. The population was half what it once was.

Some African Americans moved from as far away as Louisiana. It was hard to support a family as a farm worker there. Cities in the North offered factory jobs that paid well. Many African Americans moved to make better lives for themselves and their children. This opportunity made the challenge of leaving home worthwhile.

From the 1900s to the 1970s, about six million African Americans migrated, or moved, away from the South. Many moved to northern cities. This movement is known as the Great Migration.

Railroad companies needed workers. Car factories also needed workers. The companies often loaned people money to move. Workers paid back the moving costs from their first paychecks.

Unit 15: The Great Migration – Journey to the North

Excerpts from a poem by Eloise Greenfield

II. Goodbyes

Girl and Boy: / I almost cried, having to tell / my friends goodbye. But / tomorrow, I'll get to hug / my daddy when I get off the train / up North. Mama says he found a job / and a place for us to live. Up North. / I wonder what it's like. Anyway, / as long as Mama and Daddy / are there, I know I'm going / to be happy.

III. The Trip

Mostly they travel by train, / sit or stand in the railroad stations, / crowds of people, waiting, / resting their old suitcases, / cuddling their babies, holding the hands / of the older children, carrying, / in bags and shoe boxes, / food they've packed for the trip. / At each station stop, more passengers / squeeze on until the train is full. / The children like to sit / beside a window and watch / the towns go by, watch the shapes / of trees, the fields of tobacco / and cotton and corn and beans. / The grown-ups talk, the children talk. / They laugh. They make new / traveling friends whom they / will never see again. / They watch the towns. / They watch the fields / They think about the places they left. / They daydream about the places / they're going to. Going to Chicago, New York, / Philadelphia, Washington, / Pittsburgh, Cleveland, Detroit… / and more.

IV. Question

Men and Women: / Will I make a good life / for my family, / for myself? / The wheels are singing, / "Yes, you will, / you will, you will!" / I hope they're right. / I think they're right. / I know they're right. / We're going to have / a great life. Got to try it. / Going to do it. Going to / make it. No matter what.

LEVEL 16 | PASSAGE FLUENCY 4

Unit 1: In Grandmother's Day

"How were things different when you were little?" Ellis asked Grandmother."

All our TV shows were in black-and-white, not color, and we also listened to music on records," she said.

"What are records?" Ellis asked.

"They're black plastic circles with holes in the middle," said Grandmother.

"How did you play music?" Ellis asked.

"We had record players that played the records," she said."

Sometime I'd like to see a record player," said Ellis.

"Why wait?" said Grandmother. "Let's go up to the attic and see one now!"

Grandmother and her grandson, Ellis, went into the attic and Ellis found a wooden toy chest filled with stuffed animals.

"That's your Dad's old toy chest," Grandmother said.

Ellis pulled out a stuffed rabbit with floppy ears and no tail. Grandmother pointed to something in the corner and said, "That's the record player I wanted to show you."

Ellis dusted off the clear plastic lid on the record player and asked, "Can we play a record?"

"Yes, we'll bring it downstairs and have some fun," said Grandmother.

Unit 2: Uno Learns

Ava, Jane, and their son Lucas adopted their puppy Uno from a nearby animal rescue. One day, Ava was getting ready to go to the airport where she worked as a pilot when Uno playfully jumped on her. "I love you, Uno, but I don't love your jumping," said Ava as she brushed dog fur off her uniform.

After Ava left, Lucas and Jane decided to teach Uno to stop jumping. "We'll surprise Mama," said Lucas. They borrowed a book from the library about puppy training and bought a bag of yummy treats at the pet shop. Jane stood outside the front door while Lucas and Uno waited inside. When Jane walked through the door, Uno immediately jumped on her.

Lucas waved a treat under Uno's nose and said, "Sit." They repeated this again and again, and after three days, Uno stopped jumping. "I think he's got it!" said Lucas.

That afternoon, a delivery person with a package knocked on the door. When Jane opened the door, Uno jumped on the man. "Let's keep trying," said Jane.

After three more days, Lucas and Jane thought Uno was ready. Ava would be home soon, so Lucas and Uno waited by the door for her. As she walked inside, Lucas held out a treat and said, "Sit, Uno!" Uno sat, wiggled excitedly, and wagged his tail, but he didn't jump. "What a wonderful surprise!" said Ava as she rubbed Uno's ears.

Unit 3: Silly Races

Most races are held to see which runner is the fastest, but some races are silly and are just for fun. A three-legged race is one such race. Instead of having single runners, two people run as a team. The two runners stand next to each other with their ankles tied together. When the race begins, the pair try to run as fast as they can. This isn't as easy as it sounds because their ankles are tied together! The team who crosses the finish line first is the winner.

Here's another entertaining race to try. It's called the penny spoon race. Each participant gets a large spoon. Each spoon is filled with the same number of pennies. At a signal, everyone starts running. If a penny falls off, the runner must stop and pick up the coin. It's put back on the spoon and the runner continues running. The first to cross the finish line with a full spoon is declared the winner. The trick to keeping coins on the spoon is to run quickly and smoothly.

Unit 4 : Wyatt Bakes a Cake

Wyatt wanted to bake his own cake from scratch for the first time. He didn't want his parents' assistance, but they stayed with him in the kitchen to keep him company and help with any problems that arose.

"Just follow the directions outlined in the recipe, and your cake will be fantastic," said Rita, Wyatt's stepmother.

"Absolutely," Wyatt's dad chimed in. "But, do remember to be careful with that mixer, or you could get hurt."

"Dad, you have shown me how to properly use the mixer at least a thousand times, so don't worry!" Wyatt reassured his father. Wyatt skillfully mixed the ingredients together, poured the batter into two cake pans, and carefully put the pans in the preheated oven.

When the kitchen timer dinged, Wyatt removed the cakes from the oven and placed them on the counter. Wyatt groaned when he noticed one cake was tilted to the side, appearing as though it might topple over.

"Well, it might not look exactly like you expected it to, but it will still be tasty!" Rita said kindly. Wyatt brightened at his stepmother's words of encouragement and began icing the cake with strawberry icing. Unfortunately, when he finished, his lopsided cake looked even funnier.

Wyatt's frown showed his disappointment. "It looks like a giant pink sponge."

"But that cake will be the most delicious dessert we have ever tasted!" Dad exclaimed. His parents turned out to be correct, because Wyatt's cake did indeed taste delicious!

Unit 5: Whale Sharks

A whale shark is a shark that's as big as a whale. The largest fish in the sea, it can be longer than a school bus. Its head is flattened and it has very tiny eyes for its size. But its mouth is as wide as a teacher's desk. The shark's back and sides are grayish-brown and speckled with white spots and its belly is white. These giants like to swim in warm waters. They can dive down quite deep. But they usually swim near the surface.

Big sharks tend to be dangerous hunters. But the biggest sharks of all are easy-going and gentle. Whale sharks mainly eat tiny fish called plankton. When they feed, they open their huge mouths and swallow lots of water. The water and plankton passes through their gills. The plankton then remain inside the whale shark. A whale shark lives by itself, but it doesn't mind being around humans. It can even be playful with divers. This slow-moving shark sometimes lets a diver grab its fin and hitch a ride.

Unit 6: The Big Race

People cheered as Faizel ran past the finish line. This was just a practice race, but it still felt great to win. The real race was coming up on Saturday.

Coach Maria always said, "The goal in our running club is for everyone to feel good about themselves and support one another." Faizel definitely felt good about himself when he won races. He was the fastest runner in the club! But at Thursday's practice, Faizel slipped and twisted his ankle.

A doctor examined his ankle and told him it was sprained. He gave Faizel a stiff boot to wear. "Your ankle will need a few weeks to heal," the doctor said. "Until then, no running."

"I'm sorry about your ankle," Coach Maria said. "Come to the race anyway. You can volunteer and cheer for your friends." Going to the race without participating didn't sound fun to Faizel, but he went anyway.

At the race, Faizel handed water to runners as they went by. Another volunteer cheered for the runners.

"I used to run marathons," she told Faizel. "After running for many years, I hurt my knee and couldn't continue. I started cheering for my teammates and now I volunteer at races to support others in the running community."

For the rest of the race, Faizel cheered for runners while handing out water. When the race was over, he smiled and said, "That felt just as good as running myself!"

Unit 7: Stylish Socks

Mr. Zinn sat with legs crossed as he talked to the class. "Ha, ha, Mr. Zinn, your socks don't match," giggled Maribeth.

Mr. Zinn looked at his left ankle where the sock was brown and he looked at his right ankle where the sock was green. "I have another pair at home just like these," he joked and the class laughed. Mr. Zinn said, "I wonder why socks must match and why is it funny when they don't match?"

"We're supposed to wear a matching pair," said Maribeth.

"But why?" asked Manny.

Alyson said, "It's just the rule."

"Why must we wear socks that match?" Mr. Zinn asked curiously. The class had never thought so carefully about their socks before.

"Matching socks are the style, and we like to be in style," said William.

"But why?" Manny asked.

Alyson said, "It would look funny to wear two completely different socks!"

The next day, Manny surprised everyone by wearing one blue sock and one yellow sock. "These look cool," he said as he showed them off.

The day after that, three more kids wore mismatched socks, and soon everyone was wearing socks of all different colors. Mr. Zinn said, "Now we all match with our mismatched socks!"

Unit 8: Elephant Trunks

"What does a nose do? All noses breathe air and smell odors, but if the nose belongs to an elephant, it has many additional functions. Elephants are the only animals with a trunk. The trunk is a combination of a stretched-out nose and a flexible upper lip.

It is not surprising that elephants have an extraordinary sense of smell. The elephant raises its trunk to sniff the air and lowers it to track scents on the ground. Elephants can also use their trunks to give themselves a refreshing shower. The trunk sucks water in and sprays it across the elephant's body."

"An elephant's trunk is used for more than breathing and smelling. It also works as an extended arm and hand. The elephant uses its trunk to snatch leaves from high branches and to bring the food to its mouth.

African elephants have two moving parts at the tip of their trunks, but Asian elephants have only one. These parts are like human fingers that sense and grip. Using the tip of its trunk, an elephant is able to grasp objects as tiny as a peanut.

Trunks are powerful, too. An Asian elephant can carry the weight of a log with its trunk. Not many noses can do that!"

Unit 9: The Fastest Race Cars

Some race cars look more like planes than cars. They even have wings in the front and back. Air flowing over the wings holds the car low to the ground. The engine is in the rear. Each car has open wheels and no roof. The driver sits in an open cockpit. These are Formula One cars. They get that name from the formula, or set of rules, that each car's builder must follow. Each car is specially made. Formula One cars are super-high-tech machines and they are the most expensive race cars in the world.

Formula One cars race on road tracks. The road twists, rises, and dips. On the straight sections, the cars really zoom, but they must slow for sharp curves. These races test a driver's skill and daring. The races also test the team that built the car and the crew that keeps it in top shape. Worldwide, Formula One racing has hundreds of millions of fans. A Formula One World Champion is the driver who wins the most points in a yearly series of races. Champions become sports heroes in their home countries.

Unit 10: Gifts of Trees

"Come over here where it's nice and cool!" Leila called to her classmates Lane and Idris. Leila was leaning against the trunk of a large oak tree.

"Phew, it's blazing today," said Lane, who dropped to the ground next to Laila. Idris nodded as he joined them. The three of them had an assignment to do together.

"We need to document five gifts of trees," she said. "Does anyone have any ideas?"

"Tree roots hold soil in place, and trees help prevent floods because they take in so much water," Lane said. Leila wrote the ideas in her spiral notebook. The group sat quietly for a while because sitting still was one way to avoid feeling overheated.

Idris glanced up at the leafy branches above and stated, "Trees give birds safe places to build nests."

Lane picked up an acorn and suggested, "Trees provide food for animals, like squirrels." Leila jotted down both of their ideas.

continued on next page

"I could stay in this spot away from the sun forever," Idris confessed. "How many ideas have we brainstormed?"

"We have four, so we need one more," Leila replied as she fanned herself with her notebook.

"I like sitting out here. When it's so hot and bright out, it's great to find a cool, dark place to rest." Leila, Lane, and Idris looked at one another.

"Shade!" they exclaimed together. Their list was complete.

Unit 11: Animal Enemies

Many years ago, Dog and Cat were friends and shared a house. Dog worked in the fields, while Cat was supposed to clean house and make meals. But every day, Cat said he was too tired to work. Dog was annoyed because he was doing all the work and he suspected that Cat wasn't tired. One morning, he pretended to leave but hid behind a door. Cat leaped out of bed and began playing games. Dog burst angrily out from behind the door and chased Cat. Dogs have chased cats ever since.

Here is why cats hate rats and always chase them: Once some small animals had a race. Cat and Rat woke up late, but Deer agreed to carry them to the starting line. She dashed through the forest, but as she swam across a river, Rat pushed Cat in. When Deer got to the starting line, the race began. Rat jumped off and began running. He came in second, after Chipmunk. Poor, wet Cat arrived late and she was the last one to finish the race because Rat had cheated.

Unit 12: Memory Games

You should try playing a memory game with friends. These games are designed to test your memory. For one game, ten different objects are placed on a tray. There might be a hammer, spoon, toothbrush, plate, screwdriver, cup, napkin, pencil, penny, and nail. You all get one minute to study the objects. Then the tray is taken away and each of you makes a list of the objects you saw to see how many objects you can remember. Here's a way to remember them: Make up a story that includes each object.

Here's a memory game that uses numbers from one to nine that you can play with several friends. One keeps track of the numbers and this person needs a pencil and a piece of paper. The rest play the game, trying to remember a string of numbers in order. The game begins with the first person, who says a number. The second person says this number and adds another number. The third says the first two numbers in order and adds another. Keep going until a player makes a mistake.

Unit 13: All About Igloos

Have you ever seen an igloo? An igloo is a house made of snow blocks that was invented by the Inuit people of the Arctic region. The Inuit constructed igloos as a shelter for escaping the cold during long hunting or fishing trips. Many members of the Inuit community still build and use igloos today!

An igloo is a dome-shaped structure with walls made of large blocks of hard snow. The blocks are stacked in a spiral to form the dome. The igloo's entrance is built to be long and narrow so that it is only large enough for one person to crawl through at a time. This low entrance prevents the wind outside from entering the shelter.

If an igloo is a shelter made of snow blocks, how can it be warmer inside than it is outside? Well, the snow walls actually trap heat. If a small fire is built inside, the heat stays within the igloo's walls. A hole at the top of the igloo allows the smoke to escape. The walls may melt a little from the heat of the fire, but the air outside is so cold that the melting snow freezes. This frozen water becomes an outside coating of ice. The coating makes the walls thicker, keeping out more of the cold!

Unit 14: The Class Play

The fourth grade was putting on a play. Mira's friends were going to play different parts in the play, but Mira was afraid to act because she was shy.

"I'll be the only one who's not in the play!" she complained to Dad.

"There's more than one way to be in a play," Dad said. "You could make costumes for the actors to wear."

"I can't sew!"

"I love the pictures you paint, and plays need sets," said Dad.

"I have no talent for acting, but I can paint!" Mira said happily.

The play took place on a farm and Mira was in charge of designing the set. She sketched a picture on a huge piece of cloth showing a barn with goats, sheep, chickens, and cows.

She and her team painted in the picture. When they completed the picture, they let the paint dry and the cloth was hung at the back of the stage.

The play was a hit, a real success. All the actors took a bow and then Mira and her team came on stage while everyone clapped.

Unit 15: Laughter

It may seem strange, but no one has to teach babies to laugh. They do it on their own when they're three or four months old. We often laugh when something is funny, but that's not the main reason people laugh. We laugh mainly because it feels good to laugh with others. Children of five or six laugh more than older children or adults. This is probably because young children play more. Playing is something fun to do with others. No one laughs harder than a young child having fun.

Are human beings the only creatures who can laugh? We used to think so, but now some people believe that apes laugh, too. Chimpanzees are apes and their laughing is most similar to our laughing. When chimps laugh, they make panting sounds. This kind of laughing is unlike the way most humans laugh, but chimps laugh at some of the same things that we would find funny. They laugh when they're tickled. They laugh when they're playing with others or chasing one another. But chimps can't speak, so they definitely can't laugh at each other's jokes!

Unit 16: Sand Sculpting

Strange shapes are on the beach today. A mermaid lies on the sand, a dragon breathes fire, and a dinosaur stands tall. All are sculptures made of sand and artists created them for a contest. Artists compete for prizes at sand sculpture contests. Large sculptures may be as tall as a house, so artists need plenty of sand. They use water and pounding tools to make the sand wet and firm. Artists build up the sand and then carve the shape from it. These splendid works of art last only a few weeks.

To make a sandcastle at the beach, you need wet and sticky sand. Make a ball of wet sand and hold it loosely. If the sand keeps its shape, it's good for building. Start with buckets of different sizes. Pack the sand down in the biggest bucket, add water, and pack it down some more. Turn the bucket over, tap the sides, and pull it off. The sand that's left is your base. Build a tower on top of the base using smaller buckets. Make more towers to create a soaring castle of sand.

Unit 17: Bedtime Stories

One night, Julia sat in bed reading a story that told about a prince who could understand the language of animals. It was a long story, but she wanted to finish it before she fell asleep. "It would be awesome to understand what animals are saying," Julia thought as she read. She looked at her beagle Grover and noticed his tail was wagging. "Tell me what you're thinking," she said to Grover."

Please take me to the dog park again," said Grover. "It's been too long."

When Julia awoke, she saw her open book and remembered reading a story about talking animals. "That story made me dream that Grover talked and asked to go to the dog park," Julia thought. Grover looked up from his dish when Julia entered the kitchen. "Let's take Grover to the dog park," Julia said to her mother. "We haven't been there in a while." Grover trotted over to Julia and when he looked up at her, one of his eyes blinked. "Grover, are you winking at me?" Julia asked.

"Yip!" barked Grover.

Unit 18: Your Own Rhythm Band

CLAP, CLAP, CLAP! You can use your hands to clap a musical beat. You can also create beats using instruments, too. Percussion instruments are instruments that make sounds by being hit or shaken.

Drums are common percussion instruments. Any hollow container can work as a drum. You can try making a drum using a wide, strong cardboard tube. First, use a rubber glove, like one used for dishwashing. Cut the material into a circle that is larger than the tube. Next, put glue around one end of the tube. Pull the cutout circle so it stretches tightly over the opening and sticks to the glue. Fix the drumhead in place with one or two rubber bands. Finally, use your hands to play a beat on the drum.

Maracas are also percussion instruments, but instead of hitting maracas like a drum, you can shake them. Any container that holds rattling objects can transform into a maraca. One simple way to make maracas is with two small, empty raisin boxes. Pour some dried beans into each box and close them both firmly. Tape a pencil to the bottom of each box to use as a handle. Now you're ready to shake, shake, shake. You can shake your maracas to create a musical beat.

Now you can make your own percussion instruments to start a band with friends. What music will you be inspired to make?

Unit 19: Feeding the Birds

In the kitchen, Brandon saw Grandma putting bits of peanut butter on her wool hat. "Would you like to do something new?" she asked Brandon. Brandon didn't know what Grandma was planning, but he said, "OK, I'll try something new." "Fine, I'll get another hat," said Grandma. Grandma and Brandon wore their peanut-butter hats outside where Grandma set up two lawn chairs. "Just sit quietly," Grandma advised and she sat like a stone statue. They both sat completely still and Brandon was beginning to feel bored. Suddenly, Grandma whispered, "Listen!" Brandon heard chirping sounds.

Brandon and Grandma looked around for the source of the noise, at first not finding anything. Suddenly, a little blue bird landed on Grandma's head, nibbled gently on the peanut butter and then flew off. A moment later, a round little bird landed on Brandon's leg, and he could see the bird's smooth black head and white cheeks. He held his breath with anticipation. The bird flew up to Brandon's head. "A wild bird is pecking at peanut butter on my head!" Brandon thought. "Now, that is something new!"

Unit 20: The Melon Trick

Once upon a time, traders were bringing baskets of melons to market. At a rest stop, the men unloaded the baskets from their horses and sat in the shade eating a few melons. An old man who was hungry came by and asked, "May I have one melon?" The men said they had no melons to spare. "Then I will grow my own," said the old man and he used his cane to draw a square in the soil. Inside the square, he planted some melon seeds that the men had dropped.

When the selfish traders refused to share a melon with him, the old man planted melon seeds. At once, the seeds sprouted into long vines and large melons quickly formed. The traders watched in amazement. The old man picked a melon for himself and handed the other melons to people passing by. "I'll be on my way now," he said and walked away. The traders went to load their melons on their horses. They cried out in rage. The baskets were empty! The old man had tricked them and given away their own melons.

LEVEL 16 | PASSAGE COMPREHENSION 4

Unit 1: Demonstration

Between 1969 and 1972, astronauts landed on the moon and returned to Earth six times. In 2000, astronauts began circling Earth in a low orbit on the International Space Station. Astronaut crews have taken turns on the space station ever since.

What should the next step in human space travel be? Some space scientists say that astronauts should go to Mars.

Sending people to Mars is not a new idea, but the details have yet to be figured out. Astronauts in a spacecraft to Mars would face bigger challenges than those on missions to the moon or to the International Space Station.

Mars is Earth's planet neighbor, but very far away for human travelers. A voyage to Mars and back could take more than 20 months. Astronauts would have to deal with lonely, trapped feelings. They would also suffer bone loss caused by being weightless. This health problem affects astronauts who spend time in space. The most serious risk to astronauts in deep space is radiation. High-energy particles would pass through the spacecraft, damaging human bodies.

Human travel to Mars and back would be costly and dangerous. For now, the only Earth travelers on Mars are robots. Mars still awaits its first human visitors.

Unit 1: The Crowded House: A Folktale

Long ago, eight members of the Rubin family lived in a little house that seemed terribly cramped and crowded. Papa, Mama, their four children, Aunt Gert, and Grandmother Rubin were always getting in each other's way. They complained unhappily that one day they might burst right through the walls. So Papa and Mama went to the wisest man in the village, Reb Solman, to ask for advice.

Reb Solman stroked his beard thoughtfully as he listened. Then he said, "Yes, I can help you, but you must do exactly as I say, no questions asked." Papa and Mama eagerly agreed.

"The first thing you must do," Reb Solman told Mama, "is to invite your sister and her family to visit."

"But, Reb Solman," said Mama worriedly, "my sister and brother-in-law have three big sons, so how will five more people in our crowded house solve our problem?"

Reb Solman replied, "Remember, you promised to obey and ask no questions."

So the five relatives arrived, and everyone was elbowing each other and tripping over feet, and the walls trembled as if about to explode. After several days, Papa ran back to Reb Solman and pleaded, "Oh, it is unbearably crowded and noisy now. Please, what should we do?"

Reb Solman said, "Bring your chickens, goat, and cow into the house." Papa blinked hard when he heard that, but he had promised to obey, so he did as he was told.

A few days later, Papa returned to Reb Solman. In an exhausted voice, Papa said, "The noise, the smells, the crowding, the situation is impossible."

Reb Solman said, "Send your relatives home, and put the animals outside."

So the visitors left, and the animals went outside where they belonged. The eight members of the Rubin family breathed a big sigh of relief. "I never knew that our house could feel so big and spacious," said Mama as she looked around.

"It certainly feels as if our house has grown bigger," said Papa. "Reb Solman is a very wise man." And everyone, smiling in agreement, relaxed in their remarkably roomy house.

Unit 2: Adventure in El Yunque

For Ana's tenth birthday, her dads Edwin and Alex took her and her brother for a hike in El Yunque, a rainforest not too far from where they live in Puerto Rico. The trail was full of beautiful trees, interesting plants, and fascinating animals.

"There are coquí frogs all across the island, but the coquí frogs here in El Yunque come in many different colors," Ana's dad, Alex, explained.

"You mean like this?" Ana asked. She held up the necklace her grandmother had given her as a gift, which had a small charm in the shape of a blue coquí frog.

Her dad nodded enthusiastically. "Yes, even blue coquís like that!"

"Ana, look at this giant flower I found down by the creek!" her brother Marco exclaimed.

Marco reached for the camera hanging from Ana's shoulder. But as he pulled, the camera strap caught on Ana's necklace, causing the necklace to fall into the creek, and drift away.

"Oh no!" she shouted.

"Don't worry. No te preocupes," her dad, Edwin, said. "We will find it. Look at this as an adventure with a problem to solve."

They followed the creek down the hill, looking for the lost necklace. After a few minutes, Ana spotted it, caught on a rock at the bottom of the creek.

"I'll get it!" said Marco, and he stuck his arm into the creek. When he did, they could all see that it was too far from his reach.

Ana thought for a moment and said, "We can make a fishing hook!"

Ana snapped off a tree branch, Marco pulled out a keychain to use as a hook, and her dad Alex tied it all together with a hair band from his ponytail. It was time to give it a try, so Ana plunged her arm into the water with the hook in hand.

They all watched in tense silence. Finally, the hook caught hold of the necklace. She'd done it! Ana stood, holding it triumphantly in her hand while her family cheered excitedly.

"Wait a second," said Marco. "Listen!"

The family looked around and saw dozens of blue coquís singing and jumping around.

Ana hugged her dads and said, "Thank you, papis. Visiting El Yunque is the best birthday gift ever."

Unit 3: Stitch by Stitch, Row Upon Row

Mary Jackson is a basket maker. She lives in South Carolina. She received an award called the NEA National Heritage Fellowship. This award is given to talented artists who create traditional art. Jackson talks about her art, and how she has come up with creative solutions throughout her life.

When I was young, we didn't have any such thing as summer camp in Mount Pleasant, South Carolina. To keep me busy during the long hot days, my mother and grandmother taught me how to make baskets from local materials. I did not know that making baskets would lead to a lifetime of creative work continuing this tradition.

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The art of making baskets from sweetgrass and palmetto leaves has deep roots in my family. The technique was brought to America by enslaved West Africans. Making baskets was a family activity. The men and boys harvested the materials and the women and girls shaped them into baskets that are both beautiful and useful. Early baskets were used in the fields and around the home.

When I started learning how to make baskets at age four, I didn't like the work. It was very slow, and the dry grasses were hard on my small hands.

Gradually, I got better at making baskets. I enjoyed trying new designs. Sometimes, sweetgrass was hard to find. I experimented with materials such as long pine needles and bulrush. These materials added new color and texture possibilities. I began to invent new shapes based on traditional baskets. My work drew the attention of collectors and art museums.

I have also been active in preserving sweetgrass. Sweetgrass is endangered due to new building developments along our beautiful Southern coast. With the help of plant experts, a group of basket makers learned how to grow the grasses in protected areas. These efforts make sure that there will be material for the future.

When I learned that I received the NEA National Heritage Fellowship award, I was very excited. Both my grandmother and mother had passed away, and I felt like it was a wonderful tribute to them because they had always encouraged me to make baskets. As I stood on the stage in Washington, D.C. to receive my award, I felt as though I was representing the traditions and community that I grew up in.

Unit 4: Two Deserts

Great mounds of golden sand bake under a blazing sun. A line of camels is crossing these sand dunes. The people riding the camels are dressed to protect themselves from the heat and wind-blown sand. What is this place? It is the Sahara Desert, the largest desert in the world. It spreads across northern Africa.

The Sahara's dunes may seem to stretch forever, but these "sand seas" cover only part of this vast desert. The Sahara also has flat, stony lands as well as mountains. In places, underground water rises to form springs where trees and plants grow. In these oases, farmers grow crops.

The Sahara is called a hot desert, but not all of it is hot year round. Still, the summer sun can roast the air. At one spot, the temperature once soared to a record-breaking 136 degrees F (58 degrees C).

All deserts are dry lands. The yearly rainfall in the Sahara is less than 10 inches (25 centimeters), and often is much less. Some places here get no rain for years. Yet the Sahara is not the driest desert in the world. That record belongs to the Atacama Desert of South America.

The Atacama lies between high mountains and the Pacific Ocean. The mountains stop moist air from reaching the desert land, and the cold ocean also acts to prevent rain. The yearly rainfall in the Atacama is less than .004 inches (.01 centimeters). Some spots have not had rain since record-keeping began 400 years ago! With soil this dry, no plants can grow.

Unlike the Sahara, the Atacama is a cool desert. There are few scorching summer days but on winter nights, the temperature is often below freezing.

The Sahara and the Atacama are both deserts. They are alike in some ways, and different in many others.

Unit 5: Tropical Snow

An imaginary line divides planet Earth halfway between the North and South poles. The line is called the equator, and it passes through regions called the tropics. In the tropics, the sun rises high in the sky. Tropical lands generally have warm to hot temperatures all year. People who live in the tropics never see snow. Almost never, that is.

The country of Tanzania (TAN-zuh-NEE-uh) lies in the tropics of eastern Africa. Along the coast of the Indian Ocean, the Tanzanian climate matches what the word tropical suggests: hot and humid. But in northern Tanzania, the land rises. There are mountains here, including Mount Kilimanjaro (kil-uh-mun-JAR-oh), a dormant volcano. Kilimanjaro is the tallest mountain in Africa. Its highest peak rises 19,340 feet (5,895 meters) above sea level.

Mountain climbers from all over the world come to tackle Kilimanjaro. It takes several days to reach the top. On their way up the mountain, climbers encounter changing climates.

The low hills at the base of Kilimanjaro receive the most rain, along with water that streams down the mountain. The rich volcanic soil is good for farming. Above these foothills, thick forests grow on the mountainside.

Higher up, wild grasses replace the forest trees. The wind becomes stronger, and less rain falls at this height. It can be very hot during the day, but night temperatures may drop below freezing.

At about 13,000 feet (4,000 meters), the mountainside becomes a desert. Little rain falls. The days are hot, the nights cold.

Higher than about 16,000 feet (5,000 meters), ice fields cover the slopes. Snow falls here. Temperatures drop well below freezing. At the summit are glaciers. The thick ice is massive, though the glaciers have been shrinking in recent decades.

Every year, thousands of people take guided hikes up Mount Kilimanjaro. This unique adventure has been compared to climbing from the equator to the North Pole.

Unit 6: Flash Flood Rescue

It was a typically sweltering and humid August day. The sky held a few dark, towering clouds, and even more appeared as the afternoon wore on. Fat, lazy raindrops began to splatter across the windshields of the two vehicles on River Road—a car and a moving van. Within seconds, the wipers were battling a seasonal downpour. Sluggish at first and then with increasing intensity, the rain had become a waterfall!

The drivers could not see beyond their windshields, so they pulled over to the roadside and stopped to wait for the storm to pass. Rushing water was already sweeping over the roadway, and soon it was slapping against the tires and drenching the underside of the vehicles. It was a flash flood!

Without hesitating, the driver of the van jumped into the swirling water. He was a burly man who carried heavy loads for his living, yet he struggled to fight his way to the passenger car, just a short distance ahead. He frantically pounded on the driver's window, and a teenage boy slowly lowered it. "You need to get out now!" the man shouted through the heavy rain, but the teenager seemed frozen in panic. "Get out, and go to my van!" The man pointed behind the car, and the boy nodded robotically as if he understood.

The man made his way to his van. The water was now thigh-high and the current was so powerful it almost pulled him under. He hoisted himself up to the cab and looked back. Was the boy following? No, the boy was standing on the car's roof. The water had risen to the windows, and the boy was trying to balance as the car rocked under him, pushed by the roiling water.

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The man remembered the strong ropes coiled in the van. Holding a long rope, he lowered himself into the water. He tied one end to the door handle and struggled once again to the car. He tossed the end of the rope to the boy, who managed to catch it. "Jump!" the man called.

With the rope as a towline, the man and the boy reached the van. They climbed onto the roof and watched as the car floated away towards the river.

Later, news reports told about the record-breaking rainfall for the region and about a heroic rescue on River Road. "I'm no hero," said the van's driver. "Anyone would have done what I did."

Unit 7: Attack of the Spreading Plant

There is a plant that grows so fast that one nickname for it is "the mile-a-minute vine." The plant may not be quite that speedy. Still, it can grow at the amazing rate of one foot (30 centimeters) a day. In the southern United States, the plant buries everything in its path under thick, green leaves. The plant is kudzu.

Kudzu is a serious problem in the southern states, where there is plenty of warmth and water to help it grow. Kudzu is a climbing vine. As it climbs toward sunlight, it covers trees and utility poles, street signs, porches, and anything it can grab hold of. It forms a leafy curtain that cuts off sunlight from other plants, killing them. Just trying to keep kudzu growth under control costs millions of dollars a year.

It's hard to believe that Americans once planted kudzu on purpose. But widespread planting is the main reason that kudzu is such a problem today. The plant was first brought to North America in the late 1800s from Japan. American gardeners thought that kudzu's wide leaves and purple flowers were pretty. Kudzu also provided shade. People began to plant it by their homes.

There were other reasons to plant kudzu. It grew even in poor soil, and grazing animals liked eating it. During the 1930s, many farms in the United States were struggling with the loss of soil, which was blowing away. The US government paid landowners to plant kudzu because its deep roots held the soil in place.

Nobody predicted that kudzu would grow out of control. But it was not long before kudzu had a new nickname: "the vine that ate the South."

Unit 8: Green Soup

Iman Al-Masry had dirt on her hands, her dress, and her face. She was tired of planting in the garden, but unfortunately, her mother, Magda, was determined to fill the entire garden with vegetables that afternoon.

"Another one, here," Magda said. Iman's mother indicated the hole with her pointer finger, and Iman dropped the plant into it.

Earlier that Saturday morning, Magda and Iman had found molokhia plants at the halal food market. Magda was overjoyed, but Iman felt less happy and more doubtful. Her mother often bought frozen molokhia and boiled it into a slimy green soup—Iman was not sure how fresh molokhia would taste any different or any less slimy.

Magda worked happily. "I am going to introduce this to our community here. When I was a little girl in Egypt, we always had fresh molokhia, which is much better than the frozen leaves they have in the store." Magda stood up and smiled at her daughter. "I will get us something to drink."

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Ms. Tuala, their next-door neighbor, was walking her dog, and she came over curiously. "What are you planting, Iman? I don't believe I've seen that species of plant before."

Iman thought for a minute. How do you explain molokhia? "It's kind of like Egyptian spinach, I guess."

Magda returned with two bottles, icy and cold. She handed one to Iman and said hello to Ms. Tuala.

"Good luck with your garden," Ms. Tuala said.

One month later, Iman and her mother harvested the molokhia. They chopped the plants into pieces, put them into boiling water, and prepared rice. Iman enjoyed cooking with her mother, but she secretly wondered if the soup would taste any better than it did when they used frozen molokhia. When it was time to eat, she took a very small bite.

"It's wonderful!" Iman exclaimed happily.

"It's like home," Iman's mother, Magda, said with a smile. "I feel like I'm back in my mother's kitchen. Your grandmother cooked the most wonderful molokhia."

Iman ate, warmed by the soup and also by her mother's happy glow. After dinner, Magda spooned several cups of rice and soup into a container, sprinkled it with hot sauce, and snapped the container shut.

"Take some to Ms. Tuala," she instructed Iman.

Ms Tuala was surprised to receive such a gift. "Thank you!" she said to Iman. As Iman closed the door, she watched Ms. Tuala peek inside the container and smile in anticipation.

Unit 9: A Special Kind of Bank

On an island in Norway, there are huge vaults built deep inside a mountain. A vault in a bank can hold treasures, like precious gems or metals. But the vaults in Norway keep a different kind of treasure safe. The treasure is seeds that have been gathered from countries around the globe.

The Global Seed Vault in Norway is one of many "seed banks" around the world. These are places to keep and protect seeds. What makes this seed bank special is that there are almost one million types of seeds stored there! There are barley seeds from Japan, chickpea seeds from Syria, and tomato seeds from Mexico, just to name a few.

Storing and Protecting Seeds

The vault is specially designed to protect the stored seeds. If seeds get too hot, they may be destroyed. Therefore, all the seeds are dried and kept in an area where the temperature is carefully controlled.

The Need for Seeds

Seed banks have many purposes. One main purpose is to make sure there are always seeds left for farmers to plant. For example, in 2017, a hurricane on the island of Puerto Rico destroyed farmland and many crops. Luckily, the University of Puerto Rico has a seed bank. It was able to give 8,000 pounds of seeds to people across the island. Farmers used these seeds to grow the food people needed.

Seed banks also help protect the many different types of each plant. Not enough variety can cause problems. That was made clear in Ireland in the 1840s. People grew and ate just one kind of potato. Then, a disease attacked the potato plants. As a result, this important source of food was destroyed. One million people died. A seed bank could have provided a different and stronger type of potato plant. Maybe these stronger potatoes would have stayed healthy and provided food.

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Learning from Seeds
Seeds also hold information for scientists. The seeds of plants that are no longer farmed can be useful. These seeds might grow into plants that would stay healthy if new diseases strike. They might be able to grow in places other plants can't. These seeds can be studied by scientists who want to help farmers grow better crops.

A Seed Back-Up Plan
Many countries have their own smaller seed banks. But floods, fires, war, and other disasters could destroy these precious seeds. A backup plan is a good idea. That's why the Global Seed Vault was created. The seeds come from all over the world, and they belong to everyone. This special bank truly has treasures for us all. This seed bank makes sure we'll have seeds to grow food, no matter what.

Unit 10: In Grandfather's Day

Sharr and her brother Kaze were visiting Grandfather to celebrate his 75th birthday. Grandfather was born way back in the year 2000, and the two grandchildren always enjoyed hearing about what life was like when he was growing up at a time so different from their own.

"Grandfather, tell us what you did before there were Mindcaps," Kaze begged.

"Well, sometimes we typed on a keyboard," Grandfather replied, wiggling his fingers over an imaginary keyboard. "Or we tapped a touchscreen," he added, demonstrating with two fingers.

"But it must have taken so long to get anything done that way!" observed Sharr.

"We didn't have thought commands back then," said Grandfather as he placed a Mindcap on his head and glanced at the Wallscreen. The wall lit up with a photograph taken of Grandfather as a boy. "I'm standing in front of our family's car," Grandfather explained.

"Was it fun to drive such a big car?" asked Kaze.

Grandfather chuckled. "I was only ten years old, so I couldn't drive a car. Drivers needed special training because driving was dangerous. Today, accidents don't happen. A child can sit in a Plugger, give a thought command, and off it scoots. Nobody dreamed of such a thing back in the early 2000s."

Grandfather blinked at the Wallscreen, and a new image appeared, this one showing seven-year-old Grandfather and his mother in the kitchen of their house.

"What is Great-Grandmother doing?" asked Sharr.

"She is cooking a pot of stew on the stove," said Grandfather. "It took hours."

Sharr said, "I'm glad we have Menu-Mems because who wants to wait hours to eat? Just give a thought command to the slot, and out comes the meal."

Grandfather was smiling as he stared at the picture. "I remember it like it was yesterday," he said dreamily. "I helped peel potatoes while Mom chopped up carrots. The kitchen filled with spicy warmth as the stew simmered in the pot." Grandfather breathed in deeply, as if sniffing a wonderful aroma.

Kaze and Sharr studied the picture. Then Kaze said, "I wonder what a home-cooked meal tastes like." Sharr nodded in agreement.

"It is unforgettable," said Grandfather with a sigh.

Unit 11: Interview with a Materials Scientist: Ainissa Ramirez

Donnell Meekins, age 10, talks with materials scientist and author Ainissa Ramirez about how advances in science have shaped our world, and how these advances might shape the future.

Donnell Meekins: Why are you interested in inventions?
Ainissa Ramirez: I like making things. If you're making an airplane, a materials scientist has to decide: What's the best material for the job? So I am interested in other people's inventions, because they can help me figure out how to make new things.

Donnell: In your opinion, what's one big problem science could help solve?
Ainissa: Climate change is something we need to work on. We need better green technology, like solar cells that use energy from the sun to create electricity. We also need better magnets so that wind turbines can use wind to make electricity even more efficiently.

Donnell: You've written about bias in technology. Can you explain what that is?
Ainissa: Here's an example: Some water faucets have a light sensor that detects your hand, but that sensor may be designed only for lighter skin. I have darker skin so if I were to put my hand in front of it, water wouldn't come out. Whoever made this sensor probably had light skin and tested it on themselves and their friends; but they didn't test it on someone who had a different skin tone. That's why we need to have people with a range of experiences working on projects.

Donnell: I read that a TV show inspired you to become a scientist. Can you talk about that?
Ainissa: Yes. The show had kids solving problems. One of the kids was an African-American girl. When I was growing up, you didn't see a lot of African-American people portrayed in a positive way on television. This girl was using her brain. I said, "That's what I want to do."

Donnell: What can science fiction stories and movies teach us about science?
Ainissa: Science fiction can help us imagine the future. It can be like a map that shows us which way we should go with technology, and which way we should not go.

Donnell: What advice would you offer a budding scientist?
Ainissa: Everyone should get a shot at science. Find other people who like science, and encourage one another. And the next time something breaks at home, ask a grown-up, "Can we take this apart?" just to see how things work.

Unit 12: An Ice Idea

"Oh, no, not again!" Mama cried when she opened the icebox. The melting ice that cooled the box was all gone, and now our milk and meat were spoiled.

"Charlie was supposed to come yesterday," I said, "but it's so hot out, he probably has more customers than ice." Charlie is our ice man. He brings blocks of artificial ice from the enormous refrigerator building in town. But this summer has been so hot that everyone needs ice at the same time.

Mama let out a groan of disgust. "And this icebox smells terrible, Doris—as if someone has been neglecting her chore," she observed, turning to me with a disapproving sigh.

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"I cleaned out the drainpipe last week," I said, and that was true. The melting water drained down a pipe, which was filled with disgusting slime, and it was my job to clean it out with a long brush. "I did clean it," I repeated.

That evening, after we ate a meatless supper, Mama brought out a magazine and showed Papa a picture in it.

"I've been saving," Mama said, "and I think we can afford it."

Papa and I looked at the picture. It was an advertisement for a Monitor Top, the brand-new 1936 model. It ran on electric power, and it didn't need to be refilled with blocks of ice. "Can we get it?" I asked hopefully.

"This should make our life easier," Papa said to Mama and me.

When the Monitor Top was delivered, we plugged it in. This electric machine was much noisier than our old icebox, but when we opened the door (which we weren't supposed to do for long), the air felt as fresh and cool as a mountain breeze.

No more spoiled milk and meat, and no more slimy chores! I feel bad for Charlie and the other ice men, though. These new home refrigerators are going to put them out of business.

Unit 13: A Modern Day Dragon

What do the words giant lizard make you think of? One of the enormous dinosaurs that once roamed the land? Or maybe the imaginary dragons from fairy tales and fantasy films? None of those lizards actually exist in our world, but there is a rather large lizard that does. It's even got dragon in its name.

Komodo dragons are the largest and heaviest lizards living on Earth. The biggest on record measured 10.3 feet (3.13 meters) in length and weighed 366 pounds (166 kilograms). But generally these creatures are smaller, about 8 feet (2.5 meters) long and weighing about 200 pounds (91 kilograms).

Like all lizards (and dragons), Komodo dragons have teeth, scaly skin, four legs, clawed feet, and a long tail. They can't fly like dragons. But like many other lizards, they can climb and swim. They also move like their smaller relatives, twisting from side to side, using their tails for balance. This movement comes from the placement of their legs. Lizards' legs stick out to the side, rather than under their bodies. This arrangement doesn't slow up Komodo dragons. They can reach speeds of 11 mph for short distances.

Something else the Komodo dragon has in common with dragons and smaller lizards is a long forked tongue. It uses its tongue to "smell" the air. If the wind is right, it can smell a dead animal up to 5 miles (8.5 kilometers) away.

The Komodo dragon cannot breathe fire, but its mouth contains a different weapon. Its bite is poisonous. This causes fatal infections in any prey that manages to escape. The Komodo dragon then tracks down the poisoned animal.

There are 3,000-5,000 wild Komodo dragons at any one time, all living on some volcanic islands in Indonesia. They are named for the largest of these islands, Komodo. According to fossil evidence, these creatures originated 25 to 40 million years ago. But the Komodo dragon was unknown to most of the world until about 100 years ago. Then some Dutch soldiers had a run-in with one and sent its photograph to a nearby zoo.

Now the world knows that there really are dragons.

Unit 14: Sniffing the World

Whenever dogs go for a drive, they love sticking their heads out the car window. Why? The most likely reason is that they're sightseeing—or rather, smellsniffing. Sniffing smells is how dogs get information about the world.

The human sense of smell is fine for detecting rotten food or enjoying perfumed blossoms. But no human nose could detect a teaspoonful of sugar dissolved in a tank of water the size of two Olympic pools. That's what a sniffing dog could identify, according to scientist Alexandra Horowitz. Some scientists say that a dog's sniffing ability is at least ten thousand times stronger than a human's.

Dogs are stupendous sniffers because of their nose design. Each doggy sniff brings air through the nostrils into the snout. As the air flows through the moist snout, it is cleaned. The air carries odor molecules. They reach an area at the back of the snout. The odors are picked up by smell receptors. Smell receptors help dogs sense the smells that enter their snout. A dog has hundreds of millions of smell receptors. (Humans have about six million.) These smell receptors connect to the brain. The brain interprets the signals from the smell receptors. The whole process happens quickly. The dog "knows" what the combination of odors means. "Hey, a squirrel ran across this lawn!"

The connections between a dog's nose and brain make for some amazing achievements. Trained dogs help rescue people buried in snow or in earthquake rubble. They follow a trail to a criminal or a lost child. They locate illegal material in luggage. Some dogs even identify diseases.

Of all dogs, the bloodhound is the best at tracking a scent. Bloodhounds put their noses to the ground. Their floppy ears stir up odor molecules for the dog to sniff. A trained bloodhound can follow a scent that is more than 10 days old. It can follow a trail for more than 100 miles (160 kilometers). Somehow, it is not distracted by countless other odors. It's no wonder that a bloodhound has been called "a nose with a dog attached."

Unit 15: The Hidden Hunter

It was evening when a camp counselor led a group of youngsters on a narrow trail through the woods. Laughing and chatting, they did not suspect that they were being watched as they made their way to a campground by a stream. From high above, in the trees' leafy canopy, a pair of dark brown eyes observed the humans. Even if the campers had scanned the treetops with binoculars, they might have missed their observer. The creature sat still, perfectly concealed by his streaks and bands of brown, gray, and white feathers.

The creature had sharp eyesight. His eyes could capture light even on dark nights. Although his eyes could not move, he had no problem tracking the campers below. His neck was so flexible, he could almost turn his head in a complete circle.

Even after the campers had disappeared from sight, the creature knew where they were. His eyesight was excellent, but his hearing was phenomenal. His larger right earhole was positioned slightly differently from his left earhole. That meant each ear received sound waves in different ways. The creature's brain used the information from both ears to pinpoint the source of a sound. If a tiny animal scurried under a layer of leaves far below, the creature knew exactly where it was.

The creature stirred on his branch. It was time to hunt. He called loudly to announce himself to others of his kind.

All the campers heard the eight hoots floating through the trees. But they weren't familiar with woodland sounds. "That might be a hound barking," the counselor guessed.

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The creature flew towards the stream. His fringed wing feathers muffled all sound. Silently, he landed on a tree branch. The campers were roasting marshmallows below. The creature focused his attention on shrubs behind the campfire. A faint squeak came from under a shrub. He launched himself at the spot.

"Did you see that?" asked a camper. "Something just flew right by us."

But nobody else had seen the owl make his sudden landing. In the darkness, nobody saw him lift himself into the air with a mouse held tightly in his talons.

Unit 16: A Change of Heart

When Flora walked her little dog, Bella, past the house of the new family next door, she made sure to stay as far away as possible. A Rottweiler was living at that house, and Flora knew that Rottweilers were a fierce breed, trained to guard and protect. The dog's sharp teeth, muscular body, and enormous size made Flora shudder. In addition, Bella always barked when she glimpsed the Rottweiler sitting silently and menacingly on the front porch, so Flora tried to hurry her dog past the danger zone.

Once, the Rottweiler stood up as Flora walked Bella, and seemed to be heading their way. Flora let out a yelp and ran home as fast as she could. That night, she had a nightmare about the big dog. It sat beside her, growing ever more gigantic.

On one walk, a boy approached Flora and asked if he could pet Bella. As he patted the little dog, he introduced himself. "I'm Manny, and we just moved in," he said, pointing to the house with the scary dog. "Does your dog want to play with Otis?"

"Is Otis your Rottweiler?" asked Flora. When Manny said yes, Flora said, "That dog could eat Bella for breakfast."

"Otis?" said Manny, laughing. "He just looks fierce, but he's very obedient and well-behaved." Then he called out, "Otis, come!" The monstrous creature bounded from the porch toward them, making Flora gasp in horror.

But Bella seemed delighted, and the two dogs began play-fighting. Otis was careful to treat Bella gently, and Flora was impressed by how the big dog knew his own strength. "He seems so smart!" she blurted.

"He's our gentle giant," said Manny. "He loves people." As if on cue, Otis stepped over to Flora, wagging his tail, and looked up at her with smiling eyes. Before she knew it, Flora was stroking his sleek back. Otis had won her over.

I met the family who moved in next door," Flora informed her mother with a smile that evening.

"The ones with that huge, nasty guard dog?" her mother asked.

"Oh, that's just Otis," said Flora breezily. "He's a big sweetie-pie."

Unit 17: Owen and Mzee

The baby hippopotamus was in trouble. He was all alone in the sea off the coast of the African country of Kenya. Strong, high waves had flooded the coast days earlier. Nobody knew where the baby's mother was. If the hippo was not rescued, he would die.

People tried to bring the scared hippo to shore. It was hard work because the hippo weighed about 600 pounds (272 kilograms) and thrashed at anyone who came near. At last, a man named Owen was able to hold the hippo while a net was fixed in place.

The hippo was taken to a wildlife park in Kenya. He was given the name Owen, after his rescuer.

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At the park, caretakers placed Owen in an area with other rescued animals, including a giant tortoise named Mzee. The tortoise was about 130 years old, and he kept to himself. Mzee didn't like it when Owen headed right for him and nestled beside him. The grumpy tortoise crawled away. But Owen kept following.

It looked as if the hippo was seeking comfort from the tortoise. Maybe the humped shape of the giant tortoise reminded Owen of his mother. As the days passed, Mzee stopped trying to get away from Owen. At times, Mzee followed Owen!

The pair began spending all their time together. They swam and ate together. They rubbed noses. They slept side by side. They communicated with gentle nips and nudges. The wildlife experts at the park had never seen a friendship form between such different animals. It was a strange and wonderful thing.

Owen and Mzee's story was told in photos, videos, articles, and books. All over the world, people learned about the hippo and tortoise that were friends.

When Owen grew too big and fierce to live safely with Mzee, they were separated. But many visitors still come to the park to see Owen and Mzee, two animals that formed a famous friendship.

Unit 18: You Can't Always Tell

Once upon a time, a poor father and son farmed a small plot of land. One spring, heavy rains caused a nearby river to flood. The farmers' land lay underwater, and their hut and meager furnishings floated away. "Oh, what a terrible disaster!" cried the son.

The father said, "Things look bad now, but you can't always tell." He suggested that they ask the wagon driver to take them to the village, where it would be dry.

So the pair waded through water and trudged through mud until they reached the wagon driver's house. They learned that the wagon driver had just left for the village. "Nothing is going right for us!" wailed the son.

"Well, you can't always tell," said the father. "Something good may come of this."

The farmers set out on foot for the village, many miles away. They finally arrived late at night. When they asked at the inn for a place to sleep, the innkeeper told them that every bed was taken.

The son moaned with despair, "All our luck is bad!"

"Well, you can't always tell," said the father, leading his son to the stable, where both made a bed of straw. Exhausted, they quickly fell asleep.

Just before dawn, shouts and shrieks awakened them. From the safe distance of the stable, they saw the inn engulfed in flames and watched people pouring frantically from its doorway. "How lucky that we weren't inside," observed the father.

Later that day, the farmers met the wagon driver, but he no longer had a wagon. On the way to the village the day before, the wagon driver's horse had stumbled, his wagon had rolled down a steep hill, and he had injured his leg when the wagon crashed at the bottom of the hill.

"How lucky that we weren't passengers in your wagon," exclaimed the father, "for an accident like that can be deadly."

When the floodwaters receded, the farmers returned home. On the spot where their home had been, they found an ancient chest. Long buried, it had been dislodged by the flood. Inside the chest were glittering jewels worth a fortune, so the farmers were never poor again.

When it comes to luck, you can't always tell!

LEVEL 17 | PASSAGE FLUENCY 5

Unit 1: Buttering Up

Dad and Desi were sitting in their kitchen, eating lunch on a sunny Saturday.

"Dad, when I told Shay that I am impressed by her basketball skills, she asked if I was buttering her up," Desi said, puzzled. Then, Desi wondered aloud, "Does Shay want me to make her toast with butter or something?" Dad couldn't help but laugh.

"'Buttering someone up' is an idiom," he explained. "An idiom is a phrase that has a meaning different from what you might think."

"So then what does buttering up mean?" Desi asked impatiently.

"You should research it to uncover both the meaning and the origin," Dad suggested. "So many idioms have fascinating stories behind them."

"Later that afternoon, Desi explored the meaning and history of the idiom "butter someone up." An article online explained the idiom means to compliment someone for a specific reason. Some think the expression comes from a practice in ancient India. People would toss butter at statues of gods and then ask for favors. They believed if they "buttered the god up," the god would be more likely to help them.

Desi shared the article with Dad.

"Now I know why Shay thought I was buttering her up!" Desi exclaimed. "I was complimenting her because I wanted something. I was really hoping she would help me with my science project!"

Unit 2: Pesky Crows

Crows are not popular birds because they are noisy and annoying birds, always cawing loudly. Because they are big, they sometimes scare people and most farmers consider them pests because they attack crops. However, these birds are tough. They can live in cities or in the country and bad weather doesn't seem to bother them. They can handle hot summers and even cold winters. In fact, they are able to live all over the world, except at the South Pole. No one would say they're picky eaters, because crows will eat almost anything! This is why farmers consider them pests.

There's something you may not know about crows. They are extremely smart. Crows in Japan will wait for the traffic light to turn red. Then they'll carefully place walnuts on the road, fly off and wait for a car to run over the nuts. This cracks the nuts open. When the light changes, the birds pick up their meals. Crows on one ocean island use tree branches as tools. They use their beaks to cut off and shape twigs into hooks. Then they use these hooks to pull out tasty grubs from inside tree trunks.

Unit 3: Writing in Code

There are thousands of ways to write secret messages to a friend. Most secret messages are written in code. One way to code a message is to use a page from a book. Select a page with many words and lay tracing-paper over this page. Start at the top left and underline letters or whole words to make your message. Write the page number on the paper. Your friend needs the exact same book. When he or she finds the right page, your marked paper is laid over the correct page so the message can be read.

Here's another way to send a secret message and you don't need to use a code. The secret is the strange ink you use which is made from lemon juice. This ink is invisible, so it can't be seen! Dip a pen into lemon juice and write your message on a piece of paper. Your friend holds your paper above a lit candle. The flame heats the lemon juice and makes the ink turn into a color, usually brown. Now your friend can see the invisible words. The heat from the candle will reveal your secret message.

Unit 4: The New Babysitter

"Would you please entertain your cousin Talia while I do some work?" Gram asked Landon.

"But I'm too young to be responsible for a baby," Landon whined.

"Talia is three, so she isn't a baby, and I'll be here if you need help," Gram replied. "You are absolutely capable of taking care of her," she added as she led Landon over to where Talia was sitting. Landon brought Talia into his room. He needed to be creative and decide how to amuse her.

"I have some really fantastic books that we could read together," he suggested. Talia discovered a book with a dragon on the cover, smiled shyly, and handed the book to Landon. She made pretend dragon noises as he read aloud and enthusiastically clapped her hands when he turned each page.

Once Landon and Talia finished the book, Landon had to think of what his three-year-old cousin might be interested in next.

"Let's play with blocks!" said Talia.

"Unfortunately, I don't have any blocks," Landon admitted. Talia pouted sadly. Landon thought hard and replied, "I do have some animal puppets that fit over your hand." Landon picked up one puppet and demonstrated how it worked, using his thumb and fingers to make it look as if the lion puppet was opening and closing its mouth.

"I like puppets!" Talia exclaimed and laughed joyously. Landon pulled the whole container off of his shelf and Talia selected a puppet from the toys. Then Landon the Lion and Talia the Tiger played happily together the rest of the day.

Unit 5: Coast Salish Art

Try this art experiment. First, draw an outline of a butterfly. Then, decorate the wings using only circles, triangles, and crescent moons. Use as many of each shape as you like. This style of art is similar to artwork created by Coast Salish artists for thousands of years.

The Coast Salish are a native people of the Northwest Coast. They have lived in this North American region for over 10,000 years, even before it was called North America. The Coast Salish are not one single tribe. Instead, they are a large group of tribes that speak similar languages.

Long ago, Coast Salish artists made works of art by carving images of animals and humans into stone, horn, bone, and wood.

The carvings connected to legends and family stories. They included salmon, orca whales, and other animals. Traditionally, Coast Salish artwork was used only in ceremonies and not often displayed.

Early Coast Salish artists carved images into the handles of tools. Artists working today express traditions in new ways. Many present-day artists combine traditional images with modern materials, such as computer graphics and video. They can add the traditional images to everyday objects like shoes and skateboards. Some Coast Salish artists make murals, outdoor sculptures, and other forms of public art. Several sports teams use Coast Salish designs in their team logos. Can you find an example of Coast Salish art? Once you do, look for its circles, triangles, and crescent moons.

Unit 6: Carolina the Superhero

Carolina and her family had just moved into a new apartment building. While unpacking in her bedroom, Carolina noticed a short black cape already hanging on the back of the door. When she tied it on, she discovered she could now fly faster than a jet. She vowed to only use her powers to help people, and it didn't take long before someone needed her.

One evening, Carolina was in the elevator with Mrs. Bernal and her little boy, Gael. Gael was sobbing and Mrs. Bernal explained that Gael had left his blanket at the library, which was about to close!

Carolina got off the elevator immediately and put the black cape on. With lightning speed, she zipped to the library and grabbed Gael's blankie. When she delivered it to Gael, he was overjoyed.

The next night, Carolina's sister Angie threw her jeans in the laundry basket, forgetting she had left her school permission slip in the back pocket. Later, Angie realized her mistake.

"Dad's doing the laundry now! My permission slip will be destroyed!" she cried.

"Why don't you look for it under your bed?" Carolina suggested. As Angie walked to her bedroom, Carolina flew to the laundry room in the basement. She reached into the basket of clothes and grabbed the permission slip from Angie's jeans. Carolina flew back up so quickly that she was able to sneak the permission slip under Angie's bed just as Angie entered her bedroom.

Every building needs a powerful superhero like Carolina.

Unit 7: Learn a Crayon Trick

Stanley is performing a trick for friends. "Give me a crayon and, without looking at it, I'll name its color," he says. Stanley turns his back while a girl chooses a crayon. "Place the crayon in my right hand," Stanley instructs and the girl obeys. He closes his fist around the crayon, and then he faces front. Stanley waves his left hand in front of his face and says, "A picture is forming. Yes, I see it. The crayon is yellow." He pulls his right hand from behind his back to show the yellow crayon. How did Stanley do this trick?

Here's how to perform a crayon trick. Turn your back to the audience, and keep your left hand on your hip and your right hand behind your back. Have someone place a crayon in your right hand and keep that hand behind your back as you turn to face the audience. At the moment you face the audience, quickly rub the crayon on your left thumbnail. Say "magic" words as you wave your left hand in front of your face so that only you can see your thumbnail. Announce the color and then hold up the crayon to your surprised audience.

Unit 8: Devon's New Glasses

"Why are you sitting so close to the TV?" Mom asked Devon.

"I see better that way," Devon answered.

A few days later, Mom took Devon to the doctor who had him read an eye chart.

The doctor looked in Devon's eyes and told them that the tests showed that Devon needed glasses.

"I don't really want glasses," Devon said.

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The doctor said, "You'll like these because they give super powers to the person wearing them."

"I'll believe it when I see it," Devon thought. A week later, Devon's glasses were ready, but he kept them in their case and went to school.

The teacher wrote math problems on the board and the numbers looked fuzzy to Devon, as usual. He put on his new glasses, the numbers popped out at him and Devon raised his hand to answer every question. "Devon, you're sharp today!" the teacher said.

Devon realized that he could read the Fire Drill poster even though it was on the far wall. Playing catch later, Devon saw the ball so clearly that he just reached out and caught it with one hand. The doctor had said these glasses gave a person super powers. Devon decided that was true.

Unit 9: Maria's Birthday Party

Maria's older brother was shooting a movie of Maria's fifth birthday party. Just as Maria blew out the candles on her cake, a balloon burst. The sudden noise startled Maria and her head lurched forward, landing on the cake. When she picked up her head, her face was covered in frosting. Maria didn't think it was funny at first, but then she heard everyone laughing, so she joined in. As she laughed, she stuck out her tongue to lick frosting from her cheeks. That made everyone laugh more.

"I got it all!" said Maria's brother as he tapped his camera.

At her fifth birthday party, Maria had a face full of frosting. She laughed as she tried to lick it off and her laughter made her family laugh even more. Maria's brother caught the action on video. He uploaded the video to a website so that the family could view it. Soon, other people were viewing the video. Thousands of people watched Maria and laughed along with her. The video even won second prize in a funny video contest. Five years later, Maria still enjoys watching her famous video. "I liked to laugh then," she says, "and I still do."

Unit 10: Animal Groups

Birds in a flock were flying loosely together, when suddenly, they formed a tight bunch. Why? They spotted a falcon on the hunt. The falcon wanted to go after a lone bird because it could be hurt diving into a tight flock. The birds' tactic worked and the falcon flew off. Birds in groups are often safer than birds alone. Birds of different kinds may even join together as a group. The birds surround the hawk, owl, snake, or other enemy that threatens, and they dart and dive at it until it makes its escape. This bird behavior is called "mobbing."

Grazing mammals often live in groups. Families of zebras, for example, join to form a herd. The zebras are alert to danger. If a lion or other hunter is near, the zebras run together. The hunter has trouble picking out a single zebra from the speeding herd. It's also possible that zebras' bobbing stripes make each animal even harder to see. Groups of fish are called schools. When a whole school flashes this way and that, an attacker cannot easily find its prey. An old saying points out, "There's safety in numbers." Flocks, herds, and schools are examples from the natural world.

Unit 11: Bears of the Arctic

The arctic is the land around the North Pole and it's a place with extremely cold winters. Two kinds of bears live here. The first are giant polar bears, the largest of all bears. When standing, their heads would reach the ceiling in your house. Their fur appears white because it reflects light, but it is actually clear and thicker than any other bears' fur. It covers their whole body, even the bottoms of their feet. Polar bears spend their winters hunting for seals out on the ice. They eat all the time to fatten up for the summer, when the ice is gone.

The other bears that live in the arctic are grizzly bears. These bears are huge but not quite as large as polar bears. Their fur is brown but some hairs have white tips. These tips make the bear's brown fur look a bit silvery. Unlike polar bears, grizzlies fatten up in arctic summers. Grizzly bears will eat just about anything and can feed on grasses, plants, roots, and berries. They will eat insects and fish, as well as large and small animals. Just before winter comes, they dig dens. Then they hibernate, sleeping through the frozen winters of the arctic.

Unit 12: Sinbad the Sailor

This is a story about two adventures of Sinbad the sailor. He sailed on seven voyages altogether. On Sinbad's first voyage, his ship stopped beside an island. Some sailors, including Sinbad, went ashore. The men relaxed on the island and had a picnic. Suddenly, the island began to shake and tremble. The captain ordered the crew back to the ship because he realized that the island was actually a giant whale. Everyone but Sinbad made it back to the ship, and it set sail. Meanwhile, just as the whale dived, Sinbad grabbed a log and was able to float to safety.

On Sinbad's second voyage, he and his crew tied up at a large island. Sinbad fell asleep under a tree and when he awoke, everyone had left. As he set out to explore the island, there was darkness overhead. Above him was a giant bird known as the Roc. Sinbad was curious about where it might fly. While it rested, he tied himself to its legs. When it took off, the mighty Roc carried Sinbad to an island covered with diamonds. Sinbad collected all the diamonds he could carry. Luckily, the Roc then carried Sinbad to an island where he was rescued.

Unit 13: Hector and the Raccoon

Hector left his house and turned left on Baxter Street. It was a hot, lazy summer afternoon and the street was completely empty. "Maybe everybody is at the movies, where it's cool," Hector thought. "Or maybe they're swimming in the public pool."

He'd be inside soon because he was headed for his friend Evan's house. Just then he saw an animal scuttling over a neighbor's lawn.

"Is that a really big, overweight cat?" Hector wondered. As he drew closer, he realized it was a raccoon. "Something's wrong here," he muttered out loud with a worried look, stopping dead in his tracks.

Hector watched the raccoon wobble as it ran into some bushes. He shook his head and frowned because he knew that raccoons only came out at night. This animal shouldn't be out in the middle of the day. He began backing up, checking to see if the raccoon came out again. He knew now that something was seriously wrong with this animal, and a sick animal was a dangerous animal. It might attack anyone who came near. Hector stopped at his front steps and took out his phone. "Police, what is your emergency?" the voice at the other end answered.

Unit 14: Cora's Camping Trip

Cora and her family were preparing for their first camping trip. She looked around her room and thought about what would be most useful to bring with her.

"My flashlight will be helpful after the sun sets," Cora decided, pulling it out from under her bed. "I should also bring a first-aid kit, just in case someone gets hurt." She stuffed those items into her backpack and quickly tied the laces of her hiking boots. Then, she grabbed her sleeping bag and ran outside to help load the family's gear into the car.

"I'm so excited about this camping trip!" Cora exclaimed as she scrambled into her seat."

As soon as they arrived at the campsite, Cora's family worked together to unpack the car. While they were setting up the tent, Cora noticed a glittering lake through the trees. A bird singing nearby seemed to call out to her, and she couldn't wait to explore the area.

"Can we walk down to the lake before we start making dinner?" Cora asked with a hopeful smile.

They followed the short trail to the lake. In the early evening light, the setting sun made the calm water look golden. As she relaxed on the wooden dock, Cora dangled her feet in the water. "I love camping already," she whispered to herself.

Unit 15: The History of Clocks

These days, we always know what time it is. If watches and clocks are set correctly, they keep accurate time. Early humans had the sun, moon, and stars and they could only tell if it was day or night, morning or afternoon. About five thousand years ago, Middle-Eastern people divided the year into months. They divided the day into periods and sundials kept track of time. As the sun traveled across the sky, it cast a shadow along the correct period. Later, water clocks were invented to tell time without the sun. Water dripped into a bowl, marking the hours, at a steady rate.

Clocks first appeared about seven hundred years ago. They were huge and sat atop tall towers. A pointer moved around the clock face and pointed to the correct hour. Over the years, improvements were made. Smaller clocks were invented that could sit on tables or hang on walls. Clocks became more accurate and another pointer was added to show the correct minute. Watches are clocks that you can carry. Early watches were called pocket watches because they fit inside a coat or dress pocket. Two hundred years ago, everyone had pocket watches. A hundred years later, the wristwatch was invented.

Unit 16: Goldfish from China

For more than one thousand years, fish called carp have been raised in China. In Chinese, the word for fish—yu—sounds like a word meaning "plenty." Carp are symbols of long life, strength, and riches. In China long ago, carp were guarded in specially built ponds. The fish had dull colors but once in a while, a yellow carp hatched. People began to breed these yellow carp and over time, the carp changed. It became the first goldfish. In the 1600s, traders from Europe came to China. The traders saw goldfish ponds and the pretty fish swimming in them.

In the 1600s, traders were helping people in Europe discover the arts and culture of China. There was much to admire and copy. Back then, Europeans thought of fish only as food, not as pets. That changed when traders brought live goldfish from China. Wealthy Europeans built outdoor ponds to show off these fish and enjoy them. By the late 1800s, people in many countries were keeping goldfish in indoor tanks. Today, there are more than 100 kinds of goldfish, including some that are red, purple, and black. Goldfish are popular pets in homes all over the world.

Unit 17: Pecos Bill

Now, not all folks believe this, but it happened way back when the Old West was young. One day, a covered wagon crossing the desert hit a bump, and a baby boy bounced out. A coyote came by, carried the boy to its den, and raised him with the other pups. The boy ran with the coyote pack until he was a teenager. Then he discovered that he had no tail. "I'm coyote-wild and coyote-tough, but I'm not a coyote," he thought. "I guess I'll be a cowboy." And that was how Pecos Bill got his start in Texas.

Now, Pecos Bill was the toughest cowboy that Texas ever saw. One time, he was walking in the desert when a rattlesnake blocked his path. That rattlesnake reared up higher than a horse and showed its sharp fangs. "Out of my way," said Pecos Bill, but the rattler just lunged forward to take a bite. Pecos Bill did a little fancy footwork, and then he gave that rattler a thrashing that made its eyes roll like wagon wheels. It fell in a heap. Pecos Bill wrapped the dizzy snake around his arm. "You'll make a handy rope," he said and went on his way.

Unit 18: Sweet Summertime

I wake up listening to a chorus of chirping birds sing joyful morning songs. Then I spring out of bed: it's summer, and I'm spending the day with my grandmother!

I run down the dirt road that connects my home with hers, kicking up dust as I go.

The sweet smell of syrup drifts through the open door, and I slide into the kitchen. Over a delicious breakfast of pancakes and eggs, Nana and I decide to spend the morning canoeing on the lake.

Nana and I put on our life jackets, push the wooden canoe into the water, and climb in. The canoe glides forward silently as we dip our paddles into the water. I breathe in the fresh smell of pine trees and notice how the lake glitters in the sunlight.

"Look! There's a heron," Nana says, pointing to a long-legged bird standing near the shore. When it sees us, it spreads its wings wide. I can hear the soft flap of the bird's wings as it flies away.

We pull up on a small beach and Nana hands me a bucket for collecting blackberries. I reach for the bumpy berries and try to avoid the sharp thorns from poking the skin on my hands.

When our buckets are full of berries, we paddle home for lunch. We eat the blackberries with cream and sugar. The berries burst in my mouth, and the seeds crunch between my teeth.

Unit 19: The First Hot Air Balloon

In the 1780s, two brothers in France did something never done before. The Montgolfier brothers built a huge balloon out of cloth and paper. They made the balloon rise into the sky by heating the air inside it with fire. The brothers built an even bigger balloon to send aloft by the royal palace. The king and queen of France attended this historic event in September 1783. Three passengers were on board—a duck, a rooster, and a sheep. The balloon traveled about three kilometers over several minutes. Then it brought the animals safely to the ground.

In France in November 1783, two men completed the first human flight in a balloon. They floated aboard a hot-air balloon made by the Montgolfier brothers. The craft lifted off because heating the air inside the balloon made it less dense, or lighter, than the surrounding air. The Montgolfiers did not know that at the time. They thought they had found a new gas, like one that had recently been discovered. The newly discovered gas would later be called hydrogen. In 1783, other French inventors began using hydrogen to make passenger balloons rise high and travel far. Ballooning had begun.

Unit 20: Human Space Travel

Between 1969 and 1972, astronauts landed on the moon and returned to Earth six times. In 2000, astronauts began circling Earth in a low orbit on the International Space Station. Astronaut crews have taken turns on the space station ever since. What should the next step in human space travel be? Some space scientists say that astronauts should go to Mars. Sending people to Mars is not a new idea, but the details have yet to be figured out. Astronauts in a spacecraft to Mars would face bigger challenges than those on missions to the moon or to the International Space Station.

Mars is Earth's planet neighbor, but very far away for human travelers. A voyage to Mars and back could take more than 20 months. Astronauts would have to deal with lonely, trapped feelings. They would also suffer bone loss caused by being weightless. This health problem affects astronauts who spend time in space. The most serious risk to astronauts in deep space is radiation. High-energy particles would pass through the spacecraft, damaging human bodies. Human travel to Mars and back would be costly and dangerous. For now, the only Earth travelers on Mars are robots. Mars still awaits its first human visitors.

LEVEL 17 | PASSAGE COMPREHENSION 5

Unit 1: Demonstration

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Unit 1: Animal Fact, Animal Fiction

Owls

In folktales, owls are wise characters who give good advice. In Greek mythology, the ancient Greek goddess of wisdom, Athena, was often shown holding an owl. A person who understands many things is "as wise as an owl." And, in nature, owls' enormous, staring eyes and their accurate hunting skills make these birds seem like observant thinkers. But are real owls wise?

In fact, owls are not ranked among the most intelligent birds. To scientists who study learning, a smart animal is one that can solve a problem it has never seen before. Owls are not known for this ability, and people who train owls report that these birds are not quick to learn new tasks.

Ostriches

Someone who is not facing up to a problem may be compared to a different bird—an ostrich. The person is told, "Don't be an ostrich. Don't bury your head in the sand." Does an ostrich really bury its head in the sand?

In fact, ostriches never cover their heads with sand. They need to see danger to stay safe. These big, flightless birds have sharp eyesight. They are fast runners and strong fighters. So, how did people come to believe that ostriches bury their heads? Ostriches lower their heads to move eggs in their nest on the ground. Seen from a distance, their heads appear buried by sand. An ostrich may also lie still with its long neck stretched out on the ground as a way of hiding when it senses danger.

Crocodiles

Sometimes, a person who is only pretending to feel sadness is compared to a crocodile. "What crocodile tears!" others say about the false show of feeling. It was reported that crocodiles cried while eating animals they had just killed—as if they were sorry about the deed. Do crocodiles really cry tears?

In fact, crocodiles do cry tears. As the crocodile eats, bubbles form in the corners of its eyes and sometimes result in tears that drip down the animal's face. But these tears are not caused by strong feelings, like sadness about its poor victim. The tears are caused by the action of eating, and they work to keep the crocodile's eyes moist. The glands that produce tears are squeezed as the animal works its mighty jaws.

Owls aren't wise, ostriches don't ignore danger, and crocodiles don't show false sorrow. Some ideas about animals turn out to be more fiction than fact.

Unit 2: Expressions from the Ancients

Greek myths and legends belong to a time long gone by, but traces of them can be found in our language. Here are three expressions and the stories behind them.

Midas Touch

If someone is lucky with money and gets rich easily, that person might have a Midas touch. Midas ruled the kingdom of Phrygia. To reward him for a kind act, the god Dionysus granted him a wish. Without thinking, the king wished that everything he touched would turn to gold. The wish was granted. The king enjoyed turning things in his garden into gold, but when he became hungry, he found he could not eat. Any food that touched him immediately turned to gold. So did his loving daughter when she tried to comfort him. Midas begged to have his wish undone, and Dionysus agreed.

Pandora's Box

If someone creates trouble, people might say that person opened a Pandora's box. In Greek mythology, Pandora was the first woman on Earth. Each god gave her a particular gift, such as beauty or musical talent. Zeus, the king of the gods, gave her a sealed jar (not a box) filled with all the miseries of the world. Pandora was told not to open the jar, but one of the gifts she was given was curiosity. She opened the jar, as Zeus must have known she would, and out flew terrible things. By the time she managed to close it again, only one thing remained because it was at the bottom of the jar: hope.

Trojan Horse

These days, one meaning for Trojan horse has to do with computers. It is something that seems to be useful software but turns into a virus when installed on a computer. The original Trojan horse was built during the Trojan War. The Greeks were trying to conquer the Trojans, who ruled the city of Troy. This city was surrounded by a huge wall. The Greeks wanted to sneak some men into the city to open the gates. So a huge wooden horse was constructed. It was hollow, so some soldiers could hide inside. Then the armies withdrew, acting as if they had given up on the war. The horse was left before the gates of Troy as a gift. The gullible Trojans fell for the trick and took the horse inside. Soon after, they lost the war.

Unit 3: Poincils

Jacinda's class was studying how businesses make and sell products. The students were supposed to come up with ideas for new products and show why people would want to buy them. Thinking hard, Jacinda tapped her pencil on her desk. When its point broke, she started to look for her little plastic sharpener, but suddenly stopped. She had an exciting idea!

She eagerly told her product idea to the group. "When your pencil loses its point, why hunt for a sharpener? A sharpener can be attached right to the poincil!" Jacinda heard a few giggles. One girl in her class, Kayla, called out, "That's funny! You said poincil, not pencil!"

Jacinda knew she had mispronounced a word, and her face grew hot. She was embarrassed for making such a silly mistake. At that moment, the teacher, Ms. Greco, spoke up. "Jacinda, you're as inventive as Lewis Carroll!"

Ms. Greco told the class that Lewis Carroll was a famous writer of the 1800s. She wrote chortle on the whiteboard. "The word chortle comes from Lewis Carroll's nonsense poem Jabberwocky, which includes a lot of made-up words. He invented the word chortle by putting together parts from the words chuckle and snort." Ms. Greco told Kayla to look up chortle in a dictionary and read the definition aloud. Then she asked everyone to chortle.

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After the chortling died down, Ms. Greco explained that Lewis Carroll also invented a name for words like chortle. He said they had "two meanings packed up in one word." They were like a portmanteau, which was a suitcase with two parts. Ms. Greco wrote portmanteau word on the whiteboard and had Kayla do a dictionary check on that one, too.

"Jacinda has invented a portmanteau word—poincil—that combines point and pencil," said Ms. Greco. Jacinda knew she hadn't invented the word on purpose. Still, she felt pleased with her accidental creativity. When Ms. Greco asked, "Do you think that Poincils is a good name for pencils that never lose their points?" Jacinda could already picture the product package.

Jacinda's portmanteau word inspired her classmates. Connor came up with an idea for a fridgeradio that could keep food cold and play music at the same time. Angel and Madison were designing a robunch, which was a robot that delivered lunch in the cafeteria. Brianna's motoskoard was a motorized skateboard.

"Can I work with you on designing Poincils?" Kayla asked Jacinda. "I think that your product is a great idea!"

Unit 4: Keystone Species

Ecosystems are filled with connections. An ecosystem is all the plants, animals, and nonliving things in a particular area. One connection that can have a big impact on an ecosystem is the link between predator and prey animals.

What to Know About Keystone Species

- Keystone species are living things that have a major impact on how an ecosystem works.
- If you take a keystone species away, the whole ecosystem suffers.
- They are often, but not always, a predator (they eat other animals).
- A sea otter is an example of a keystone species.

Take the example of sea otters and sea urchins. Sea otters are mammals that live in the North Pacific Ocean. They are supremely suited for marine life. Their flipper-like hind feet help them swim. They sleep and eat while floating on their backs, often among the large seaweeds called kelp.

Sea otters eat an enormous amount of food. The animals they eat are called prey animals. A preferred prey animal is the sea urchin. Sea urchins are small, spiny animals with round bodies. They live on the sea bottom, eating algae and a type of seaweed called kelp.

During the 1700s and 1800s, it was a profitable business to hunt sea otters for their wonderful fur. Otter-fur hats and coats were popular. Overhunting brought sea otters to the edge of extinction. Not until the twentieth century did laws protect them. By then, damage to marine ecosystems had already been done.

Without sea otters to prey on them, the numbers of sea urchins grew nonstop. Sea urchins munched on kelp plants. They kept gobbling until the kelp forests disappeared. The giant green plants were central to the ecosystem where they grew. All sorts of marine life depended on kelp. Kelp provided not just food but also shelter. When the kelp vanished, so did the fish and shellfish that needed it to survive.

Kelp is also helpful to the physical environment. These plants absorb carbon dioxide. Carbon dioxide is a "greenhouse gas." Greenhouse gases trap heat and raise global temperatures. The result is harm to life on land and sea.

Biologists have a name for an animal that plays a key role in the health of its ecosystem. It's called a keystone species. Sea otters are a keystone species. With protection, some populations of sea otters have made a comeback—and so have the valuable kelp forests they live in.

Unit 5: Saving the Rainforests of the Ocean

Coral reefs are called "the rainforests of the ocean." Like real rainforests on land, they are home to a rich variety of life—sea life. For example, thousands of different species of fish, outrageously colorful, may live around a single reef.

The rock-like reefs are built by coral, tiny animals related to jellyfish. Each coral is called a polyp. It is a simple organism with a stomach and a mouth surrounded by tentacles that it uses for feeding. It builds a hard skeleton around itself for protection. Thousands of identical polyps live together, their skeletons connecting to form a hard structure. As they live and die, new skeletons are built. The reef grows.

The living coral are closest to the surface, where they receive light from the sun. Sunlight is important in providing a source of food for coral polyps. Each polyp has plant-like algae living with it, protected by the coral skeleton. The algae use energy from the sun to produce food in a process called photosynthesis. Then, the algae share their food with the polyps. Algae also give the coral reef its color.

Thousands of living things rely on a single reef for food and shelter. When it dies, its inhabitants are suddenly homeless. And coral reefs are dying.

The outward sign that all or part of a reef is dying is something called "coral bleaching." Bleaching results when the algae in the coral are killed or driven out. There are two main causes for this: climate change and pollution.

Coral need clear water and a certain temperature range to stay healthy. Even a rise of one degree in the average water temperature hurts them. Climate change is slowly raising the temperature of the ocean. If the temperature rises around them, coral polyps are damaged and expel their algae. With the algae gone, the reef loses its color and the polyps starve.

Pollution also plays a part. It encourages the growth of harmful algae. This algae covers the top of the reef, blocking out sunlight. This kills the good algae and soon kills the coral.

A report released in June 2017 announced that three quarters of coral reefs worldwide have suffered extreme damage. Experts predict that coral reefs could disappear completely by 2050. But scientists have been working on the problem. They are looking for ways to bring algae that can survive in warmer waters into the reefs. They are finding ways to rebuild damaged reefs. With skill and luck, they will help save "the rainforests of the ocean."

Unit 6: Rachel Carson

Growing up in rural Pennsylvania, Rachel Carson (1907–1964) loved exploring nature. She also loved to write. In college, Carson decided to become a marine biologist. After she earned a master's degree, she found a job with the United States Bureau of Fisheries. She worked on the agency's publications, combining her writing skills and science knowledge.

Carson wrote her own books, too. The Sea Around Us was published in 1951. Using vivid and poetic language, Carson explained science concepts in ways that the public could appreciate. The book became Carson's first bestseller. The money from it allowed her to leave her government job and become a full-time writer.

Carson's research showed her that manufactured chemicals in use since the 1940s were causing great harm. Pesticides such as DDT were widely sprayed to kill off insects. Farmland was sprayed. Communities were sprayed. Chemical weed killers were sprayed on roadsides and fields. People in the chemical industries who were selling pesticides insisted their products were safe. Carson knew that all those poisons in soil, air, and water were killing more than their intended targets.

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Carson was a quiet, studious person who did not seek fame. But she was determined to sound an alarm. She spent years uncovering facts and evidence. She carefully built a case to prove that uncontrolled use of chemical poisons was damaging the earth and its living things.

Her book Silent Spring was published in 1962. It became a bestseller immediately. The book begins with a fable about a pleasant American town. Suddenly, sickness and death arrive. When spring comes, there is "a strange stillness. The birds, for example—where had they gone?" The fable ends with the cause: "The people had done it themselves."

Silent Spring then explains the real-life effects of overusing chemical poisons. Pesticides designed to kill crop-eating insects also harmed everything that ate the poisoned insects and everything that ate the eaters. Carson argued that "in nature nothing exists alone." Human-made poisons were destroying entire ecosystems.

The chemical industries fought back. They claimed that the book was fiction and that Carson was not a real scientist. Despite being very ill, Carson spoke publicly to defend her book. She had written the truth.

Silent Spring became one of the most influential books of the twentieth century. Carson's book led to new laws about pesticide use and environmental protection. Because of the book, people thought differently about their relationship to all living things.

Rachel Carson changed how we view the earth.

Unit 7: Lost on the Trail

Clyde and his friend Ajay often walked on Pine Lane, a dirt path beside a wooded area known as the Enchanted Forest. One day, the boys were walking with Clyde's dogs, Bric and Brac. Suddenly, both dogs barked excitedly and ran into the woods. Clyde called after them again and again, but when the dogs did not return, he told Ajay, "We'll have to go and get them."

The two boys entered the woods and called loudly for the dogs. There was no sign of Bric or Brac, but there was a sign on a board nailed to a tree. The boys walked right past it. They didn't notice that it read, "Magic Wish Trail."

After calling vainly, Clyde said, "There are so many trees and shrubs, we'll never be able to see Bric and Brac. Too bad we're not dogs, because we could track those pups in no time. We'd just use our amazing sense of smell."

Ajay rolled his eyes and said, "Yeah, I wish!"

At once, a breeze ruffled the boys' hair. "I feel strange," each said simultaneously. Looking at each other, both cried out, "You're a bloodhound!"

The bloodhounds shouted at each other for a while, using their low, hoarse voices to howl their shock and alarm. But then, without thinking, they both began sniffing the ground. "A fox must have taken this trail," said Ajay.

"Three foxes," corrected Clyde, "probably a mother and two young kits."

The two bloodhounds trotted along, sniffing and commenting on the aromatic information that creatures had left behind. They detected the moist fragrance of frogs, the damp smell of rodents, and the wispy perfume of insects.

"And here is the route that Bric and Brac took," said Clyde confidently. "They were chasing a squirrel, but it climbed that tree over there, so they gave up and went this way." The bloodhounds followed the scent until they reached the edge of the Enchanted Forest. Before them, on Pine Lane, Bric and Brac stood waiting.

Stepping out of the forest and onto the path, the bloodhounds passed through an invisible wall. They transformed instantly into human boys.

"Oh, look," Clyde said to Ajay. "Bric and Brac came out of the woods on their own."

"I'm glad we didn't have to go into the Enchanted Forest," added Ajay. "I've heard that weird things happen there."

Unit 8: What Lester Heard

Lester was lying on his back in the corner of the classroom and his friend, Harold, was lying nearby. All the students were lying on the floor because they were following the instructions of their teacher, Mr. Taylor.

"Direct all of your attention to sounds and try to remember everything you hear," Mr. Taylor told the class. "Do not speak, and do not squirm, just lie still and listen. After fifteen minutes, we'll return quietly to our seats and write a description of our soundscape. Ready, set, begin!"

As Lester listened attentively, he heard the blinds tapping against the glass, a bird chirping outside, and footsteps in the hallway.

Lester turned his head to glance at Harold, who was lying still, eyes shut. Lester closed his eyes, too, and listened harder. He heard voices in the hallway, a truck backing up, and a ball bouncing on the tennis court. Lester was surprised at how many different sounds were in the soundscape.

Lester heard a squirrel calling loudly, while, in the distance, someone was using a lawn mower and a siren wailed. He heard a plane overhead and a car horn in the street. He also heard a low hum that seemed to be coming from the classroom. Lester could not tell what was causing the hum, so he listened more closely. He decided that it wasn't an insect, and it wasn't a machine. It sounded like a purring cat. This was a puzzle!

Lester wondered if Harold was hearing the same sound. He looked over at Harold and then smiled because he solved the puzzle.

Mr. Taylor clapped his hands and said, "OK, now it's time to write about what you heard."

At his desk, Lester listed all the sounds he remembered and then described them in a poem.

The Soundscape
Footsteps and murmurs in the hall. / The echoes of a bouncing ball. / A truck's beep-beeps fill the air. / A siren whistles, "Watch out, beware." / A honking horn, a growling mower. / Will that buzzing plane come even lower? / A squirrel chip-chips loud and long. / A bird sings a cheerful two-note song. / The blinds give the window a gentle tap. / And Harold snores as he takes a nap.

Unit 9: Taste Tests

Here's a taste test you can do with a friend. Together, set out four teaspoons. Fill one with sugar water, one with lemon juice, one with salt water, and one with tonic water (a soft drink made with quinine). Close your eyes, and have your friend give you one teaspoon at a time. Will you be able to identify the taste in each teaspoon? No problem! It's simple to tell apart sweet, sour, salty, and bitter tastes.

Scientists have long known about those four basic taste types. It wasn't until the year 2000 that scientists worldwide agreed about a fifth taste, identified by Japanese scientists many years earlier. The fifth taste is called umami (oo-MAH-mee). The name is Japanese for "deliciousness." In English, the word savory describes the umami taste. It is found in foods such as mild beef broth and parmesan cheese.

How do we tell apart sweet, sour, salty, bitter, and umami tastes? Structures in the mouth, tongue, and throat work together to send signals to the brain. If you stick out your tongue, you'll notice tiny bumps on it. Those bumps are called papillae (puh-PIL-ee). Tiny, microscopic structures called taste buds are hidden inside the papillae. When people eat food, molecules in that food first travel to the papillae. Then, these taste molecules enter the taste buds. Once the molecules are inside the taste buds, the molecules are picked up by receptor cells. The receptor cells are attached to nerves, and those nerves then send a signal to the brain about how the food tastes. Finally, once the brain receives the message, the person eating becomes aware of flavors.

Think of a favorite food. It's not just taste that makes the food appealing. Other senses are involved, too. The food is your favorite because of its color, shape, texture (how it feels in the mouth), and maybe even its sound (does it crunch?). Most important is its smell.

Smell receptors in the nose detect many more kinds of molecules than taste receptors do. Try this test with a friend. Cut a slice of an apple and the same size slice of a raw potato. Close your eyes, and pinch your nose shut. Have your friend feed you one of the slices. Can you tell which one is in your mouth? Probably not. Distinguishing flavors requires the sense of smell, as you've probably discovered if you've ever had a bad cold.

Unit 10: Parranda: A Music Party on the Move

This text is a drama, or a play, written by Marisol Rodriguez. It could be performed on stage for a live audience. The cast of characters tells who each person is. Most of the text is dialogue, or characters speaking to one another. Dramas like this one also include stage directions, which are separated in brackets [like this]. Stage directions give details about the setting and action taking place.

Cast of Characters

YVETTE, Teenage girl

ANA MERCEDES, Teenage girl and YVETTE's cousin

SEÑORA PAZ, Leader of the parranda

[YVETTE and ANA MERCEDES are standing on a street corner with a group of 20 others in Chicago. It is a brisk winter evening. Some people in the group are holding Puerto Rican flags. Others have musical instruments in their hands, including drums, maracas, and güiros.]

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SEÑORA PAZ: Okay friends, it's time to get this year's moving music party started—let's begin our parranda! Make sure you wave your flags high with pride. I want everyone with instruments to wait for my cue to begin. When I raise my arms high, you'll know to start playing the first song. Now let's get walking. The first stop is the barbershop. Are we ready? Let's have some fun—Vamos a gozar!

[The group, including YVETTE and her cousin ANA MERCEDES, follows SEÑORA PAZ down the street toward the barbershop.]

YVETTE: Cousin! Prima! I'm so happy you were able to visit from Puerto Rico, especially during the winter so you could be part of our parranda, Chicago style! This is one of the best cultural traditions. I love bringing joy to people in our community through song and music! What are these outdoor musical parties like for you on the island?

ANA MERCEDES: Well, first off, we are a tropical island so no winter coats! But everything else seems similar so far. We sing the same songs, play the same instruments, and enjoy eating with our neighbors after we perform for them.

YVETTE: Here in Chicago, we don't visit our neighbor's homes during our parranda. Instead, we go to different shops to perform. Our last stop is always at the home where our abuelo and other senior citizens live. We stay for a while with grandpa to sing, dance, and eat a delicious Puerto Rican meal of rice with peas, roasted pig, and potato salad. I can't wait for that part!

ANA MERCEDES: I can't wait, either! I can hear my stomach growling!

SEÑORA PAZ: Okay folks, here we are at our first stop: the barbershop. Play your instruments, loud and proud!

[The group enters the barbershop and performs the song. The barbers and clients start to dance, and they applaud at the end of the performance. The group exits the barbershop.]

SEÑORA PAZ: ¡Next stop, La Plena Restaurant!

ANA MERCEDES: Even though we're in freezing Chicago, it feels like I'm back home in Puerto Rico. I always love how this tradition brings everyone together. Just like on the island, this parranda feels like a big family party!

YVETTE: You're right! I wish the rest of our cousins could have come out tonight. I'm taking lots of pictures and videos to show them when we get back home.

ANA MERCEDES: Send them to me, too! I want to show our family in Puerto Rico what parrandas are like in Chicago!

YVETTE: Let's try out the next song while we walk.

[YVETTE and her cousin ANA MERCEDES link arms and begin to sing as they walk arm in arm down the street.]

Unit 11: Music in Motion

Many people who enjoy music love attending concerts. People who are deaf or hard of hearing find ways to get a full experience with the help of interpreters who use sign language.

Sign language is a visual way to communicate using hands, facial expressions, and body language. This can replace or add to spoken communication. It allows people who are deaf and hard of hearing to see what is being said. Sign language concert interpreters sign along with a song to show the song's words (the lyrics) through signs. But interpreters say they do more than that.

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Jody Daulton has a team of interpreters who work at events like concerts and plays.

"Not only are we interpreting the lyrics of the song," she said in an interview, "but we are also portraying the sound of the music. The highs and the lows, the softness or the hardness, the musicality of the whole thing."

The Joy of Music
Sign language concert interpretation isn't easy. Matthew Maxey does it for a living. He created a hip-hop interpretation service. He is also deaf. In an interview, Maxey shared that one of the hardest parts of interpreting concerts is learning the songs in a short period of time.

"Interpreting requires a lot of time and practice," Maxey says. Interpreters have to know which songs an artist is going to perform and in what order. They also must know if those songs might be shortened or changed during the concert. "You never realize how hard it is to memorize lyrics until you're pressured to learn a set list in two weeks," he says.

Sign language concert interpretation is about providing a joyful and lively performance for all people who attend concerts. "Everybody should have equal access," Daulton says.

Unfortunately, that doesn't always happen. Some concert venues place interpreters in an inconvenient, hard-to-see location. To be close to the interpreter, deaf audience members might have to pay for costly seats. Sometimes, venues don't provide interpretation at all. But when it works, it's worth it, Daulton says.

The best part of being a sign language interpreter, says Maxey, is "providing communication and access. It's long overdue, and the joy on people's faces shows that!"

Unit 12: Talent Show Tryouts: A Skit in One Act

Cast of Characters
DIRECTOR

NELLY, a singer

KELLY, Nelly's singing partner

VINCE, a mind reader

MILLARD, a magician

[The DIRECTOR is sitting on a chair in an auditorium. NELLY and KELLY walk arm-in-arm onto the stage.]

DIRECTOR. Welcome to the tryouts for the Stixville Talent Show. I'll be directing the show. What are your names, and what is your talent?

[NELLY and KELLY speak together, jumbling their replies.]

NELLY. I'm Nelly, she's Kelly. We're a singing duo...we sing together.

KELLY. I'm Kelly, she's Nelly. We sing together...a singing act.

DIRECTOR. Huh? Well, show me what you can do.

[NELLY sings one song while KELLY sings a clashing song.]

DIRECTOR. Stop! Stop! Couldn't you two agree to sing the same song?

[NELLY and KELLY respond simultaneously.]

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NELLY. We didn't have time to rehearse.

KELLY. I told her we needed more practice.

DIRECTOR. I'll say! Go home and practice—please.

[NELLY and KELLY exit. VINCE walks confidently onto the stage.]

DIRECTOR. Welcome to the tryouts for the Stixville Talent Show. I'll be directing the show. What is your name and your talent?

VINCE. I'm Vince the Mind Reader.

DIRECTOR. [Skeptically] You can tell what I'm thinking?

VINCE. Sure! Right now, you're thinking that I can't really read minds.

DIRECTOR. True, but too obvious. Let's get a sample of your act.

[VINCE takes a deck of cards out of his pocket and shuffles the cards.]

VINCE. Pick a card, any card, and I'll tell you what it is.

DIRECTOR. OK, I've picked a card.

VINCE. Now put it back in the deck, anywhere at all.

[As the DIRECTOR puts the card back in the deck, VINCE leans over to view the card.]

DIRECTOR. [Surprised] Hey, you just looked at it before I put it back!

VINCE. No, I didn't.

DIRECTOR. Yes, I saw you look right at it!

VINCE. OK, OK, I had to take a peek because I haven't perfected the trick yet.

DIRECTOR. [Sighing] Go home and practice—for a long, long time.

[VINCE sulks and exits. MILLARD walks onto the stage.]

DIRECTOR. Welcome to the tryouts for the Stixville Talent Show. I'll be directing the show. [Under his breath] If there is one. [To MILLARD] What is your name and your talent?

MILLARD. I'm Millard, and I have a magic act based on scientific principles. I pull a tablecloth out from under dishes and glasses, without disturbing them.

DIRECTOR. [Skeptically] Have you practiced this trick?

MILLARD. Yes, many times.

DIRECTOR. At last! Well, Millard, show me what you can do. Use that table over there. It's already set up for dining.

[MILLARD walks to a table covered with a tablecloth and set with tableware.]

MILLARD. [Confidently] Ladies and gentlemen, Millard the Magician will now remove the tablecloth, and only the tablecloth. One, two, three...

[MILLARD yanks the tablecloth off of the table. The tableware crashes to the floor. DIRECTOR and MILLARD stare silently at the mess.]

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DIRECTOR. Um, I thought you said you practiced this trick.

MILLARD. Well, I did... but it never worked at home either.

DIRECTOR. There's a broom. Please sweep up the mess before you go.

[MILLARD sweeps up the broken glass and then exits.]

DIRECTOR. [Thoughtfully] Directing a talent show is a lot harder than I thought it would be. Of course, it is my first time. I might need more practice.

Unit 13: Rainbows

There's something magical about a rainbow. That's probably why people everywhere have told stories about these wonderful arcs of colors. The ancient Greeks said that the goddess Iris used a rainbow as her stairway from the sky to the earth. In Ireland, folktales are told about leprechauns guarding their pot of gold at the end of a rainbow. The Cherokees of North America described a rainbow as the beautiful clothing of the thunder god.

Rainbows seem magical, and in a sense they are. A rainbow is an optical illusion. No one can go to a specific spot in the sky and touch a rainbow because it is not really there. But if a rainbow isn't really there, why does it appear?

What to Know About Light

- Light is a form of energy that travels in waves of different lengths. The length of each wave is called a wavelength.
- We perceive light as white, but it is actually a mix of 7 (yes, 7!) colors: red, orange, yellow, green, blue, indigo, and violet.
- Each color in the spectrum of light has a different wavelength: red is the longest, violet is the shortest.
- Prisms break white light apart so that we can see the spectrum of colors. Raindrops can act like tiny prisms.

How Rainbows Appear

When you look up toward the sun, you see white rays of light shining down. Rainbows form when white light travels through raindrops in just the right way. Imagine it is late in the afternoon, just after a thunderstorm. As rays of sunlight break through the clouds, they strike the millions of water droplets still in the air. If the beams of light pass through the water droplets at just the right angle, the light bends (refracts) and then bounces back (reflects). What happens when white light bends and bounces? To put it simply, it breaks apart into separate colors. And—you guessed it—these colors are the colors of the rainbow. A rainbow appears.

How to Find a Rainbow

You'll need a day when sunlight follows rain and the sun sits fairly low in the sky. Stand with your back to the sun. Scan the sky before you. Water droplets will bend and split the sunlight passing through them. Some of the light will be reflected, or bounced back, towards your eyes. The angle from the sunlight to the droplets must be the same as the angle from the droplets to you. If it is, you'll see red from high droplets, violet from low droplets, and all the rainbow colors in between.

How to Make a Rainbow

A natural rainbow is hard to find, but you can make your own. You'll need a garden hose and a sunny day. Stand with your back to the sun, and spray fine droplets into the air. Watch as the droplets split the sunlight into your very own rainbow.

Unit 14: Cellphone Signals

On a hike with other campers, Lily stopped to check her cell phone. "Too bad. I can't get a signal here," she said to herself. When she looked up, she saw that she was alone, so she jogged ahead on the trail to catch up to the group.

After a few minutes, Lily knew that the campers had not taken this trail, so she ran back, but wasn't sure where to stop. Her heart was beating fast from running, and from fear. She found a path and started walking on it, uphill and down through the woods. When the path forked, Lily sometimes went left, sometimes right. Finally, she came to a grassy clearing where she sat on a large rock and said to herself, "Stay calm, and think!"

She looked in her backpack and found an apple, a half-empty water bottle, a sweatshirt, and the useless cell phone. The back of the cell phone was shiny silver, and she saw her worried face reflected in it.

Lily took a sip from the water bottle but she decided to save the apple until she was hungrier.

She pictured the counselors trying to find her. All she had to do was wait and the clearing seemed like a good spot, because she could be seen more easily in the open.

After three hours of waiting, Lily ate the apple.

It began to drizzle, and Lily put on her sweatshirt. She realized that evening was coming, and she needed better shelter. Earlier, she had noticed a rocky overhang in the woods. To make sure she would find the way back to the clearing in the morning, Lily collected twigs. She placed pairs of them in a crisscross pattern to mark her path.

Lily sat under the rock ledge, her chin resting on her knees. The rain made gentle music, and as darkness came she dozed off.

The songs of birds awakened her to a sunny morning and she followed her twig path back to the clearing.

After a while, Lily heard a loud buzzing overhead and looked up. A rescue helicopter! She leaped up and waved her arms. "Here! I'm here!" she shouted but it seemed that the helicopter was moving away. "Don't leave!"

Lily grabbed her cell phone and held it up, tilting its silvery back this way and that, trying to catch the sunlight. Would the flashes be seen?

News reports later told about the rescue. "Lily's cell phone had no signal," said one reporter, "but this resourceful camper used it to send a message anyway."

Unit 15: City Lights

Blazing lights / flicker / flash / glitter / gleam / twinkle / sparkle / bedazzle / beam / so / brilliantly / bright. / Reasons / why / city / stays / awake / all / night.

Unit 16: Taos Pueblo

The Taos Pueblo is a Native American community in the land that is now called New Mexico. Many Taos people live in modern-day homes outside the village and go to their homes in Taos Pueblo for special events. The traditional homes in Taos Pueblo are made of the same materials that have been used for thousands of years.

Jackie's phone alarm chirped, waking her before the sun rose. There was going to be a festival in the pueblo later, and she needed to help her grandfather prepare. Jackie had woken up early to make her grandfather a cup of tea before she went.

Jackie's grandfather was a resident of Taos Pueblo. Today, she would help him with chores for the festival—but they needed to get started early before the desert heat became too intense to be outside. When she arrived, he was already waiting in a rocking chair beside his front door.

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"Morning, Pop!" she called. "I brought some tea for you."

"Well, that's good. We have a long day of making adobe today," he replied.

Jackie's grandfather led her to a place where he had set up buckets of water, local red clay, straw, and a large kiddie pool. While Jackie stomped on the mixture barefooted, her grandfather poured ingredients into the pool slowly.

"We are known as the Red Willow people. Our people have always cared for and protected this land," he told her as they worked. Jackie knew this already, of course, but she listened quietly.

"Today, we must mix the adobe to repair the pueblo before our relatives arrive for the festival. These old pueblos are our history. We keep them as our ancestors built them a thousand years ago."

Jackie nodded. The red mud between her toes began to thicken and get heavy, but she didn't mind. Her grandfather continued.

"For thousands of years, our people have known that adobe housing is one of the best ways to be comfortable in the desert heat. The adobe walls capture the heat so it doesn't spread to the inside, keeping our homes cool. Then, at night, the heat releases slowly from the walls, keeping us warm while the sun is down. Nothing has been discovered to be more efficient in the desert than these earth houses."

Grandfather told Jackie to stop mixing when the adobe reached the correct texture. Together, they scooped the heavy plaster into buckets and pulled the mud and straw mixture to the pueblo with a sturdy cart that did not struggle under the weight. Others soon showed up to begin the important work of re-laying the mud on the pueblo houses. This is how the community had maintained the pueblo for so many years.

While they worked, Jackie listened to everyone talk excitedly about the festival. People from her tribe would drive or fly in from all over to visit their sacred lake, Ba Whyea, to tell stories in the Tiwa language, and to do a Corn Dance—the activity Jackie liked best. Jackie could not wait for the festival to begin!

Unit 17: Architecture Star: Zaha Hadid

Zaha Hadid is one of the most celebrated architects. She designed stunning and unique buildings, winning many awards for her designs. How did Zaha come to be such a talented architect?

Early Influences

Zaha Hadid was born on October 31, 1950, in Baghdad, Iraq. She was raised in a family where education and the understanding of other cultures was important. Hadid's father was a leading Iraqi politician. Her mother was an artist and taught her daughter how to draw.

Growing up in Iraq had an enormous impact on Hadid. Her world was filled with living history, including picnic trips to the ancient city of Samarra. There, she had views of ancient buildings and other structures that were built many hundreds of years ago.

When Hadid was 11, she was fascinated by photos of the inhabitants of the marshes of southern Iraq. The photos showed people living in arched homes constructed of reeds. When her father took her to visit these places, she knew that she wanted to become an architect. She said, "My father took us to see the Sumerian cities. Then we went by boat, and then on a smaller one made of reeds to visit villages in the marshes. The beauty of the landscape—where sand, water, reeds, birds, buildings, and people all somehow flowed together—has never left me". This Sumerian region was where architecture first began over 5,000 years ago.

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Style of Architecture
Hadid's designs have fluid shapes. The buildings appear to flow effortlessly into their building sites. She feels that her designs are best shown through paintings rather than typical architecture drawings. When a person walks around Hadid's buildings, these structures often look as though they morph. They seem to change shape as they are viewed from different sides. This leads to a science fiction-like feel.

Hadid was firmly committed to her unique style. Hadid has said, "I started out trying to create buildings that would sparkle like jewels. Now I want them to connect, to form a new kind of landscape, to flow together with [modern] cities and the lives of their peoples."

Unit 18: Cave Dwellings
Who lives in caves? Well, a cartoon image of a cave dweller shows a fur-clad hunter of the Stone Age carrying a club and drawing on a cave wall. The image is supposed to be silly—and it is.

Real-life Stone Age people lived by hunting and gathering food, rather than farming. For them, caves provided shelter at times. Caves had sacred uses, too. However, people didn't actually begin turning caves into homes until about 5,000 years ago. That was after they had learned to raise animals and grow crops. Instead of moving into natural caves, people who lived in caves built their own from rocks in the environment.

Cave dwellings made sense in dry environments where there weren't enough trees to use as lumber for building. If the rocks of the region were soft enough, people developed the tools to carve out underground rooms. Underground, they were safe from sandstorms. And they escaped the extreme differences between day and night temperatures common in deserts.

Tunisia
Cave dwellings are found in the North African country of Tunisia. The settlement of Matmata is famous. People of the Berber culture began building this village centuries ago. Some of them still live underground, protected from sun and wind. The homes here were built into the walls of a deep pit by cutting into the desert sandstone, a soft rock. A four-cavern hotel is popular among tourists, especially Star Wars fans. (Scenes from the Star Wars movies were filmed here.)

Spain
The town of Guadix, in Spain's Granada province, is also known for cave dwellings. For hundreds of years, people have lived in cave houses here. The underground dwellings are naturally cool during the summer and warm during winter. There are 2,000 cave dwellings in Guadix. The multi-room homes have an airy feel and all the modern conveniences.

China
In China today, more than 30 million people live in caves. Many of these dwellings are found in Shaanxi province. This region has cliffs that are easy to dig into. Most of these homes are simple rooms, but some are as spacious and modern as city apartments.

Throughout the world, fewer cave dwellings are being used and preserved. But architects study these homes to learn about the benefits of living underground. Today, underground homes are being built that have up-to-the-minute technology. They are heated and cooled naturally, are safe from stormy weather, and blend into the natural landscape—just like cave dwellings of the past.

Unit 7: Hidden Nest

Angus and Flora walked along the shores of Loch Pattack, a lake in the country of Scotland. The friends discovered a bird's nest carefully hidden in the tall grasses. Three eggshells remained in the nest, empty and abandoned.

"I bet we can figure out what hatched from these eggs," Flora said as she searched the area for a clue. She wondered if the nest belonged to a puffin bird, since they like water. Angus was dissatisfied with that guess. It didn't seem quite right. Puffins preferred saltwater habitats, therefore they would nest closer to the ocean, wouldn't they?

Flora decided he was right. "This must be the nest of a freshwater bird, like a kingfisher or a sandpiper."

Angus tried to pick up the nest, but its twigs were intertwined and twisted with stalks of grass. Little by little, he disentangled the nest so it was not woven into the grass, then lifted it out. Examining an eggshell closely, he noted its small shape, creamy color, and brown speckles.

"Half the size of a chicken egg," he said, "if my estimate is correct."

Returning to Flora's house with the nest, they looked online for birds of Scotland. The kingfisher's eggs were not speckled, but the sandpiper's were. They listened to sandpiper calls of fee-fee-fee-fee-fee and chip-ip-ip-ip.

"I heard that, down by the water!" Angus exclaimed.

Flora moaned. "It says they migrate as far as Africa and India and, and—"

"And what?"

She jumped off her chair and stood up. "And we better get back to the lake! I want to see the sandpipers before they fly off!"

Unit 8: Abu the Fox and His Friend Raven: An Arabian Tale

One day, Abu the Fox noticed his friend Raven in the forest near his woodland home and invited him over for dinner. Wishing to serve him his finest food, Abu spent the afternoon boiling camel's milk slowly over the fire, then stirring in flour to thicken it.

When Raven arrived, Abu took the pot off the cookstove. He poured the porridge onto a flat stone he used as both a table and a bowl, then lapped it up hungrily with his large tongue. Raven pecked and pecked, but couldn't get a drop into his mouth.

Fox watched Raven and began laughing. "That beak is substandard for eating."

"It is not below average at all. It's just different from you. This meal is suboptimal for using my beak. Definitely less than the best."

Abu laughed louder. Raven smirked.

"Your interpersonal skills are lacking, friend," Raven continued. "The conversation between us is not going well. Some might even say this interaction is rude and disrespectful."

"What?" Abu asked.

"Meet me by the date tree," Raven said, eyes twinkling. "I'll drop dessert down to you."

Abu got so excited he forgot about their discussion—until Raven started dropping dates. Each one landed in the thorn bush at the base of the tree. Abu's snout got all scratched up. In addition, he was unsuccessful in retrieving any fruit.

Raven flew down, poked his beak into the bush and pulled out a date. He swallowed three down easily, then smiled.

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"I'm noticing a theme here," Abu said.

Raven chuckled.

"Friends?"

"Friends."

Unit 15: Living With Volcanoes

Mysterious and majestic, volcanoes attract the attention of people all over the world. They are both beautiful and destructive. In addition, the soil around them is rich and ready to farm. Many people choose to live nearby, despite the danger. Therefore, it's important to raise awareness of the risks and teach people how to stay safe.

The best way to stay safe is to prepare. Preparations can be made ahead of time so people are ready when the volcano erupts. Here are some strategies for preventing damage and injuries.

- Make an escape plan. Since lava can destroy everything in its path, evacuation paths should be planned in advance.
- Build walls to block lava. Barriers can be placed in certain locations to force lava to flow away from places where people live.
- Gather supplies. A survival kit should be made for each member of the family. These supplies will keep people alive if they get cut off from services. Kits should include:
- canned food and water.
- basic tools like flashlights and battery-operated radios.
- goggles and masks to prevent poisonous, deadly gases from harming eyes and lungs.

Preventive steps like these reduce the chance of people getting hurt. This way, the damaging effects of a volcanic eruption can be minimized and made smaller. For this reason, it's important that communities complete discussions and finalize plans before an emergency strikes.

Unit 16: Songs of Survival

On an island called Montserrat in the Caribbean Sea, children sing folk songs about an enormous volcanic eruption that changed everything. Unlike traditional folk songs handed down from generation to generation, these were written in recent times and influenced by science.

"Fire up a mountain and nobody there to put it out. Scientists say run fast, we're going to need the ash masks."

With rolling hills and green forests, the island is a place of both natural beauty and potential disaster. Folk songs have always been an important part of its culture. Becky Chalmers, director of their National Youth Choir, believes folk music gives people the hopefulness and inspiration they need to carry on.

She may be right. With an upbeat song, it's easy to feel cheerful and inspired. Joyous celebrations with music have another benefit as well. Young people are taught how to stay safe if the volcano erupts. In addition, they learn about the island's history.

Part of that history includes rock-and-roll music. In fact, before the volcano erupted in the 1990s, Montserrat had a well-known recording studio near Plymouth, its capital city. Many famous artists recorded music there, including Paul McCartney, Eric Clapton, and Sting.

Today, Plymouth lies buried beneath ash and rubble. And yet, the people of Montserrat go right on singing. Their approach to life is impressive and awe-inspiring. Perhaps they can popularize the notion of enjoying life, no matter what happens. That would be a gift to us all.

LEVEL 18 | FLUENT READING 2

Unit 1: Demonstration

The jittery-janglies are on the attack! / Face them head on, don't step back. / They snarl and growl, "You're weak, not strong!" / Just smile and say, "I'll prove you wrong."

Unit 5: Poetry Set

Migration
Humans build highways / for driving back and forth. / Birds prefer flyways / for travel south and north. /

Snowstorm
Snow fell thickly throughout the night, / weighing down tree limbs, making them crack / and fell on power lines, making homes black. / Yet in the morning, this sunlit sight: / A silent world glows wondrous white. / Nature brings both danger and delight.

Earth's Plates
We say we stand / on solid land, / but we know we're really drifting. / We live on plates of Earth's top layers, and / the plates are always shifting.

Trickster
In old Cherokee tales, Rabbit's a funny guy, / trying to get what he wants by acting sly. / Rabbit's sure he's clever; always has a plan / to trick others he's sure he's smarter than. / Sometimes Rabbit succeeds with his deceit; / more often, he is punished for being a cheat.

From the American Folk Song "In the Pines"
The longest train I ever saw / Went down that Georgia line / The engine passed at six o'clock / And the cab passed by at nine.

Dancing
When music puts you on your feet, / you know it's got a dancing beat. / A beat that makes you nod and clap / and sway your hips and finger-snap, / so don't just sit there in your seat– / get up and dance!

Unit 10: Poetry Set

That Wicked Wolf
In a tale of a wolf wearing sheep's clothes, / pigs' houses fall by huffs, puffs, and blows. / Or is that the wolf in Grandma's bed? / I think I've mixed up what I read.

My Shadow
An excerpt from a poem by Robert Louis Stevenson

I have a little shadow that goes in and out with me, / And what can be the use of him is more than I can see. / He is very, very like me from the heels up to the head; / And I see him jump before me, when I jump into my bed.

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Champion Fliers
In the far, far north, Arctic terns / raise their young so that each one learns / how to fly south for the winter stay / TWENTY-TWO THOUSAND miles away! / Have you ever heard / of such a remarkable bird?

Seasons
Last summer, the fiery sun made streets bake / and skin sweat and heads ache. / Day after day of oven-hot air / brought us nearly to despair. / But now as we shiver in winter winds, / we dream of the day that summer begins!

Dormant (Sleeping) Volcano
For ages, / the volcano has been fast asleep. / Suddenly stirred by movements deep, / it trembles and yawns smoky plumes, / opens its eyes, shudders and fumes, / then rages.

Precipitation
Water falling from clouds / might be drops of rain / or icy stones of hail / or crystals of snow / or rain and ice and snow that meet / in a stormy combination—sleet.

LEVEL 18 | ACADEMIC VOCABULARY 2

Units 1–2: Tales of the Folk

Is it human nature to love storytelling? Maybe so, because in every culture of the world, stories have been passed down from one generation to the next. These traditional stories include folktales. Folktales were told aloud before they were ever written down, so it is not known exactly how they began. Throughout the world, there are folktales that imaginatively explain how something came to be; for example, why the moon, an animal, or a mountain looks the way it does. Folktales of different cultures include the same kinds of characters. There may be heroes fighting monsters. There may be wise characters solving problems, tricky characters trying to get what they want, and silly characters behaving foolishly. Sometimes these characters are people, and sometimes they are animals who act like people. In addition, the messages found in folktales are often alike across cultures, with themes such as honesty, fairness, and respect. Some folktales teach lessons, some make listeners laugh—and some do both.

Unit 5: Book Reviews

Many cultures have their own superheroes. One superhero from Japan takes action in Momotarō and the Island of Ogres, a folktale retold by Stephanie Wada. The traditional tale begins when a couple adopts a baby boy they find inside a peach. They name him Momotarō, Peach Boy. Momotarō becomes stronger and braver than any man. He sets off to save people from the attacks of cruel ogres. In addition to great storytelling, this book has wonderful art. This is an excellent book for art lovers and folktale lovers of all generations, whether they are children or adults.

Meet Xander Miyamoto. He is the main character in Margaret Dilloway's novel, Momotarō Xander and the Lost Island of Monsters. Xander is an American boy who likes to write comics. He creates a comic book that tells a traditional folktale about Momotarō. Momotarō is a warrior hero from the culture of Japan. Then, Xander turns out to be Momotarō! And that's a good thing, because Xander needs to be a hero. Xander's father has been captured by monsters, and Xander sets out to rescue him. This great novel explores themes like bravery and imagination. It's a fun read for anyone who loves adventure.

Units 6–7: Dangerous Flights

In autumn, many kinds of birds leave places that have cold winters and fly to warmer areas. In spring, they fly back to raise their young. It is estimated that 20 percent of all bird species make these seasonal migrations. Twice a year, they take long-distance flights.

Along their migration routes, birds face natural dangers. Weather changes may take migrating birds off course. Other birds attack them from the air. When the migrating birds land for a rest, animals hunt them.

Migrating birds also have to deal with human-caused dangers. Migrating birds fly over cities, where they crash into buildings and other high structures. In addition, pet cats kill hundreds of millions of birds every year. But that's not all. Along the way, migrating birds need places to rest and feed, and they must find safe habitats at both ends of their migration. Therefore, the biggest threat to the birds' survival comes from human activities that destroy habitats.

Unit 10: Migrating Birds

Songbirds of the Americas migrate between their southern and northern habitats. The birds mainly fly at night and starlight helps them find their way. Their flight paths sometimes take them over cities. There, the birds are confused by the lights of tall structures, like lit buildings. Therefore, they crash into windows or fly in circles without finding an escape. It's estimated that each large lit building causes 1,000 bird deaths every year. A program called Lights Out asks building owners to shut off lights during the fall and spring migrations. In cities that have adopted Lights Out, fewer bird deaths occur.

As they fly on their migration paths, Snowy Owls are drawn to airports that look like good places to stop. These airfields look just like the open, grassy land of their summer Arctic habitat. However, these owls sometimes cause accidents by flying into airplanes. Therefore, some airports have begun to use a plan to move the owls to safer locations. Wildlife experts are called in to trap the Snowy Owls and release them safely in natural habitats.

Units 11–12: Music Then and Now

What modern form, or kind, of popular music makes you nod your head and move your whole body? Rap is one example. Rap combines fast-spoken words and a musical beat. African-American musicians introduced rap in the late 1970s. The forceful rhythms and clever rhymes of rap expressed ideas and feelings that excited a new generation. Young people sensed that they were hearing an original form of music, never heard before.

Rap wasn't altogether new, though. In the Caribbean nation of Jamaica, deejays talked while playing music records. They had an influence on American rappers. So did African traditions of storytelling with music. Rap is not the only music shaped by other influences, though. In the previous generation, young people welcomed another form of music that sounded exciting and original: rock-and-roll. Like rap, this form wasn't really new, either. Country-and-western songs and African-American blues music made contributions to rock-and-roll. Every form of music grows out of previous forms.

Unit 15: Music

In jazz, musicians have the freedom to express their own musical ideas. When played by a jazz musician, a familiar song sounds different and interesting. That's because regular musical beats are changed so that the pattern is uneven. Jazz began in the early 1900s in the American South. It grew out of a previous form of very popular music called ragtime, named for its "ragged" beat. African-American music called blues was also a big influence on jazz. More recently, rock music has made contributions to jazz. And jazz, in turn, has had an influence on rock and other musical forms.

Imagine an outdoor party filled with the sounds of original and creative music. The musicians play an accordion, a fiddle, a guitar, and a triangle. The singer's song is in French and expresses feelings about a lost love. But the music sounds happy and upbeat. This is Cajun (KAY-jun) music. For more than 250 years, people called Cajuns have lived in southern Louisiana. Cajun music developed from traditional French folk tunes, along with influences from blues and country music. Cajun music is still played and enjoyed today.

Units 16–17: When Rivers Flood

The water levels in rivers rise and fall, depending mainly on rainfall and snow melt. It's natural for rivers to overflow their banks at times. When rivers overflow, the surrounding low-lying land, called the floodplain, becomes covered with water. This overflow is called a flood.

Floods can have helpful effects. In ancient Egypt, for example, farmers depended on yearly floods from the Nile river. The floods brought fresh soil that helped crops grow. Growing and selling crops brought economic growth to Egypt.

However, in modern times, the Nile was dammed and blocked so that the floods would no longer occur. Why control floods with dams? Extra-strong floods often have destructive effects. In floodplains around the world, floods cause damage to houses and other buildings. Roads and bridges may be destroyed. These damages result in economic costs for people and communities. But that's not all. Floods can also be deadly. What can people do to reduce losses in locations that are likely to flood?

Unit 20: Level 18 | Academic Vocabulary 2

When a flooding river is destructive to nearby homes and businesses in the floodplain, people seem surprised. They shouldn't be. A floodplain—the low, flat land near a river—is a poor location for buildings. Flooding causes loss of life and brings economic disaster. Flooding is actually worse in built-up areas; unlike soil, pavement does not soak up water. There is a way to reduce flood damage, though. The land surrounding a river should be made into a natural environment with plants and animals. With the land surrounding rivers back to its natural state, floods will have welcome effects on soil and living things.

Some people argue that the way to reduce the bad effects of floods is to stop building on river floodplains. However, it makes good economic sense to build homes on river floodplains. Housing is needed, and floodplains are sometimes the only land left to build on. Importantly, buildings can be put up in ways that make floods less destructive. How? Well, new houses and other structures can be built up on posts called stilts. Then, flood water flows under them. Existing houses can be raised, too. With planning, it is possible to reduce flood risks and live safely in floodplains.

LEVEL 18 | TEXT CONNECTIONS 3

Unit 1: Demonstration A

Between 1969 and 1972, astronauts landed on the moon and returned to Earth six times. In 2000, astronauts began circling Earth in a low orbit on the International Space Station. Astronaut crews have taken turns on the space station ever since.

What should the next step in human space travel be? Some space scientists say that astronauts should go to Mars.

Sending people to Mars is not a new idea, but the details have yet to be figured out. Astronauts in a spacecraft to Mars would face bigger challenges than those on missions to the moon or to the International Space Station.

Mars is Earth's planet neighbor, but very far away for human travelers. A voyage to Mars and back could take more than 20 months. Astronauts would have to deal with lonely, trapped feelings. They would also suffer bone loss caused by being weightless. This health problem affects astronauts who spend time in space. The most serious risk to astronauts in deep space is radiation. High-energy particles would pass through the spacecraft, damaging human bodies.

Human travel to Mars and back would be costly and dangerous. For now, the only Earth travelers on Mars are robots. Mars still awaits its first human visitors.

Unit 1: Demonstration B

Coral reefs are called "the rainforests of the ocean." Like real rainforests on land, they are home to a rich variety of life—sea life. For example, thousands of different species of fish, outrageously colorful, may live around a single reef.

The rock-like reefs are built by coral, tiny animals related to jellyfish. Each coral is called a polyp. It is a simple organism with a stomach and a mouth surrounded by tentacles that it uses for feeding. It builds a hard skeleton around itself for protection. Thousands of identical polyps live together, their skeletons connecting to form a hard structure. As they live and die, new skeletons are built. The reef grows.

The living coral are closest to the surface. They need sunlight, so their "roommates" can provide a steady diet of food. Each polyp has plant-like algae living with it, protected by its skeleton. The algae use photosynthesis to create food from sunlight, sharing this food with the polyp. They also give the coral reef its color.

Thousands of living things rely on a single reef for food and shelter. When it dies, its inhabitants are suddenly homeless. And coral reefs are dying.

The outward sign that all or part of a reef is dying is something called "coral bleaching." Bleaching results when the algae in the coral are killed or driven out. There are two main causes for this: climate change and pollution.

Coral need clear water and a certain temperature range to stay healthy. Even a rise of one degree in the average water temperature hurts them. Climate change is slowly raising the temperature of the ocean. If the temperature rises around them, coral polyps are damaged and expel their algae. With the algae gone, the reef loses its color and the polyps starve.

Pollution also plays a part. It encourages the growth of harmful algae. This algae covers the top of the reef, blocking out sunlight. This kills the good algae and soon kills the coral.

A report released in June 2017 announced that three quarters of coral reefs worldwide have suffered extreme damage. Experts predict that coral reefs could disappear completely by 2050. But scientists have been working on the problem. They are looking for ways to move heat-resistant algae into the reefs. They are finding ways to rebuild damaged reefs. With skill and luck, they will help save "the rainforests of the ocean."

Unit 1: Flamingos in the Snow

For most people, flamingos bring up images of hot, tropical lagoons. The most common flamingo has pink feathers and stands as tall as an adult person. Its curved, black-tipped beak is bigger than its head. Its neck and legs are thin and extremely long. Flamingos are usually found in warm climates near shallow bodies of water.

So imagine the surprise of two young Russian boys in Siberia. They were ice fishing in November. The temperature that day was well below zero, and it was snowing heavily. Suddenly, the boys saw a strange-looking pinkish bird in the sky. It slowly circled lower and lower until it fell onto the snow and lay quietly.

Seeing that the bird was still alive, the boys got their father. He carried the flamingo back home. After warming up and getting food, the rescued bird explored the family's apartment. But, when the flamingo tried to bite the family dog, it was moved to a local greenhouse. Later, it was named Phila and got a permanent home at a nearby zoo.

Was this a strange one-time event? No! A year later, in nearly the same spot, the same thing happened. Again, the flamingo was rescued. It was sent to the same zoo to live with Phila.

According to flamingo expert Dr. Marita Davison, some flamingos can live in colder climates, including those that nest in an Asian country called Kazakhstan. But these birds have an instinct that tells them to migrate in November when it starts to get really cold. They usually head south to the warmer climate of Iran. To end up in Siberia, one of the coldest regions in the world, the flamingos would have to fly the same distance in the opposite direction!

Dr. Davison is also surprised that the birds were alone when they landed. Flamingos usually travel in large flocks. Dr. Davison suspects that the rescued flamingos fell out of larger flocks that were flying unseen in the clouds. In fact, a rare sighting of a flock was reported in Siberia in 2015.

Scientists have theories for why the flamingos flew in the wrong direction. But no one knows for sure.

Unit 2: How Do Flamingos Migrate?

Many flamingos migrate, or leave and return to the same nesting areas each year. They use their eyes to guide them. Birds that travel during the day use the position of the sun and landmarks like mountains and lakes to make sure they are flying in the right direction. Flamingos, on the other hand, usually travel at night. They use the patterns of the stars as a guide.

Like other birds, flamingos have small bits of iron deep inside their ears. The iron responds to Earth's magnetic forces, which are stronger toward the north and south poles. Flamingos sense the two opposite directions by feeling a magnetic pull. Still, flamingos can't always tell if a pull they feel is coming from the north or south. Some flamingos may think they're flying south when they're actually flying north!

Some scientists think that birds remember "maps" of smells along their journey. This smell map helps many birds remember familiar stops as they travel. Flamingos, however, have a very poor sense of smell, even though their beaks are larger than their heads! They must use their other senses to help them migrate.

Many birds learn where to migrate from their parents. Young birds travel with more experienced members of the flock. This way, they can learn the route to and from their winter and summer nesting areas.

Unit 3: Interview with an Expert on Flamingo Migration

Interviewer: I'd like to introduce Dr. Burman, an ornithologist, or bird expert. He's been studying the case of the lost and lonely flamingos in Siberia.

Dr. Burman: Thank you for having me. I just returned from Siberia where I was meeting with other scientists about these confused flamingos. But these are not just recent events. There are reports from over 100 years ago that describe November sightings of flamingos in Siberia.

Interviewer: Why do these events always happen in November?

Dr. Burman: November is the time of year when flocks of flamingos leave their nesting areas in Kazakhstan to migrate—or move—south for the winter. They usually fly south to Iran. You can see on the map that Kazakhstan is a country between Siberia and Iran.

Interviewer: But why do some birds get so turned around and fly in the wrong direction?

Dr. Burman: These wrong-way flamingos may be an example of what we call reverse migration. Reverse migration is when birds fly in the opposite direction of their usual route. This has happened to many other types of birds.

Interviewer: Can you explain what happened to these flamingos?

Dr. Burman: Take another look at the map. Compare the distance flamingos usually fly when they migrate normally to the south, with the distance the lost flamingos migrated when they flew north to Siberia. The distance is the same! It's about 1000 miles (1600 km) in either direction. The birds' only mistake was to fly north instead of south—the exact opposite direction.

Interviewer: What made the flamingos fly in the wrong direction?

Dr. Burman: One idea is that the flamingos may have been young birds that had never migrated before. Flamingos also tend to fly at night. They normally use the stars to help them find their way. These stars may have been hidden by clouds when the wrong-way flamingos made their journey. Other scientists think that shifting winds may have taken the flamingos off course. We have a lot more research to do. Stay tuned for more information!

Units 5–6: Anansi and the Cook Pots, a tale from western Africa

Anansi loved food, but he was far too lazy to cook. Instead, this sly spider spent his time trying to cook up clever ways to taste what his friends were preparing.

One afternoon in his small village, Anansi noticed a delicious aroma coming from his friend Rabbit's house. Rabbit was stirring greens in a large black cook pot and kindly invited Anansi to stay for lunch. Anansi wanted to eat with Rabbit, but he also wanted to find even more to eat, so he spun a web, tied one end to the cook pot, and the other end to one of his short, thick legs. He asked Rabbit to pull on the web when the greens were ready, and Anansi would hurry back.

Next, Anansi visited Monkey's house to see what he was cooking. "Good friend, join me for lunch when it's ready," Monkey offered. Anansi wanted to find even more to eat, so he fastened one end of a web to Monkey's cook pot and the other end to another one of his thick legs. "Just give a tug when lunch is ready," he told Monkey and waved goodbye.

Just down the road at Hog's house, Anansi smelled sweet potatoes cooking. Hog graciously offered to share his meal when it was ready, but just as before, Anansi wanted even more to eat. Again, he fastened a web to the cook pot and to another one of his short legs.

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Anansi repeated this trick at the houses of his friends Tortoise, Hare, Squirrel, Mouse, and Fox. Soon, all eight legs were connected by webs to eight cook pots.

Down by the river, Anansi was dreaming of the feast he would soon be enjoying when he felt a tug on one leg. Then, there was a tug on another leg, and another, and another. Anansi's legs were pulled and stretched in eight different directions! He jumped into the river to wash away the webs, and when he climbed out, his legs were long and skinny. Anansi regretted being greedy, especially now that he had nothing.

Unit 6: The Monkey and the Pea, a tale from India

Once there lived a king who ruled over a large and bountiful country. The king was proud of his rich lands and mighty army, but still he wanted more. So, he decided to conquer a small and poor country and add those lands to his kingdom. Then, he would be even richer and more powerful.

The king gathered his army and departed for the poor little country. The soldiers in their fine uniforms marched all day until they came to a forest where they could camp for the night. They cared for their horses, filling a feeding trough with tasty peas.

Many monkeys lived in the forest, and one of them eyed the peas hungrily from a nearby tree. The monkey imagined how delicious the peas would taste. As soon as it was safe, he darted out and scooped up as many peas as his furry hands could hold. Then, he scampered back to the tree to find a high branch where he could sit and enjoy his dinner.

Before the monkey was halfway up the tree, a single pea slipped out of his hand. He desperately grabbed at the falling pea and—alas!—dropped all the peas he had been holding. The sad monkey watched the horses gobble up all the peas on the ground. Too late, the monkey understood that in trying to grab more than he needed, he had lost everything.

The king had been thoughtfully regarding the greedy monkey. He said to himself, "I do not need to learn my lesson the hard way like this monkey. I have all that I need in my own kingdom." And, with that new knowledge, the king collected his soldiers and marched home the next morning.

Unit 7: Map of Greedy Characters in Traditional Tales

In a traditional tale from India, a king learns a lesson after watching a greedy monkey. The monkey tries to grab more food than it needs and loses everything. The king then sees the importance of being happy with what he has.

Anansi the spider is a character in many traditional tales from western Africa. In one story, Anansi greedily tries to get more than his fair share at lunchtime. He ends up with nothing at all.

In one traditional tale from Hawaii, a native chief orders local fishermen to give him everything they catch. The fishermen grow tired of starving while the chief feasts. They fill his canoe with so many fish that it pulls him down to the bottom of the sea.

In a Greek myth, King Midas wishes that whatever he touches turns to gold. His daughter becomes a gold statue. Then, the king learns that he has lost what matters most to him.

A stonecutter in a traditional Japanese tale makes many wishes, greedily using each one to become more powerful. He wishes to be the sun, but when that is not enough he wishes to be a rain cloud that blocks the sun.

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Then he wishes to be the stones of a mountain that no rain can move. Finally, the man understands the power of a simple stonecutter who can take blocks of stone from a mountain.

In a Native American legend, a girl is told that her life will be only as full and beautiful as the ear of corn she chooses from her cornfield. The girl greedily looks for the perfect ear of corn. She wastes her life in search of something that does not exist.

Units 9–10: The Blizzard of 1888

This passage describes a true event that took place more than 100 years ago. The author reviewed and used information from a variety of sources, such as diary entries, newspaper articles, and museum artifacts.

In 1888, William Steinway was living in New York City when a blizzard hit the area. It raged for days with fierce winds and heavy snow. The city was paralyzed. Few people could get to work. Steinway's piano company and many other businesses were closed. Schools were also closed. High snow drifts blocked doorways, sidewalks, and streets. The city's trains could not run on tracks covered with ice and snow.

Workers from one of Steinway's factories were able to dig a tunnel through the snow to the stables where the company's railroad horses were kept. In better weather, these horses pulled railroad cars along tracks around the city every day. During the blizzard, the horses almost starved when no deliveries of hay or oats could make it through the snow. Steinway's son George took on the Herculean task of making his way through the dangerous storm to buy oats from the city stables. George and his father knew the horses would be needed as soon as the snow could be cleared.

The blizzard also hit one of Steinway's piano factories. The strong winds lifted the factory roof, and it was nearly blown off. Workers tried to make repairs during the storm, but the wind and freezing temperatures hampered their efforts.

Steinway remained calm despite the damage done by the blizzard. He estimated the time and money needed to recover and began planning. Steinway knew he was more fortunate than many people who would need to use what little money they had just to survive the storm.

Steinway predicted that changes would need to be made for the city to survive another storm such as this. He supported plans to move the railroad to a new location: underground. This was one of the first steps toward building the subway systems we use today.

Unit 10: The Storm of the Century

There were 14,898 people stranded on trains in New York City during and after the blizzard.

Zero trains could operate on icy tracks during the storm.

Hungry passengers trapped on a train discovered and ate 300 pounds (136 kilograms) of bacon and sausage.

In a single day following the storm, one store sold 540 pairs of gloves.

Workers removed 12 million cartloads of snow from New York City streets.

There were 207 miles (333 kilometers) of snow-covered streets in New York City.

It took four months for some snow drifts around New York City to melt.

Unit 11: William Steinway's Diary

March 12th, Monday
During the night the most fearful snowstorm sets in I ever experienced. George & I have to wade knee deep in the snow to get to [work]. The banks are crippled, no business is done. All cars in New York & vicinity stop, accidents on the railroad occur. I have a terrible time getting to my house at 6 PM. George, my wife & daughter return covered with snow.

March 13th, Tuesday
Snowing stopped but intense cold has set in, nearly freezing me to death on the way. Return in sleigh home at 11:30 PM safe and sound.

March 14th, Wednesday
It is again snowing hard. All business is suspended [because] the workmen cannot reach factories, schools stopped, our railroad horses starving for want of food. Send George out to buy oats. Learn from Dave Horn & Burkard that the roof of our key making factory was nearly blown off. Home in the evening, working.

March 15th, Thursday
At last mails begin to arrive again, and our railroads are using sleighs.

Units 13–14: *Under the Mambo Moon*

Excerpt from a book by Julia Durango

On summer nights / Papi lets me help out / at the music store. / Papi says you can / read people's souls / by the music / they listen to; / that hearts / fly home / when the music's / Just Right. / Papi says / people come here / to buy dreams / and memories.

Mrs. Garcia / gets off at the bus stop / in front of the store. / She walks slowly, / one hand on her back, / trying to push away an ache. / She's been cleaning houses / all day, / but still she smiles / and stops to talk.

Mrs. Garcia: / On the day of my quinceañera, I wore a gown / of blushing pink / and a gold tiara. / The tiny rosebuds on my cake / matched the real ones / in my bouquet, / and my gifts reached the ceiling. / A handsome mariachi band / played all afternoon / and serenaded me with / "Las mañanitas." / On the day of my quinceañera, / I was in Mariachi Heaven.

Unit 14: *Under the Mambo Moon*

Excerpt from a book by Julia Durango

Dr. Solís enters, / his white hair / sticking out all over. / "Hey, Doc Einstein!" / João calls. / Dr. Solís chuckles / and wipes his brow / with a linen handkerchief. / Catalina arrives / with mangoes / from the corner grocery. / She sneaks up / and gives Dr. Solís / a peck on the cheek. / João blushes. / Tia Pepa hurries in, / her arms full of shopping bags. / Catalina says, "Hasta pronto," / and hides in the aisles.

João follows. / Even Dr. Solís makes a beeline / for the back of the store. / Tia Pepa likes to talk. / Dr. Solís: / Just as the bomba drummers / call to each other, / challenging the dancers / to reply, / a salty Puerto Rican breeze / wends its way north / and whispers in my ear. / And just like the dancers / who answer the call, / heeding the summons / of the beating drums, / an old man becomes / young again and remembers / his island home.

Unit 15: Music from Latin America

The beats of bomba drums in Puerto Rico are a mix of music from Africa, Spain, and the Taino people. Drummers play two barrel-shaped drums, one large and one small. The drums sound like they are calling to each other and to dancers.

In Mexico, the sounds of violins, trumpets, and guitars can be heard in mariachi music. Mariachi players wear short jackets decorated with silver buttons. They often play at birthday parties and special events.

Argentina is famous for its tango dancers and music. Tango is a two-person dance. The dancers show off flashy walking steps, high lifts, and low dips. The best tango dancers compete in the World Tango Championship.

Mambo is a style of music that got its start in Cuba in the 1930s. Mambo dance bands use guitars, conga drums, flutes, trumpets, and a piano. Some bands also use a guiro (a gourd with ridges that is scraped with a stick).

Samba is a popular music that began in West Africa. Many large cities in Brazil have samba schools. Students work all year on costumes, music, and dances. Then, they perform in parades during Carnaval.

LEVEL 19 | PASSAGE FLUENCY 6

Unit 1: Quentin's New Friend

Fred had always enjoyed bird watching and knew many interesting facts about birds. When he moved from his house in the country to a tall apartment building in the city, Fred assumed he would need to find a new hobby. He put his binoculars on the top shelf of his closet and sighed. Just then, Fred's father knocked on his bedroom door. "I'm going to the supermarket down the street and thought you might want to come along" he offered. Fred was so bored that he eagerly agreed to accompany his father. Quentin, Fred's next-door neighbor, was sitting on the steps of the apartment building when Fred and his father came out. Quentin was drawing in a notebook, but he glanced up when he saw them and held his finger in front of his lips.

"Look over there," Quentin said quietly. He pointed to a nearby tree where a small red bird occupied a nest. Then, he showed Fred his notebook. It was filled with drawings of birds. Quentin had been working on a detailed illustration of the nest and had drawn five eggs inside. "I think they're about to hatch," Quentin explained. Fred whispered something to his father who smiled and nodded. "I'll be right back," Fred told Quentin.

When Fred returned, he was carrying the binoculars he had put away earlier. "We're going to need these," he told his new bird-watching friend. Quentin grinned eagerly, motioning for Fred to join him on the steps. Fred's father waved goodbye with a smile, leaving the two boys to get started on their bird-watching adventure.

Unit 2: The Purpose of Sleep

We humans spend about one-third of our lives asleep, but scientists have yet to discover why we spend all that time sleeping. The exact purpose for our nightly rest periods remains a mystery, but we obviously need our rest. Just how important is sleep? You would probably die if you went without food for two weeks. However, you would probably die in ten days if you went without sleep! We need the most sleep when we're babies. Children and teenagers normally require about ten hours of sleep, while adults need a bit less. The champion sleeper, the koala bear of Australia, spends 22 hours a day in dreamland!

Why do we sleep? Here are a few ideas that might explain the reason. Perhaps sleep helps the brain organize the information it receives each day. It makes new connections or gets rid of unimportant details. Sleep also helps the body recover from the activity of the day. We do know the body repairs itself while we sleep. It's possible that all creatures need sleep to protect themselves. Sleeping saves our energy for when we need it and it keeps us still when moving around could be dangerous. So we humans, who can't see well in the dark, find a safe place to rest each night.

Unit 3: Whale Watching

My first whale watch wasn't much fun. When my parents and I boarded the boat, we learned that the sea was rough that day and we might get seasick unless we took motion-sickness medicine. Mom, Dad, and I took it, but many boat passengers foolishly didn't, saying they never got seasick. After we set out, we saw two whales far off, but when our boat had almost reached them, both whales disappeared. They popped up again in the distance, while our boat rocked in the choppy waves. As soon as we spotted the whales again, they disappeared. This happened all afternoon as most of the passengers got terribly seasick!

My second whale watch was spectacular! Once our boat got out to sea, a finback whale surfaced beside us. It was gigantic, almost as long as our boat! Everyone was delighted and taking pictures. Later, we encountered a pod, or group, of humpback whales. Some whales were feeding and they would form a circle underwater, slowly emerging with their mouths open. One whale had a baby that looked small and adorable, even though it was bigger than any of us. Another whale would leap out of the water just for fun. Compared to my disappointing first whale watch, this experience really was incredible!

Unit 4: Reindeer Herders

In the far north, few trees grow in the lands called the tundra. The tundra is dry and cold, and snow covers the ground for most of the year. In winter, icy winds feel as sharp as knives. It is dark, too, because the sun does not rise at all. It is a challenge to live in the tough conditions of the tundra, but people have lived here for thousands of years. They are the Sami (SAH-mee) people, and their homelands in the far north include areas of tundra. People cannot plant crops in the tundra because the soil is frozen all year. Like other Arctic peoples, the Sami fished, trapped, and hunted for food. But they also herded reindeer. Sami life depended on the reindeer.

The Sami used reindeer for transportation, training them to pull sleds. They drank reindeer milk and ate reindeer meat. They made their summer tents and their warm clothing from reindeer hides.

Today, some Sami continue traditional herding. They move with their herds as the reindeer migrate to graze on moss and lichen. But technology has helped the Sami herders in the cold climate.

Now, many have the comforts of modern life, including electricity and warm houses. They can use GPS collars to track their reindeer on smartphones. Also, the way they travel has changed. Today, Sami herders cross the tundra in snowmobiles.

Unit 5: Rare Comet Sightings

A comet is a giant chunk of rock, dust, and ice, often described as a dirty snowball. Most comets exist beyond the edge of our solar system, but sometimes one journeys into our neighborhood and heads for our sun. As it approaches, the sun's heat melts the ice and releases gases from the comet. This creates a huge cloud around the comet's core. Sometimes a comet's cloud is bigger than some planets. Powerful winds from the sun push some of the cloud particles back to form a tail. Most comets don't survive this journey and they melt like snowmen before they finish circling the sun.

When a comet passes near Earth, it creates a dramatic streak of light in the sky. This astonishing event happens rarely. So when one arrives, it's a special occasion. An enormous comet appeared in March of 1997. It was perhaps seven times bigger than the average comet. Because of its size, Hale-Bopp was easily visible and sky watchers could view it without a telescope. Hale-Bopp was named for the scientists who first spotted it: Alan Hale and Thomas Bopp. This comet is on a journey around the sun that will take 2,040 years. It won't be visible again in our night skies until the year 4397.

Unit 6: The Fuss about Seasons

Sandra moved up north in late summer. It seemed as if everyone she met said the same thing. "Wait till fall comes. You'll be impressed." Sandra just smiled and nodded. She had always lived where it was warm year round, but she knew about places with four seasons and had seen photos of colorful trees in autumn. She thought, "I know what fall looks like." Local weather reporters talked about leaf peeping and at first, Sandra didn't know what that meant. Then she figured out that leaf peeping was traveling around just to look at autumn leaves. Sandra thought, "People up here sure make a fuss about fall."

When Sandra moved up north, she heard a lot of talk about fall. As summer ended, she noticed green leaves beginning to change color and weeks later, Sandra joined a neighbor on a walk in the woods. All around, leaves floated down, fluttered and swirled in the breeze and covered the path like a colorful carpet. Sandra suddenly understood why the season was called fall. From a hilltop, Sandra saw a fiery show. Colors exploded from the hills and valleys with reds and oranges blazed beside golds, yellows, and even purples in a breathtaking display. "So this is what all the fuss is about," Sandra thought. "Now I know why."

Unit 7: Lunch Bag Science

For a school science project, Charlie left damp bread out until it became moldy. Tomorrow, he would tell the class about molds—what they are and how they live, but mostly he wanted to show the moldy bread. The slice of bread was coated with puffy white bumps and dark spots. It looked disgusting and Charlie thought it would be fun to hear kids say "Gross!" and "Ugh!" Charlie put the moldy bread in a brown paper bag and left it in the fridge. In the morning, he grabbed a brown paper bag from the fridge and headed to school. He had taken the wrong bag.

At school, Charlie opened the bag to glance at the moldy bread before his science presentation, but there was no bread in sight! He sprinted over to the computer to do some quick research and then declared he was ready to give his report. "In this bag is a container of tiny organisms," he said to the class. "Some people mistakenly call them germs, but they are technically called bacteria. These bacteria have attacked milk and turned it thick and sour." As a dramatic finale, Charlie dipped a spoon into the bag and brought a white glob to his lips while his classmates watched curiously. As he ate it, he heard exclamations of "Ugh!' and "Gross!" Then Charlie held up the container and revealed the truth. It was yogurt!

Unit 8: Maddy's Weekend

Early Saturday morning, Maddy's mother gently woke her. The sun was still below the horizon, but Maddy rolled out of bed anyway. She, her mother, and her stepfather Joel were going hiking. Early morning was the best time of day for desert hikes because the temperature was still cool. Together, they drove to the start of the hiking trail, put on their boots, and started walking.

All along the trail were native plants: creosote bushes, ocotillo shrubs, and all kinds of cacti. Maddy loved studying their unique colors and shapes. When it got too hot, they went back home, where Joel cooked them a delicious lunch.

The next day, Maddy's father rang the doorbell. It was time for Maddy to go spend the week at his house.

Maddy was used to going back and forth between her parents' houses. She put her bag in the back of her father's car. Then, they drove to the local art museum. Together, they looked closely at all the sculptures and paintings; Maddy loved studying their colors and shapes, too.

On their way out of the museum, Maddy's father stopped at the gift shop and bought her a set of watercolor paints. Maddy was so excited! Over dinner with her father, she described her hike from the day before. The afternoon at the art museum had inspired her to paint it.

"I'm going to use the watercolors to paint the plants of the desert at dawn," Maddy declared.

"I'll hang the finished work front and center on the fridge," her father promised. "And don't forget to paint one for Mom and Joel, too."

Unit 9: Trading Places

"Aniyah lived on the tenth floor of an apartment building, high above the busy city streets. For one week last summer, she left the city to visit her aunt and uncle on their small dairy farm in the country. In the country, Aniyah had a variety of new experiences. She drove a tractor, rode a horse, and ate fresh corn on the cob that she picked right off the stalk. She swam in a lake instead of the community pool. Aniyah had a great time, except for one thing.

continued on next page

"I had trouble sleeping there," Aniyah told her grandparents when she returned home. "The crickets made a racket with their chirping, the frogs wouldn't stop croaking, and the owls hooted endlessly. The country was too noisy for me!"

"Aniyah's cousin Marcus lived on the dairy farm, but he wasn't there when Aniyah was visiting. Marcus was spending that week with his grandparents in their city apartment. In the city, Marcus did many things he had never done before. He sped through tunnels on an underground train. He rode an elevator to see the view from the top of the tallest skyscraper in the city. He visited a museum of science that was so vast, he didn't have time to explore it all. Marcus had a great time, except for one thing.

"I had trouble sleeping there," Marcus told his parents when he returned home. "Traffic never stopped. Car horns beeped and sirens screamed all night long. The city was too noisy for me."

Unit 10: Food Advertising

Have you ever looked closely at an advertisement for food? The burgers bulge with juiciness, fruits and vegetables gleam and you can almost feel the warm steam rising from the soup. These foods look delicious, but they wouldn't taste delicious! Foods in ads are "styled" to look great when photographed. Food stylists use special effects to make meats look plump. They blow smoke to add steam, coat foods with shiny oils, and even add hairspray to fix food items on a plate. Food styling is just one of many methods used to make products appealing. The purpose of advertising is to attract buyers. How much do you know about the methods that advertisers use?

Ads are everywhere—online, in print, on TV, even on clothing. Ads give information, but they also appeal to feelings and wishes. Take toy commercials. The child actors laugh joyfully as they play with the toy. Is that how real-life kids play? Probably not, but the ad suggests that the toy will bring constant excitement. An ad shows a loving family enjoying a brand of breakfast cereal. The ad suggests that buyers of that brand will share in the warm feelings. Words such as sleek, cool, silky smooth, and affordable luxury are in ads. They're carefully chosen to suggest positive feelings.Knowing how ads work helps people make thoughtful choices about the products they buy.

Unit 11: Dinosaur Bones

Myron and Jimmy sat on the ground at Reese Park, and they watched workers digging a hole for a new swimming pool. Myron saw something yellowish-white on the ground, so he picked it up and looked closely at it. "This bone must have come from the dug-up earth," he said. After studying it more, he said, "It's a dinosaur's leg bone." "It's awfully small for a dinosaur leg," said Jimmy. "It's from a little dinosaur," said Myron. "It looks like a chicken bone," said Jimmy. Myron just nodded knowingly as he pointed to the bone and said, "Dinosaur." Jimmy had never met anyone who knew more about dinosaurs than Myron.

Even though Jimmy knew his friend Myron was a dinosaur expert, it still seemed unlikely that the bone came from a dinosaur. While the boys debated back and forth about the bone, a construction worker sat nearby eating lunch. After he left, Jimmy picked up something that the worker had dropped on the ground, studied it curiously, and said to Myron, "This looks just like the bone you found." "Another dinosaur bone," said Myron. "It's a chicken leg bone," Jimmy insisted. Myron said, "Dinosaur experts say that before birds were birds, they were actually dinosaurs. So, that means..." "A chicken is a kind of dinosaur?" Jimmy asked. "A modern version," answered Myron.

Unit 12: Time Capsules

A time capsule is a strong container that holds objects from the present time. It is buried underground and is not to be opened until a set number of years or centuries have passed. When people of the future dig up the time capsule and view what is inside, they will learn about the people who buried it and what life was like back then. That's the idea, anyway. Thousands of time capsules lay buried right now. The problem is, nobody knows where they are, and even when time capsules are found and opened, they often hold objects that are not rare or interesting. Newspapers and train schedules are commonly inside.

In 1976, the United States celebrated its 200th birthday. The US President opened a time capsule that had been sealed on the nation's 100th birthday. The contents, which included a tea set, did not cause excitement. In 1957, people in Tulsa, Oklahoma, buried a time capsule that included a new, ultra-modern car. Fifty years later, the time capsule was opened, but water had seeped inside, and the car was a rusty wreck. Time capsules almost never offer understanding of the past. So why make them? People enjoy thinking about what is important in their own time and how they want to be remembered. Maybe that's why time capsules are still being made and buried.

Unit 13: Famous Shipwrecks

On September 4th, 1622, the Atocha set sail from Cuba to its home country of Spain. Two days later, the ship sank in a hurricane and only five of the 265 people on board survived. Also lost was the ship's cargo, including enormous quantities of silver, gold, and gems. For the next 60 years, Spanish searchers tried to find the wreck but failed. The wreck of the Atocha lay off the Florida coast, but nobody knew where. Then, in 1969, treasure hunter Mel Fisher began a costly search operation. After 16 years, he and his team found the wreck—and made a fortune. Today, treasures from the Atocha can be seen in a Florida museum.

On May 4, 1866, the General Grant set sail from Australia to England. Seven days later, while sailing toward the Antarctic, it crashed against island cliffs. No people lived on these cold, harsh islands. The ship drifted into a cave and sank. On board were 22 crew members and 61 passengers and many of them drowned. Nearly two years passed before ten survivors were finally rescued. The cargo on the General Grant included gold from the gold fields of Australia. What happened to it? Treasure hunters have been searching for it from 1868 until the present day. Gold from the General Grant still lies in dangerous waters, waiting to be found.

Unit 14: Greek Gods

The Greek hero Hercules was the strongest man in the world. He served a king who ordered him to perform difficult labors. The king demanded that Hercules bring him golden apples from a secret garden. The apples belonged to the goddess Hera and were guarded by three sisters. Hercules did not know where the garden was, but he knew that the three sisters' father was Atlas, the giant who held up the heavens on his shoulders. Hercules asked Atlas for help and Atlas agreed to visit the secret garden and request the apples from his daughters. He told Hercules, "Hold up the heavens while I am gone." Hercules placed the burden on his own back.

The giant Atlas held up the heavens as punishment from the god Zeus. He passed that weighty burden to Hercules while he went off to get the golden apples that Hercules needed. But Atlas was not eager to take back his burden. When he returned with the golden apples, he said to Hercules, "I'll deliver these apples to your king. Keep holding up the heavens.

"Hercules said he was willing but wanted to put a pad on his shoulders first. Atlas agreed to hold the heavens for a moment while Hercules made the adjustment. Hercules shifted the heavens onto Atlas' shoulders, picked up the golden apples, and proceeded to the king.

Unit 15: Drawing in 3D

Suppose you want to draw a picture of a scene from real life. Objects in the real world aren't flat like a piece of paper. They have three dimensions—length, width, and depth. How will you add depth to make your scene 3D? Think about size and position. In real life, close objects appear larger than distant ones. The bottom of the page, or foreground, is where the largest items should appear. A towering tree drawn at the bottom of the page, for instance, will seem closer than a smaller tree in the middle of the page. As viewers' eyes move up the page, their brains think they're going deeper into the scene.

How else do artists "trick" viewers into thinking that a flat drawing is a 3D scene? If you've ever drawn a cube, you've probably used slanted lines to make the cube appear solid. Slanted lines are a technique that artists use to add depth to a scene. Imagine that you're looking down a long, straight road. The two sides of the road appear to slant toward each other and meet at a distant point, called the vanishing point. In your drawing, you can lightly pencil slanted lines toward a vanishing point. The objects in your scene can slant along those lines. You'll have made a 3D scene on a 2D sheet of paper.

Unit 16: Hot Art of Glass Blowing

Humans have been making glass for thousands of years. In fact, glass beads have been found in Egypt that are more than 3,500 years old! But the art of blowing glass started about 2,000 years later in an area that is now Israel and Lebanon. Since then, the method has spread throughout the Middle East, into Italy, and across the world. Amazingly, the process of glass blowing hasn't changed much over the centuries.

Can you believe that clear, smooth glass is mostly made from gritty sand? That may seem strange, but it's true. Only white sand with tiny grains is used to make glass. The tiny grains are combined with chemicals and then heated in a furnace until the mixture reaches a very high temperature."

"The sand and chemical mixture used to make glass becomes a hot, thick orange-red liquid. At this point, it is called molten glass. This molten glass is collected on the tip of a metal tube and rolled into an even shape. The glassblower then blows into the tube to create a large bubble inside the molten glass.

The glassblower uses a variety of tools to shape the glass, which cools quickly and needs to be reheated often. When the shape of the glass is complete, its bottom is flattened on a paddle. The finished shape is carefully broken off the tube, and the broken end is melted and smoothed. The blown glass is placed in another furnace where it slowly cools. Once the piece has cooled, it's ready to sell… or keep!

Unit 17: Garlic's Super Powers

If you watch scary movies, you know what plant keeps vampires away—the garlic plant. Vampires won't go near garlic because the smell is sickening to them. So wise people in vampire films hang garlic all around their homes. Every window and door has the plant dangling from the top. Yes, garlic is bad for the vampires in films and in books, but it is absolutely fantastic for real live humans! Garlic belongs to the family of vegetables that includes onions and leeks. For thousands of years, this powerful plant has been used in cooking and as a medicine. Yes, it tastes delicious when added to food. But it has many health benefits as well.

Garlic bulbs grow underground. Each bulb, called a head, consists of several sections, known as cloves. One garlic head may contain anywhere from four to 20 cloves. Garlic tastes good in food and is good for your health. Various scientific studies have shown that garlic helps keep your heart healthy. It can help you fight off the flu, chicken pox, and the common cold. It can kill certain germs. Each garlic clove has an outer covering that must first be removed. Crushing or chopping up a clove releases the strong aroma and flavor that garlic lovers love. But be sure to brush after meals. Eating garlic can make your breath smell exactly like garlic!

Unit 18: The Piano Recital

It was a blustery winter evening outside but Yuki and her classmates were toasty in the crowded school auditorium. Their winter concert had finally arrived and Yuki would soon be performing a piano solo for the friendly, but intimidatingly large crowd.

The first performer, Parker, was playing now, but Yuki felt too nervous to focus on the music. She consciously tried to slow her breathing down. "I feel nervous, but I am prepared," she thought as she exhaled slowly. "Even if the performance isn't flawless, I'm going to survive."

All of a sudden, she heard the audience clap. They were applauding for Parker, who had just finished his musical selection. It was now her turn! Yuki took a deep breath and tried to look confident as she walked onto the stage."

Yuki set her sheet music on the piano stand with shaky hands. She took another deep breath as she sat down on the piano bench and placed her fingers lightly on the keys.

"Yuki," she told herself, "you've practiced this piece over and over again and you know what to do." She decided to concentrate on the music and turn her attention away from the crowded audience. With a final deep breath, Yuki began to play.

She had chosen a piece called See-Saw by a composer named Bartok. Her hands skillfully danced across the keys. Before Yuki knew it, she was done and had made only two small mistakes. She proudly faced the audience with a smile and a small bow as they loudly applauded for her.

Unit 19: Alvin Ailey

Alvin Ailey was a dancer, teacher, and activist. He was also a choreographer, which means he created new dances. He started one of the most famous dance companies in the world, and provided opportunities in dance for people of all backgrounds.

Ailey was born in Texas in 1931. As a child, Ailey loved attending church services, which were filled with gospel music and lively spirituals. When Ailey was 12, he and his mother moved to Los Angeles. He took dance lessons from Lester Horton. Horton had one of the first racially integrated dance companies in the U.S. This means he welcomed dancers of all races. As a young African American dancer, Ailey was impressed because most schools, churches, and businesses did not accept people of all races. When Horton died, Ailey took over as the director of Horton's dance company.

In 1954, Ailey moved to New York City. He was eager to create more dances and he wanted to make room in the world of dance for African American artists. He started a dance company called The Alvin Ailey American Dance Theater.

Ailey's dances highlighted African American experiences. They told stories based on African American history and experiences from Ailey's childhood. He included African American music forms: spirituals, gospel, jazz, and blues. Some people felt that only African American dancers should be part of Ailey's company, but Ailey disagreed. Like Lester Horton, Ailey welcomed dancers of all backgrounds. People around the world were moved by Ailey's dances.

Ailey opened schools so children could take lessons in dance and the arts and because he truly believed that dance is for everybody.

Unit 20: The Night Sky

Stars are scattered across the universe and over a thousand of them fill our night sky. Long ago, people connected some of these glittering dots to form patterns. We call these patterns constellations. Looking for a constellation is a quick way to locate a particular star. In the past, constellations served another purpose for farmers. As Earth orbits the sun, the night sky changes and different constellations are visible at different times of the year. Early farmers used constellations like calendars, to identify the season. If they saw a certain constellation, it was time to plant crops. In 1929, scientists organized stars into 88 constellations so that each star in the sky belonged to just one constellation.

What constellations are easy to find in the night sky? It depends on where you live. In the northern hemisphere, most people are familiar with Ursa Major, the Great Bear. This constellation reaches its highest point in summer. It can be found directly over the north pole. You'll have a hard time finding it in winter, when the Great Bear drops below the horizon. Even better known is one part of this constellation. This pattern of seven bright stars looks like a square with a crooked tail. It goes by various names in various countries. In the United States, it's known as The Big Dipper. In Great Britain, it's sometimes referred to as The Wagon.

LEVEL 19 | PASSAGE COMPREHENSION 6

Unit 1: Demonstration

In 1818, the English writer Mary Shelley published a story that became her best-known work. She wrote about a scientist who combines parts from dead bodies to build a monster. The scientist, whose name is Frankenstein, then uses electric current to bring the monster to life. The monster looks too different and frightening to join human society, and he is terribly lonely. At the end, the monster destroys his creator. English speakers today use the term Frankenstein or Frankenstein's monster to name something that people make and then cannot control. Shelley's story is considered the very first work of science fiction. Writers of science fiction imagine what might happen as a result of developments in science and technology.

Ever since Mary Shelley wrote her famous story about the Frankenstein monster, science fiction writers have explored a similar theme: Human technology can lead to destruction. Science fiction also explores the opposite theme: The future will be better because of advances in technology. Writers of science fiction imagine time travel, aliens, space travel, and machines that don't yet exist. The setting is often the future--on Earth, on another planet, or in a spacecraft. Science fiction is a genre, or category, of literature, though not all the stories are in books. Science fiction is also popular in movies and video games. Science fiction is for everyone who looks at modern technologies and wonders, "What would happen if...?"

Unit 1: Balancing the Needs of People and Plovers

Certain kinds of plovers, such as the piping plover, hooded plover, and western snowy plover, build their nests on sandy beaches. They build them between dunes or sea walls and the high-tide mark. This is precisely where beachgoers like to lay down their towels to enjoy a day at the beach.

This has created quite a debate. On one side are the cute little birds that have been described as "cotton balls on toothpicks." Their light brown, white, and gray coloring makes them hard to spot on the sand. In spring, these birds lay their tiny, sand-colored, hard-to-see eggs in shallow nests dug into the sand.

These nests face danger from many sources. Storms and surging waves may wash them away. The eggs may be crushed by careless humans (on foot, in off-road vehicles, and with dogs). They may also be eaten by predators (such as foxes, cats, gulls, crows, and ravens).

If the eggs survive and hatch, it takes over a month for the chicks to grow strong enough to fly. To help them grow, plovers look for food by the water's edge or in seaweed on the beach. If they're frightened by people or predators, they run and hide wherever they can. This running and hiding uses up valuable energy. If it happens often enough in a day, a chick will starve.

Because the number of beach-nesting plovers is so low, their status is "threatened." This means there are laws to protect them and organizations looking out for them. Some of the techniques used to protect nesting plovers include putting ropes around nests and providing little wooden shelters for chicks to hide in. The most extreme of all is closing off part or all of a beach during nesting season (which occurs between April and August).

All this protection angers the other side of the debate: beachgoers. Plovers are drawn to exactly the wide, sandy beaches that people like to frequent. When it has come down to the plovers' right to protection or people's beach-going rights, plovers have won. People find themselves cut off from favorite beaches and crowded into what is left. But all this may be changing.

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Plover experts now believe that the biggest dangers to plover nests are storms and predators. Nothing can be done about storms, and destroying or relocating plover predators creates new problems. But it does seem that predators stay away from beaches often filled with people. So some beach communities have begun to have a more "relaxed" attitude. They rope off any plover nests and post warnings to protect the plovers, but they don't close off the beach. The little birds seem willing to coexist with people, as long as the people don't disturb their nests or chicks.

Maybe, just maybe, we can all get along!

Unit 2: An Uninvited Guest

The dark-winged, unidentified flying object swooped from the ceiling toward the family seated in the kitchen and back up again. Bashir screamed, and his sister Aisha slid off her chair to hide under the table. "Don't worry," their grandmother said calmly. "It's just a bat."

"What do you mean it's just a bat?" Bashir shrieked, waving his arms frantically to keep the winged creature away. "Those things carry rabies!"

Aisha peered out from under her hiding spot. "Babies? I don't see its babies."

Bashir shook his head and answered, "Not babies—rabies, rabies! It's a disease you get from bats. They bite you, and then you die."

Aisha started to cry, and their grandmother said, "Let's not overreact. First, very few bats carry rabies. Second, there's a medical treatment for rabies. And third, this poor bat is probably just as afraid of you as you're afraid of it."

"Who's afraid?" asked Bashir in the bravest voice he could muster. Just then, the bat spread its wings and glided toward Bashir's head. He screamed again and ducked behind Aisha under the table.

"I heard that bats like to get tangled in people's hair!" Aisha shuddered.

"That's only a myth," reassured their grandmother as she quickly gathered a blanket that had been draped over a chair. "And this poor animal will soon exhaust itself." Sure enough, after a few more swoops around the room, the bat finally settled on a high shelf. A quick toss of the blanket succeeded in trapping the bat in its soft folds.

"You caught it!" exclaimed Bashir. Every time he visited his grandmother, he was always impressed that she knew exactly how to handle any situation.

Bashir crept closer to the bundle in his grandmother's arms and saw that the bat's eyes were fixed on him with a combination of what he thought might be curiosity and fear. "Now what should we do with it?" he asked in a hushed tone.

"We need to set it free, of course," their grandmother asserted, walking to the door and opening it. "I'm not sure if this bat wants to make a home in our attic or if it's lost, but it will be much more comfortable outside." She shook the blanket gently to release the bat, and they watched it soar into the distance until it disappeared.

Bashir breathed a sigh of relief, and his grandmother smiled.

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"I'm always happy to see bats flying around outside because they devour mosquitoes by the thousands," she remarked. "Without bats, the world would be much buggier than it is. We need them, even though we don't like to share our indoor spaces with them."

One evening not long after the weekend visit with his grandmother, Bashir noticed familiar black figures circling swiftly against the dimming sky outside his apartment window. He recognized them immediately and murmured, "Hello, my mosquito-eating friends," pleased that this time he did not feel afraid at all.

Unit 3: The Business of Zoos

Early in the twenty-first century, conservation groups in Thailand protested against shipping elephants to zoos in Australia. Supporters of animal rights in the United States claimed that elephants in city zoos were being harmed. The leader of one animal-protection group asked, "Is there any value having elephants at zoos other than to allow people to see them in person?"

Allowing people to see exotic animals is a main purpose of zoos. Ever since ancient times, wild animals from distant lands have been put on display, simply for people's viewing pleasure.

A zoo animal was placed in a cage with bars. Keepers fed it and cleaned its cage, but paid no attention to its other needs. A caged animal had nothing to do. Zoo visitors might see a lion or a bear endlessly pacing in its tiny cell. They might see a gorilla sitting on a concrete floor, staring blankly. At times, visitors felt more sadness than awe.

It was not until recently that many zoos began to change. Zoos created natural-looking environments, such as rainforests and large outdoor enclosures. Many zoos offered animals more space and stimulating activities. But zoo critics point out that, even in natural-looking environments, most animals have nowhere to hide, as they would in nature. They must be on display for visitors.

Some opponents of zoos say that there is no need for people to see exotic animals up close anymore. Television and the Internet make it easy to view wild animals in their natural habitats.

Supporters of zoos argue that educating the public about wildlife is a worthwhile goal. When people get close to a mighty gorilla or an adorable panda, for example, they are willing to give money to help save these animals' threatened habitats. The people who work at zoos are often active in conservation groups that protect species in the wild. Many zoo doctors have saved the lives of sick animals in wildlife preserves.

Zoo supporters also highlight that today's zoo animals are mainly born in captivity. The animals are not caught in the wild and brought to the zoo. In captive-breeding programs, baby animals are born in zoos and then returned to the wild one day. For example, the breeding program set up by a New York zoo in the early 1900s saved an animal called the American bison from extinction. Today, tens of thousands of American bison roam the North American plains. Captive-breeding programs tend to be costly, however. And while they were successful at saving American bison from dying off, they have not worked as well to save other animals. To survive in the wild, most animals need to be born in the wild.

Very few people want to ban zoos entirely. Zoo critics and supporters alike, including many in the zoo business, have some shared goals. They want to make sure that captive animals live well, and that wild animals can live freely.

Unit 4: Cloudy Skies

Look up in the sky at any time during the day or night, and there's a good chance you will see clouds. Clouds cover about two-thirds of the planet, so they're hard to miss! Whether they are white and fluffy or dark and rainy, clouds play a huge role in the weather on Earth.

How Clouds Form

Clouds form when the sun warms the water from lakes, rivers, and oceans and some of that water evaporates. When the water evaporates, it becomes an invisible gas, or vapor. When the vapor is high up in the sky, it turns back into water droplets or becomes ice crystals. These water droplets and ice crystals come together to form the clouds we see above us. Though clouds might appear to be light and airy, the average cloud weighs one million pounds! That's because they are full of liquid water, vapor, and ice.

Clouds seem to burst when the water becomes too heavy. It may rain, hail, or even snow! This is called precipitation. Even though all clouds are made up of water, some types of clouds create more precipitation than others.

Clouds That Hold Their Water

There are three cloud types that do not typically produce a lot of precipitation. This means that when you see them, you do not have to go running for your umbrella. These types are cumulus, cirrus, and stratus clouds.

- Cumulus clouds are white, fluffy, cotton ball-like clouds often seen in paintings and storybooks.
- Cirrus clouds are thin and appear delicate and feathery. They look like wispy strands of hair in the sky. They can mean that precipitation will arrive later.
- Stratus clouds hang low, blanketing the lowest layer of the sky. If there is fog or mist hanging overhead, those are stratus clouds!

Clouds That Produce Precipitation

When you experience wet weather, you probably also see a type of nimbus cloud. One translation for the Latin word nimbus is "rain cloud." Nimbus clouds are generally large, dark, and tend to spread across the sky. But nimbus clouds are not all the same!

Nimbostratus and cumulonimbus clouds are two kinds of nimbus clouds—notice how both names have a word part that looks like nimbus?

Nimbostratus clouds spread out over a larger area; they can block out sunlight across the sky. This type of cloud produces the most common types of precipitation, such as rain, snow, hail, and sleet.

Cumulonimbus clouds form when cumulus clouds meet hot air from the ground. This produces a special kind of energy called a static charge. The static charge can turn into lightning! A cumulonimbus cloud with enough static energy can cause heavy rainstorms, thunderstorms, and even tornadoes.

Clouds of all kinds act as weather-makers all over the world. If you look outside right now, what kind of clouds do you see? Can you predict what weather you might get today?

Unit 5: "Hail"

By J. Patrick Lewis

The hail flies / on furious hooves. / It batters cars / and rooftops, / slamming anger, / and then melts away.

Unit 6: "The Price of Snow"

By Andrea Brown

Rolling in from being out all day, / I watch the snowflakes melt away. / Newspaper crinkles below my wheel, / as frozen water runs down the steel. / Indoor puddles begin to appear, / and the words on the pages run and smear. / My fingers graze frigid metal below– / as I look out the window at all the snow. / It continues to fall from the sky, / and the minutes for me crawl slowly by. / 'Til looking down, I happily cry, / "Here I come! My wheels are finally dry!" / I move forward, and away I go, / after paying the price of going out in the snow.

Author's Note: I have used a wheelchair since I was a child, and I grew up in the Midwest region of the United States. It frequently snows in this area of the country. Others might not know how snow affects a wheelchair if they have never used a wheelchair themselves. Snow sticks to everything on a wheelchair, including its wheels and spokes. It can be hard to dry every spot on a wheelchair! When I was young, my father would place newspaper in the entrance of our house. If I had come in from being outside in the snow, I would sit in my chair on the newspaper until enough snow had melted so that my wheels were dry enough for me to roll again.

Unit 7: Interview with a Water Activist: Autumn Peltier

Pranav Mukhi attends school in New York. When he was 10 years old, he had the exciting opportunity to interview another young person: Autumn Peltier. Autumn is a member of the Wiikwemkoong First Nation and lives in Canada. She is an advocate for clean water for Canada's indigenous communities, which includes over 600 First Nations communities like Wiikwemkoong. By age 16, Autumn had already journeyed across the globe to carry the message of the importance of clean water. In this interview, she answered a series of questions about the power of youth action for change.

Pranav Mukhi: What does water mean to First Nations people?

Autumn Peltier: We believe that we are part of the land, and that we come from the land—we learn that we have a right to protect the land and protect the water.

Pranav: What problems do indigenous communities in Canada face when it comes to water?

Autumn: They often have little access to clean drinking water because of landfills, oil spills, or old mining sites.

Pranav: You are the chief water commissioner representing 39 First Nations in Ontario. What is your role?

Autumn: I take ideas, questions, and concerns about water from the communities to our council leaders. And I contribute to the decision-making.

Pranav: Do you ever work with other water activists?

Autumn: I meet many youth advocates for the environment in my travels. I know a lot of children my age, some older and some younger, who are doing the same work. It gives me hope and courage to know there are others out there.

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Pranav: In your opinion as an activist, what can be done to protect the world's water?

Autumn: There are industries that are trying to do things like dump toxic waste into the Great Lakes. We can't change these industries. But we can try to talk to them and raise our concerns. Clean drinking water is a basic human right. It doesn't matter what color our skin is. It doesn't matter if we're rich or poor.

Pranav: What would you tell kids who want to speak out on behalf of others or the environment?

Autumn: It is important to speak up on behalf of those who are too afraid to speak up. It can be as easy as writing a letter to your local leaders. The message is so much more powerful when it comes from a young person. You can be the light in someone's darkness.

Unit 8: Support Art in the Park

Dear Editor,

I'm writing to urge everyone to come to Art in the Park this Saturday in Broad Creek Park, from 9 AM to 6 PM. There is no admission fee, and there's so much to do and see. Over 150 local artists will be showing their work, hoping to sell some of it to you. There will also be an art show featuring the best work of fifty students from local schools. The student works have already been judged, so you can see if you agree with the judges' choices. They have awarded blue, red, and white ribbons to some of the up-and-coming artists in our local high school, middle school, and two elementary schools.

This year, we are introducing a special section set aside for even younger artists. It is called Kids in the Park. It comes equipped with fingerpaints, chalk, watercolors, crayons, and lots of paper so kids can make their own artistic creations. And don't worry about mess. We provide smocks for kids to wear to keep their clothes clean!

A local band, the Snow Squalls, will be providing country music to keep things lively. And a food court, run by Aroma Market, will have a wide variety of scrumptious treats. (As everyone knows, Aroma Market is famous for its tasty food!)

This is the third year for Art in the Park. We have been encouraged by the number of people who attended the first two times, but we need more of you to come! Supporting art in our community has so many benefits for you, for your kids, and for our local artists.

It's a chance for you to get to know other community members as you stroll through the show. It's a chance for you and your kids to experience different kinds of art: paintings, photographs, sculpture, pottery, carvings, jewelry, and more. It's a chance for you to discuss what you see with the artists themselves. Don't be afraid to ask questions or to share opinions. Talking with community members is one of the main reasons the artists enjoy participating in this event!

So imagine yourself, strolling through our beautiful park, listening to entertaining music and eating delicious food. As you view a wide range of art, one piece in particular catches your eye. You have an interesting chat with the artist and then you decide to buy the piece. It didn't cost that much, and you know it will look just beautiful in your home.

Now stop imagining, and experience the real thing! Support and get to know your local artists, encourage student artists, help your community, and enjoy yourself.

We hope to see you this Saturday!

Antony Alvarez

Art in the Park Chairman

Unit 9: We Can All Be Winners Here!

If you listen to the news these days, you know that everybody is concerned that kids aren't eating enough nutritious food. If any of these concerned citizens ever visited our cafeteria at lunch time, they might worry even more! Yes, the daily hot lunch features healthy food, but the vegetables taste terrible. They're either overcooked frozen vegetables, or if they're in salads, they are not very fresh. And then what happens? Kids leave the vegetables untouched. Who wants to eat mushy broccoli or wilted lettuce? So the school spends money on food that gets thrown away, and we kids don't get a complete, nutritious meal. Everybody loses.

But there's a way for everyone to win: Our school could set up a farm-to-school program. Over 2,000 schools all across the country already have farm-to-school programs that are running successfully. Here's how it works: The school sets up an arrangement with local farmers, who sell certain fresh fruits and vegetables to the school every few days. Farm-to-school programs also include classroom visits from farmers, who help kids understand what's involved in farming, and field trips for kids to see real farms firsthand.

The farmers win because they have a nearby market for their crops that they can depend on. They don't have to drive around, selling their food to different stores at a lower price, so the stores can turn around and sell it at a higher price. This means farmers earn more money and don't have to spend as much on transportation.

The school wins, too, because it gets to know the local farmers. It can work with farmers to decide which kinds of fruits and vegetables to grow. (Maybe we kids can make suggestions, too—that would be cool!)

But most of all, kids win. We get tasty, fresh fruits and vegetables to eat. Think how fantastic it would be if our cafeteria also included a great salad bar! And along with eating better, we could learn more about where our food comes from through classroom visits and field trips. We'd get to know the farmers in our community and see for ourselves how our food is grown.

I hope I've made it clear why our school should set up a farm-to-school program. Everybody wins!

Unit 10: Borrowing Nature's Designs

Imagine a day when doctors could help a person grow a replacement body part—just like starfish and lizards can do. What if bridges were built from something much stronger than steel—fibers made of spider silk! Some engineers study nature's designs in order to develop new technologies. These engineers are using a kind of science called biomimetics. Biomimetics comes from the Greek words bios "life" and mimesis "to imitate".

Prickly Plant Parts

In 1941, a Swiss engineer named George de Mestral went for a hike with his dog. Afterward, picking off burrs from his clothes and dog's fur, he became curious. How did the burrs manage to stick so well? He studied the structure of each burr and discovered that the spines ended in tiny hooks. He went on to invent a kind of fastener made of tiny hooks. He helped start a company to produce the fasteners. Velcro® is still a trade name for these burr-inspired fasteners. They are used on clothing, shoes, school binders, and many other products.

Sticky Feet

Little lizards called geckos have an astounding ability to cling to walls, ceilings, and other surfaces. For decades, scientists have studied gecko feet to figure out what makes them so sticky. Experiments show that millions of microscopic hairs on each toe are mainly responsible for a gecko's grip. Molecules on the hairs interact with molecules on the surface. The resulting forces pull the toes and surface together. But geckos don't just stick to a surface—they unstick, too. To do that, a gecko tugs the foot in the opposite direction, releasing the grip.

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Like Velcro®, products that can stick firmly yet be removed easily have practical uses. So far, engineers have developed gecko-inspired robots that climb walls. They've made a fabric-like material that can stick to smooth surfaces. They're also working on grippers that might someday be used to pick up junk floating in space.

Rough Skin

Sharks are extremely speedy swimmers. Any solid body moving through water, including a shark, encounters a force called drag. Drag slows moving objects down. A shark's skin reduces drag, helping it be such a fast swimmer. Powerful microscopes reveal that sharkskin is covered in tiny toothlike structures called denticles. Denticles cut through the water, helping sharks to move more smoothly through the water and swim faster. Engineers designed materials with denticle structures to make swimsuits first used by Olympic swimmers in 2008. Denticles also prevent organisms like algae from attaching themselves to the shark's skin. Engineers are experimenting with denticle structures to create a material that repels bacteria. If it works, hospitals may coat surfaces with this material to reduce infections.

What problems will biomimetic engineers try to solve next? One thing is for sure: nature will provide inspiration for new solutions.

Unit 11: Splendid Spiders

Fear of spiders is common. "Ugh!" people say, "Keep that creepy thing away from me." Many people get out the broom when they see a spider in the house. And some people panic when they see just a photo of a spider. Fearful reactions may be common, but they are not sensible. Only a few kinds of spiders can harm people. Spiders are actually helpful because they eat insects. Spiders are fascinating creatures that deserve to be admired.

Spiders belong to a class of animals called arachnids. Unlike insects, spiders have eight legs, not six, and no wings or antennae. There are more than 35 thousand known species of spiders, with more species yet to be discovered. Spiders are successful predators that live all over the world.

Spiders are one of the only organisms with the ability to produce silk from their bodies. About half of the world's spiders use their silk to spin webs, which are highly effective traps. The spider rests quietly in the web or nearby, waiting for its prey. An insect that lands on the sticky strands of silk cannot escape. Webs come in many shapes, including funnels, sheets, and messy-looking cobwebs. The most familiar image of a web belongs to orb-weavers. Orb-weavers, such as the garden spider, create large, delicate, and beautifully patterned webs that glisten with dew.

Spider silk is famous for its strength and its ability to stretch without breaking. The very large webs of certain orb-weavers have even been used as fishing nets. A spider produces different kinds of silk for different purposes. Dragline silk, for example, is a lifeline for a dangling spider. It is stronger than a steel wire of the same width, and much more stretchable. Engineers and scientists study spider silk as they try to make a fiber that is equally strong and flexible. Such lab-made spider silk could have many uses, from ultra-strong fabrics to supports for broken bones.

Spiders do amazing things. For example, they taste their food by using the hairs on their legs. They digest their food before they swallow it, using chemicals to turn it into liquid. Young spiders leave their birthplace by "ballooning"—riding air currents on lightweight silk threads. In addition to spiders that trap prey, there are spiders that jump, spiders that spit, and spiders that fish. Trapdoor spiders live in silken burrows with removable lids. When an insect passes by, the spider pops out from under the lid and grabs its prey in a flash.

People may say, "A spider—ugh!" However, once they learn a little more about spiders, it might be more fitting to say, "A spider—wow!" Spiders are marvels of the natural world.

Unit 12: "The Secret Song"

By Margaret Wise Brown

Who saw the petals / drop from the rose? / I, said the spider, / But nobody knows. / Who saw the sunset / flash on a bird? / I, said the fish, / But nobody heard. / Who saw the fog / come over the sea? / I, said the pigeon, / Only me. / Who saw the first / green light of the sun? / I, said the night owl, / The only one. / Who saw the moss / creep over the stone? / I, said the gray fox, / All alone.

Unit 13: A Review of *Treasure Island*

The book *Treasure Island* is on every list of classic adventure stories. This book is described with words like suspenseful, rousing, and fast-paced. Robert Louis Stevenson wrote the book a long time ago. It was published in 1883. I wondered whether it would still seem as exciting as people say. I'm a big fan of adventure stories, so I decided to read the book for myself.

The story takes place in the 1750s. The narrator is 12-year-old Jim Hawkins, who has found a map to a treasure that pirates buried on a distant island. Jim serves as a cabin boy on a ship sailing to the island. He is befriended by the ship's cook, Long John Silver, who is none other than the cruel leader of the pirate gang that is pretending to be the regular crew on the ship. The author drops clues to what is really going on. But Jim realizes the truth only after he overhears the pirates making their plans to find the treasure and take over the ship. He escapes to the safety of a wooden fort on the island, along with the captain, the ship's owner, the doctor, and a few honest sailors. In the following battles against the mutineers, Jim is an action hero, brave, lucky, and clever. He performs daring deeds, and more than once outwits his scheming, heartless enemy.

The character of Long John Silver is one of the most interesting in the book. He is a mean-spirited pirate, who is still able to charm others. He can talk his way out of trouble and find opportunity in situations that seem hopeless.

Sometimes the language of the book is hard to understand. The characters use words and expressions that are not spoken anymore, and there are many sailing terms that I didn't know. But I understood enough to follow the action, and action is the most important feature of the book. As I read, I kept thinking that the story would make a great movie or graphic novel.

It turns out that *Treasure Island* has been made into a movie more than once. I plan to watch a movie version, because it's always interesting to compare a book and a movie that tell the same story.

On a scale of 1 to 10, I give the book *Treasure Island* a 7. It is old-fashioned in some ways, but I did want to keep reading to find out what would happen next.

Unit 14: A Movie for Everyone

Are you looking for a film to rent that the whole family can enjoy? I've got the perfect movie for you. It has something for everyone: adventure, suspense, comedy, tragedy, and best of all, singing and dancing. Even if you don't think you like movie musicals, give it a try. I don't like most musicals, but I love this movie.

The name of the movie is *Oliver!* (The exclamation mark isn't from me. It goes with the title.) It was released in 1968 and went on to win a raft of awards, more than most films ever will. Since then, audiences of all ages have been happily viewing it again and again. The movie is based on Oliver Twist, a classic book by the British writer Charles Dickens.

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Oliver! sticks to the part of the story that tells about Oliver Twist's childhood, which takes place in the early 1800s in England. The boy, who is an orphan, gets swept up in a gang of kids who are thieves and pickpockets. These kids are tough, but they aren't mean. They really look out for each other. Their leader is an outrageous old man named Fagin. He's not so nice, but you'll love to hate him! And he'll have you helpless with laughter as he instructs the boys, singing "You've Got to Pick a Pocket or Two."

Almost as memorable is a gang member called the Artful Dodger. (His nickname means that he's quite good at getting himself out of danger.) Dodger welcomes Oliver into the group with a song, telling the orphan to "consider yourself part of the family." He then becomes Oliver's loyal friend and protector.

I mention some of the songs because they, and the other great songs, fit so well with the story. You'll want to sing along with these powerful tunes, so I strongly recommend going online to find and print out the song lyrics. After all, you'll be sitting in your own home, not bothering anyone else. Why not sing along? And while you're at it, enjoy the fantastic dance sequences as well.

Let me add just a few words of caution. If really young children are watching, tell them that everything turns out all right for young Oliver. Otherwise, they might get upset by some of the things that happen, especially when nasty Bill Sykes is around.

But Oliver! isn't meant to be a frightening movie. It's really a celebration of love and friendship, full of fun and energy. It has interesting characters that little kids will like and that older kids and parents will get a kick out of. After you see Oliver! you'll know why they added that exclamation mark to the title!

Unit 15: Just Listen to This!

How often do you listen to classical music? If you're like most young people, your answer is "Never." Well, you're missing out on a terrific listening experience. Give classical music a try and you may find that you like it.

The term classical describes a style of music that was developed in Europe in the 1700s and 1800s. One kind of longer classical work, called a symphony, is composed for the instruments of an orchestra. If you want to listen to a symphony for the first time, find a recording of Symphony Number 6 by one of the greatest composers (some say the greatest) who ever lived: Ludwig van Beethoven.

The reason to start with the Sixth Symphony, also known as the Pastoral, is that Beethoven suggested feelings and images for each movement. (A movement is a separate work within the symphony.) Each of the five movements presents a scene that listeners can picture, so as you listen, try to imagine the setting. How does the music convey the mood and the action? Listen for repeated melodies, called themes. Listen for how the different sections of the orchestra play with and against each other. Listen to how the music grows softer or louder to express gentle or strong feelings. Try to identify the different solo instruments you hear.

The first movement of the Sixth Symphony brings listeners to the countryside. Beethoven loved the country, and the music conveys calm and happy feelings. Listen for the solo clarinet and you will feel the pleasure of being in this beautiful place.

The second movement takes place by a brook and you may hear the murmuring water of the stringed instruments. Listen carefully to see if you can hear the calls of birds. There is a flowing, dreamy feeling to this movement.

In the third movement, the country folk gather for a lively dance. Picture the joyous whirling of the dancers as you listen. Next, something arrives to disturb the dance: a thunderstorm!

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In the fourth movement, drums make rumbling thunder. Listen to the trombones sound like rain and imagine the darkening skies with everyone hurrying for shelter. You can even hear the high notes of lightning.

The melody of a shepherd's song ends the fourth movement and begins the fifth. The storm is over. If you've ever wondered what sunshine sounds like, just listen to this music. The glorious sun lights the world again, and everyone gives thanks.

Beethoven completed his Sixth Symphony in 1808. He had begun to lose his hearing six years earlier, suffered from loud ringing in his ears, and his deafness was increasing. Yet, this genius was able to hear this wonderful music in his "mind's ear," and share it with listeners for all time.

Listen, and enjoy!

Unit 16: *Cilla Lee-Jenkins: The Epic Story*

An excerpt from a book by Susan Tan

We were doing a writing unit, and even though I still wasn't sure how I felt about Ms. Paradise, I was excited to show her my stories.

Ms. Paradise wanted us to follow a worksheet that was all about how stories are like watermelons and ideas like seeds (which was a nice Simile, which is a Literary way of saying comparison). Ms. Paradise said that instead of telling the whole watermelon, you start with a seed. So instead of "I went to an amusement park and ate ice cream, rode some rides, and had a great day and came home," you start with a tiny part of that. Like "The ice cream dripped from the cone down on my hands and was sticky and delicious." That way, you start with details, and it's easier for the reader to imagine your story, and they'll want to know more and keep reading.

The assignment seemed fun. I love specifics and details, and since stories are my life's work, I felt good about the examples I'd picked.

My story began:

On Zebulon 5, a prophecy was known. That one day a hero would save the planet from its endless war, a hero who would fly on feathers of steel.

But the people of Zebulon 5 didn't believe the prophecy. They laughed and said it was a Silly story.

And so did Tilly the baker's daughter.

Until one day, she woke up, and she had grown silver, metal wings.

I thought this was a great start. I didn't start with Tilly growing wings—I started with the seed of the prophecy. I knew this beginning was perfect for drawing a reader in. They wouldn't be able to resist asking how it ends, and where the wings came from, and when Tilly will discover that she can also shoot golden light out of her hands and use it to bring her world to peace (Spoiler Alert). I was sure I'd done a good job.

Only apparently my story wasn't what Ms. Paradise had in mind.

"But why don't you write about something a little more relatable?" she went on. "Remember, next year you're going to have teachers with high expectations of your writing—middle school expectations. They're going to want your work to make your readers feel real emotion. So be a bit more serious, okay?"

I was frustrated because, this IS Serious. We're talking the fate of Zebulon 5.

And if you don't feel real emotion when you hear that an entire planet might be torn apart by galactic war, then I can't help you.

Unit 17: The Harpies: A Greek Myth Retold

The brave hero Jason set out on a quest to find the Golden Fleece, the wool of gold from a magical ram. He journeyed with a group of other heroes, all seeking adventure. Among them were the sons of the North Wind: two mighty warriors with the gift of flight. Jason, the winged sons of the North Wind, and the other heroes sailed on their magical ship, Argo. They were known as the Argonauts.

On their quest, the Argonauts voyaged to many strange lands and encountered extraordinary creatures. This is the tale of their adventure in the land of King Phineus.

It was twilight when the Argo arrived on the shores near Phineus' kingdom. When the Argonauts reached the palace doors, they were met by an old and weak man who could not see. The blind man walked on trembling legs to greet them. He seemed barely alive, as if made of skin pulled over jutting bones.

The Argonauts were surprised to learn that this man was, in fact, King Phineus himself. "I am starving, though I have plenty of food," Phineus told them. "I have waited for your help, knowing that you would come." Jason and the Argonauts were eager to hear more. Why was King Phineus weak and starving? How did he know they would come?

King Phineus told his story. The god Apollo had granted Phineus the gift of seeing into the future. With Apollo's gift, Phineus knew what was to come. He used his new skill to warn people of future danger. Zeus, the king of all gods, was not pleased.

Phineus explained, "Zeus grew angry with me for telling mortals what was to come. He punished me, and his punishment has turned me into the starving, miserable person you see. Watch as I try to eat."

The king's servants laid out a feast. But as soon as Phineus reached for the food, terrible winged monsters with long claws and knife-like teeth dived from the sky and devoured almost everything. Even worse than their savagery was what they left behind—a smell so repulsive it was unbearable. The few remaining food scraps were utterly spoiled and reeking with the scent.

"What are those monsters?" asked Jason. Phineus' eyes grew wide. "Those hideous creatures—they are Harpies."

Phineus turned to the Argonauts and said, "Recall Apollo's gift to me: the gift of viewing the future. I have foreseen that among you are the ones who can save me from the Harpies. Please help and perhaps I can help you in return."

The Argonauts took pity on Phineus. But which hero among them was destined to defeat these winged monsters? Not one hero, but two, stepped forward eagerly. The two sons of the North Wind were determined to save the king. They drew their swords and pledged to drive the Harpies away. The wings on their ankles fluttered, ready to take flight.

Food was once again placed before Phineus. As before, when the old king brought a bite to his lips, the Harpies swooped down.

This time, however, the sons of the North Wind flew up after the Harpies, striking at them with their swords. The Harpies fled their fierce attackers, barely escaping with their lives. This moment was the last time the Harpies tormented the old king.

That night, Phineus and the Argonauts feasted undisturbed. In return, Phineus gratefully used his ability to see the future to tell the sailors how to survive the next dangers on their voyage. With this knowledge, the Argonauts awoke the next morning to continue on their search for the Golden Fleece.

Unit 18: *Five Children and It*

An excerpt from a book by Edith Nesbit

Then Anthea cried out, "I'm not afraid. Let me dig," and fell on her knees and began to scratch like a dog does when he has suddenly remembered where it was that he buried his bone.

"Oh, I felt fur," she cried, half laughing and half crying. "I did indeed! I did!" When suddenly a dry husky voice in the sand made them all jump back, and their hearts jumped nearly as fast as they did.

"Let me alone," it said. And now everyone heard the voice and looked at the others to see if they had too.

"But we want to see you," said Robert bravely.

"I wish you'd come out," said Anthea, also taking courage.

"Oh, well—if that's your wish," the voice said, and the sand stirred and spun and scattered, and something brown and furry and fat came rolling out into the hole, and the sand fell off it, and it sat there yawning and rubbing the ends of its eyes with its hands.

"I believe I must have dropped asleep," it said, stretching itself.

The children stood round the hole in a ring, looking at the creature they had found. It was worth looking at. Its eyes were on long horns like a snail's eyes, and it could move them in and out like telescopes; it had ears like a bat's ears, and its tubby body was shaped like a spider's and covered with thick soft fur; its legs and arms were furry too, and it had hands and feet like a monkey's.

"What on earth is it?" Jane said. "Shall we take it home?"

The thing turned its long eyes to look at her, and said—

"Does she always talk nonsense, or is it only the rubbish on her head that makes her silly?"

It looked scornfully at Jane's hat as it spoke.

"She doesn't mean to be silly," Anthea said gently; "none of us do, whatever you may think! Don't be frightened; we don't want to hurt you, you know."

"Hurt me!" it said. "Me frightened? Upon my word! Why, you talk as if I were nobody in particular." All its fur stood out like a cat's when it is going to fight.

"Well," said Anthea, still kindly, "perhaps if we knew who you are in particular we could think of something to say that wouldn't make you cross. Everything we've said so far seems to have. Who are you? And don't get angry! Because really we don't know."

"You don't know?" it said. "Well, I knew the world had changed—but—well, really—do you mean to tell me seriously you don't know a Psammead when you see one?"

LEVEL 20 | PASSAGE FLUENCY 7

Unit 1: Unusual Homes

What kind of home would you like to live in someday? Maybe you picture yourself in a country cottage or a skyscraper apartment. How about a home that's more... unusual? Near the city of Zurich, Switzerland, are homes that are underground. Their roofs blend into the surrounding meadow; each building is dome-shaped, and the walls are curved. There are windows that face south, so natural light comes inside. These homes have all the up-to-date conveniences, and the architect designed the dwellings to use less energy than above-ground dwellings. These underground houses are naturally cool in summer and easy to heat in winter. Homeowners feel close to nature here, living under their gardens.

An underground house might be a good choice if you like privacy, but if privacy is not important, consider a different kind of unusual house—one made of glass. A glass house was a very modern idea back in 1949 when the American architect Philip Johnson built one in Connecticut. The Glass House has four sides of clear glass supported by steel. The house cannot be seen from the road, so curious onlookers are not a problem. The house overlooks a pond and woods, so being inside feels just like being outside. Johnson lived in the house until his death in 2005. This leading architect's unusual house is now a historic site.

Unit 2: The Land of Fire

Iceland is an island nation that lies near the Arctic Circle. The name Iceland and the far-north location suggest that this is a frozen land. In fact, Iceland does have ice-covered regions, but it is also a land of fire. Iceland is the only country in the world where homes are heated mainly with geothermal energy. Geothermal energy comes from steam below the ground. The steam, in turn, comes from water heated by molten rock. Icelandic farmers use geothermal energy to heat greenhouses year round. Here, they raise fruits and vegetables, including tropical plants like bananas. In Iceland, hot springs bubble up to the surface and geysers shoot near-boiling water into the air.

Why is there so much heat under Iceland's surface? This island sits over an opening in the earth. Below the cold North Atlantic Ocean waters, the earth's crust is spreading apart, exposing super-heated, flowing rock. Molten rock pushes up through the ocean to build land. That was how Iceland formed many millions of years ago. And that is why the land is always changing. Volcanoes and earthquakes are active in Iceland. The landscape includes vast fields of lava, spewed out by volcanoes or from cracks in the earth's surface. In the 1960s, cameras recorded the amazing sight of a whole new volcanic island rising out of the sea. That island, Surtsey, is now part of Iceland.

Unit 3: Erika, the Future Helicopter Pilot

When Aunt Jan came to visit her family, Erika met her for the first time. Aunt Jan asked the same question of each niece and nephew: "What do you want to do when you grow up?"

Erika's brother said he wanted to be a teacher and her cousin, Tanya, said she wanted to be a doctor. Unlike her brother and cousin, Erika didn't have a dream career.

"So, Erika, what do you want to be?" Aunt Jan asked. Erika didn't want to disappoint her aunt by saying nothing. She looked up to the clouds as she was thinking. In the distant sky, she noticed a helicopter from a news station.

"A helicopter pilot!" Erika said, because it was the first thought that popped into her mind."

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A week later, Aunt Jan came back to their family's home. She brought with her a new nonfiction book about helicopters for Erika. The book explained how helicopters are engineered, or built, and it also gave examples of the tasks that helicopter pilots do.

Aunt Jan and Erika flipped through the pages of the book together and Erika stared at the diagrams that labeled the different parts of the helicopter, like the engine, the cockpit, and the pedals. She imagined operating the controls to make the craft climb, turn, dip, and hover. She also read about how helicopter pilots can help rescue people stranded by floods, and Erika pictured herself saving lives.

After Aunt Jan left, Erika wrote a long thank-you note to her aunt. At the end of the note, she wrote, "I am certain that I want to be a helicopter pilot when I grow up!" And this time, she meant it.

Unit 4: The Story Behind the Fairy Tale

Hans Christian Andersen was a storyteller from Denmark whose fairy tales are famous. His tale "The Little Mermaid" has been retold many times. Andersen's original version is a sad story about a mermaid who falls in love with a human prince. She gives up living happily in the sea so that she can be with him, but he marries someone else. In 1913, a Danish sculptor's statue of the Little Mermaid was set on a rock in Copenhagen harbor. The statue became a national symbol. It was even sent to represent Denmark at a world expo in China in 2010. The Little Mermaid returned to her harbor home, where she remains a beloved sight.

In tales from northern Europe, trolls are ugly creatures. In the well-known tale "Three Billy Goats Gruff" a troll waits under a bridge. It threatens to eat the goats that attempt a crossing. A troll has waited under a bridge in Seattle, Washington, since 1990. It is a sculpture known as the Troll. The Troll's shoulders and enormous head emerge from the ground and rise about two stories high. The Troll has grabbed a car from the roadway above—an actual car is part of the sculpture. Visitors to Seattle try not to miss the famous Troll. People enjoy having their pictures taken with it. Fairy-tale trolls may be dangerous, but this Troll seems lovable.

Unit 5: Grandma's Cats

Whenever Maya goes to her grandmother's house, she likes to look at the cats on a display shelf. There are dozens of them in different sizes and colors, and they're made of glass, wood, china, and metal. Maya's grandmother has a little dog but no cats. She once told Maya that she didn't want a pet cat, because cats scratch the furniture. "Why do you collect cat statues if you don't like cats that much?" Maya wanted to know. " I can't remember how it started, but I think someone saw that I had one or two glass cats, and gave me another. I guess that people think I like them," her grandmother said.

Later that week, Maya and her mother were browsing through the used items for sale at the town's flea market. Maya's mother said, "Look at these cat statues, Maya. Let's buy one for Grandma." "They look like ones Grandma already has," said Maya. "I don't think she has this one," Maya's mother said, holding up a little green glass cat with a sparkly collar. Even though Maya had a sneaking suspicion she had seen that glass cat before, her mother bought the statue. At her grandmother's house, as Maya was about to place the new cat on the display shelf, she asked, "Where did the cats go?" The shelf was completely empty. Maya's grandmother replied, "I was so tired of dusting those things that I gave them all to a friend to sell at the town flea market."

Unit 6: Who Can Stump Tec?

Marva Jones was so clever at figuring out puzzles that she was called Tec, short for Detective. Tec's friends kept trying to stump her with their favorite game called "Tell Me Why." Jasmin thought she had an impossible "Tell Me Why" puzzle for Tec." A famous scientist discovered a cave with wall paintings that looked very old and showed prehistoric scenes," she began. "In one scene, five hunters were pursuing a giant tiger and in another, they'd killed a dinosaur. Tell me why the scientist knew immediately that the paintings weren't prehistoric." Tec smiled as she answered, "Because the second scene was fake. Dinosaurs had disappeared millions of years before prehistoric people showed up."

Her friends kept trying to stump Tec Jones and it was Kim's turn." The police are trailing bank robbers through the desert on a hot day. As their car approaches a fork in the road, they see a man beside the left fork. He looks extremely excited. He says he's been hiking and a car almost ran him down. He takes a chocolate bar out of his pocket and snaps it in half. Why do the police go down the other fork?" "If the man was hiking in the hot sun," Tec responded, "his chocolate bar would be melting. He's one of the robbers and they dropped him off to misdirect the police down the wrong road."

Unit 7: All About Pluto

From 1930 to 2006, our solar system had nine major planets. Now there are only eight major planets. What happened to Pluto, the smallest of the original nine planets? Pluto was discovered in 1930 by a team of astronomers. Because they discovered a new planet, they had an opportunity to give it a new name!

The astronomers chose a name suggested by 11-year-old Venetia Burney from Oxford, England. She selected Pluto, a Roman god, so its name would be similar to most of the other planets' names.

Pluto, however, had always been a strange planet. It's mostly made of ice, unlike the other eight planets. Furthermore, its path around the sun is irregular. The first eight planets orbit in circles that line up evenly. Pluto travels in an oval orbit at a tilt, which does not line up with the other planets."

"Pluto's future as a planet began to fade in 2005. A team of astronomers was exploring the outer edge of our solar system and found a body larger than Pluto. This discovery raised many new questions for scientists. Was this large object a planet, too? If it wasn't a planet, what about Pluto?

In 2006, the International Astronomical Union met to decide on the definition of a planet. They came up with three requirements. First, a planet needs to orbit the sun, not another planet. Second, a planet needs to have enough gravity to shape itself into a sphere as it spins. Third, a planet needs to be big enough so that nothing is around it. Pluto was not massive enough to meet the third requirement. Consequently, in 2006, Pluto lost its place as one of the major planets in our solar system.

Unit 8: Left Handed in a Right Hand World

If you're right-handed, you may not have noticed, but if you're left-handed, you probably have. The world is designed for right-handers. There's an excellent reason for this because, on average, nine out of ten people on this planet are right-handed. This isn't true for animals. They are just as likely to use their left paws as their right paws. What kinds of problems does a lefty have in a right-handed world? Some musical instruments, such as guitars and violins, are designed for right-handers, as are tools like can openers and scissors. Even more important, lefties have to master the difficult skill of handwriting by doing the reverse of what everyone else is doing!

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Nine out of ten people are right-handed. This much is known, but why so few people are left-handed remains a mystery. Scientists think which hand we use is partly inherited. Two left-handed parents are more likely to have a left-handed child than two right-handed parents are. Scientists believe it may also be connected to how the brain works. Our brains are divided into right and left hemispheres and studies have shown that most righties use the left side to understand language. Most lefties, however, handle language on the other side or on both sides of the brain. Meanwhile, righties keep outnumbering lefties, and lefties continue to adjust to life in a right-handed world.

Unit 9: The Story of the Seas

Long ago, the sea did not cover most of the world. The only seawater came from a tiny spring and only one woman knew the location of this spring. She would collect water for cooking because cooking her vegetables in seawater made them taste better. She had two teenage children who were curious and adventurous, but sometimes got themselves into mischief and always wanted to accompany her to the spring. "No, it is a dangerous place," she would always say, "and you would get in trouble." One day the two siblings followed their mother and watched her crawl under a bush and fill her pan with water. When she left, they found the spring and saw the seawater that was bubbling out.

After their mother left, the teens drank the salty water, and then they made faces because seawater is terrible to drink. Suddenly, something unexpected happened. The spring began wildly bubbling, higher and higher, startling the siblings.

"Make it stop!" exclaimed one.

"We have to get out of here!" screamed the other, as the water level rose above their ankles.

They ran home, chased by the swirling water, which had become a powerful flood. Their mother saw what was happening and quickly built a magic fence. The fence acted as a huge dam, stopping the flood. Soon a vast ocean covered most of the world, thanks to the curiosity of a very adventurous pair.

Unit 10: Greener Building

Did you know that buildings require more energy than cars, trains, and planes? When buildings are constructed, making the materials and transporting them to the construction site uses a lot of energy. Then once built, they use even more energy. Buildings have lights, appliances, water heaters, air conditioners, and heating systems. Using this much energy impacts our planet. So what can be done to help?

Some architects design buildings that use less energy. These are called green buildings, and they have a smaller impact on our planet than other buildings. When architects design green buildings, they use recycled materials, such as steel, that have been taken from old buildings. Green architects also build with materials that can be found locally, rather than needing to be transported from far away.

One interesting eco-friendly building is called Suzlon One Earth. Located in India, it was built almost entirely with recycled materials. It stands on a ten-acre campus that includes solar panels that turn sunlight into electricity. The building also receives energy from wind turbines that turn wind into electricity.

In order to conserve water, the building has a system to collect rainwater. Water from the building's sinks is also recycled and used in some of the plumbing, and used to water the many living plants on the campus. Glass chimneys rise from the basement all the way to the top of the building. These chimneys are filled with plants. Suzlon One Earth's name comes from the idea that we only have one Earth, and we need to preserve it for the future. What's something you can do to help our one Earth?

Unit 11: Learning to Water Ski

Lucas sat in the water, his feet in the skis. The water-skiing instructor gave some final reminders. "Keep the ski tips pointed toward the boat, your knees together, arms straight, and a slight bend at the elbows. Got it?"

"Got it," said Lucas, and under his breath he added, "I hope."

The motorboat started off, and holding the rope handle above his knees, Lucas felt himself being pulled through the water. As the boat picked up speed, Lucas tumbled to the side. He didn't make it to a standing position on the second try either, but on the third try, Lucas rose out of the water and felt the wind rushing towards him as his skis bumped over the lake surface. "I'm up!" Lucas screamed.

On water-skis for the first time, Lucas was surprised by how bumpy the ride was. "Chest out, shoulders back," the instructor had said. Lucas tried not to hunch, but he felt too off-balance to straighten up fully. His skis began to veer left and he couldn't control them. As they cut through the choppy wake, he screamed, but he stayed upright! Then he veered to the right, through both wakes and then back again! At last, the boat slowed and Lucas sank into the water. As the boat circled back to pick him up, the instructor said, "It's hard to believe you've never water-skied before. You handled those wakes like a pro!"

"Thanks," Lucas said, although his voice was hoarse from screaming.

Unit 12: Mary Shelley's *Frankenstein*

In 1818, the English writer Mary Shelley published a story that became her best-known work. She wrote about a scientist who combines parts from dead bodies to build a monster. The scientist, whose name is Frankenstein, then uses electric current to bring the monster to life. The monster looks too different and frightening to join human society, and he is terribly lonely. At the end, the monster destroys his creator. English speakers today use the term Frankenstein or Frankenstein's monster to name something that people make and then cannot control. Shelley's story is considered the very first work of science fiction. Writers of science fiction imagine what might happen as a result of developments in science and technology.

Ever since Mary Shelley wrote her famous story about Frankenstein's monster, science fiction writers have explored a similar theme: Human technology can lead to destruction. Science fiction also explores the opposite theme: The future will be better because of advances in technology. Writers of science fiction imagine time travel, aliens, space travel, and machines that don't yet exist. The setting is often the future—on Earth, on another planet, or in a spacecraft. Science fiction is a genre, or category, of literature, though not all the stories are in books. Science fiction is also popular in movies and video games. Science fiction is for everyone who looks at modern technologies and wonders, "What would happen if...?"

Unit 13: New Year's Traditions

Every April 13th, the traditional new year holiday of Songkran begins in Thailand. Songkran is also known as the water festival. In the past, water was poured over the hands to symbolically wash away bad things and start afresh. More recently, the holiday has become a time to splash or shoot water on everyone outdoors. Other cultures also use traditional calendars to welcome a new year. Chinese New Year arrives between late January and late February. The celebration lasts several days. Houses are cleaned and decorated. Families feast together. Dancers perform in colorful costumes of dragons and lions. Children receive money in red envelopes, symbols of luck and wealth in the coming year.

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The Gregorian calendar, which was developed in Rome in 1582, sets each new year on January 1. That date arrives at midnight. Everywhere, people celebrate New Year's Eve in varied ways. In some Spanish-speaking cultures, people eat twelve grapes at midnight, one for each stroke of the clock. Each grape symbolizes good luck for the twelve months ahead. In Greece, the custom is to eat pieces of a cake in which a coin has been baked. Whoever gets the piece with the coin will have good luck in the coming year. Ancient peoples used noise and fire to scare away evil forces. That may be why noisemakers and fireworks are features of many New Year celebrations today.

Unit 14: How Hibernation Works

Some animals that live in regions with cold winters cannot survive in the cold. Frogs are one example. The body temperature of a frog drops with the outside temperature and, if it drops too low, the frog dies. So what do frogs do to survive in cold regions? As the days shorten and winter chill arrives, frogs' bodies go into a very low-energy state. This inactive state is called hibernation. Wood frogs carry hibernation to an extreme. Buried under leaves in the forest, these frogs stop breathing. Their hearts stop beating and their bodies freeze solid. A natural kind of anti-freeze protects their cells and organs until the frog thaws in spring.

Mammals have fur to keep them warm during cold winters, but many mammals cannot find food in winter. These mammals spend the winter in caves or underground. Their body temperature drops, and their heart rate slows. In this inactive state, called hibernation, their bodies use much less energy than usual. Most small hibernating mammals awaken now and then to nibble on stored food. Bears hibernate differently from smaller mammals in that bears awaken easily. Females give birth to young and nurse them in the winter den. The bears seem active, but they're actually in a low-energy state. Adult bears are the only hibernating mammals that can go without eating or drinking for up to six months.

Unit 15: Fruits of Friendship

Maya took a deep breath as she entered the community garden. It was her first day as a volunteer, picking fruits from trees that would otherwise go to waste. She grew up seeing lemons, oranges, and pomegranates that had fallen and been forgotten on the ground. She and the other volunteers were here to make sure those fruits got picked, donated, and eaten instead.

But Maya often felt shy around new people. She stood quietly to the side, listening to others greet each other. Maya spoke English and Spanish, but the words she overheard were new and unfamiliar to her. How were all the volunteers going to communicate? Maya decided to start by walking up to a group that looked friendly. She waved hello, and to her delight, another girl waved back. When everyone got sorted into pairs, the girls teamed up together.

It turned out that the other girl spoke Somali. She introduced herself as Halima. Although Halima easily explained to another Somali volunteer how to set up his ladder, she and Maya needed to find a different way to communicate.

So, Maya and Halima used body language. Halima acted out how to use the fruit picker, a tool that looked like a basket on top of a stick. Maya smiled or frowned to show Halima whether she thought the oranges were ripe or not, and her silly faces made Halima giggle.

Maya and Halima also exchanged words for the brightly-colored fruit. In English, it was an orange; in Spanish, naranja; and in Somali, oranji. In all three languages, both the fruit and the laughter Maya and Halima shared were just as sweet.

Unit 16: Escaping the Hornets

"Here's the lookout tower I was talking about," said Flora, who was 16. She was in charge of her young cousin, Sandra.

"Let's climb to the top!" Sandra said eagerly as she gazed up at the tall steel tower, open on all sides.

"Ok, but climb carefully and hold onto the railing," advised Flora. "I'll follow behind you."

As Sandra went up, the steps seemed to go on and on endlessly until, all at once, she was stopped by a wooden hatch overhead. She pushed against it, but the hatch was stubborn and wouldn't budge. As Flora helped Sandra push, they noticed a buzzing sound that got louder and louder." Oh, no," gasped Flora, "this is a disaster, Sandra!"

Flora and her young cousin Sandra were trying to open a wooden hatch near the top of a lookout tower, but as they pushed on the hatch, they heard an alarming buzzing sound.

"It's hundreds of hornets!" Sandra cried, looking terrified."

We have to stay calm and go back down," Flora said as the hornets swarmed around them. She took Sandra's hand, gave her an encouraging smile and said, "Just keep looking down.

"Sandra tried to ignore the threatening insects buzzing furiously in the air. It seemed forever before they reached the bottom and walked quickly away.

"Wow, they never stung us," said Sandra in amazement. "So can we go up again later?"

Flora smiled, shook her head, and said, "Absolutely not!"

Unit 17: Juneteenth Weekend

The sun had barely risen on Saturday morning when Isaiah's mother woke him up. It was Juneteenth weekend, and today was the first day of the festivities. Isaiah knew the history of Juneteenth in the United States: it marked the day that enslaved Black people in Texas first learned they'd been freed from slavery.

For most people, the holiday was a time for barbecues, concerts, and family activities. For Isaiah, however, it was a time for work. His mom owned a popular restaurant in their community, and she would be setting up a booth at the street fair in town. Isaiah needed to help her serve her famous strawberry pie.

Isaiah and his mom loaded their van with food and cooking equipment. When they arrived at the fair, they set up their bright orange booth and began cooking.

Soon Isaiah was busy taking orders, processing payments, and serving food to customers. His friends stopped by to say hello, and Isaiah's mom let him take a break. He and his friends grabbed sandwiches from another booth—Isaiah's favorite was chicken with spicy honey and pickles—and wandered over to the main stage. A woman was giving a speech about Juneteenth. She said that Juneteenth is a day to celebrate the freedom and spirit of Black people in America.

From where Isaiah was sitting, he could see that his mom had a long line of customers. As she talked and laughed with them, Isaiah felt a surge of pride. To Isaiah, his mom and her business were the perfect example of what freedom and spirit looked like. He quickly finished his lunch and hurried back to help her.

Unit 18: The Ups and Downs of the Yo-Yo

The yo-yo is a simple toy made from two pieces of round plastic that spin on a string. People have been playing with yo-yos for thousands of years, but nobody knows exactly where or when yo-yos were invented. When yo-yos arrived in the United States, they became more than just popular; they became a fad.

The fad began with a man named Pedro Flores, who had just immigrated to America. In the late 1920s, he started a business selling yo-yos in California. He had played with yo-yos as a child in the Philippines, and he thought that children in California might like the toy, too. He was right, and his business grew considerably.

Pedro Flores soon sold his yo-yo business to a toy company, which had a plan for selling the yo-yos throughout the United States.

Across the country, children waited eagerly for yo-yo performers, who worked for the toy company. The performers were champion players who did amazing tricks. They made the yo-yo spin at the end of the string, which was called "sleeping." In the "around-the-world" trick, they made the yo-yo fly around their heads.

The delighted children wanted to learn these tricks themselves, so they bought yo-yos. Sales of yo-yos began to rise quickly. Singers sang songs about the yo-yo, and film stars advertised yo-yos. Millions and millions of yo-yos were sold.

In time, interest in the yo-yo began to drop, and the fad ended. But, from ancient times to the present day, the yo-yo has brought fun and challenges to players around the world.

Unit 19: Bird Talk

Bird talk usually consists of chirps, tweets, squawks, and screams, but certain birds can actually learn human speech. Parrots, especially African Gray Parrots, make the best students. Parrots love to make noise. They're very social and constantly chatter to one another. They also imitate sounds they hear. So if a parrot has a human family, it may imitate its owners as well as their vacuum cleaner! Parrots don't make sounds the way humans do with vocal cords and movable mouths, but they can control muscles in their throats to form human words. Parrots may learn quite a few phrases after much practice, but they'll never have a large vocabulary, and we're not sure how well they understand what they're saying.

How do you teach a parrot to talk? Stand alone with the bird in a quiet room. You want it to concentrate, paying attention only to you. In the wild, a parrot calls out loud greetings to stay in contact with its mate, so a good beginning phrase might be a greeting like "Good morning!" Repeat the phrase over and over. Use a loud, cheerful, enthusiastic voice to help the parrot concentrate. Be patient and don't get frustrated if your bird just stays silent. Frequently, a parrot will suddenly start saying a phrase it heard yesterday or the day before. When it finally does speak, be sure to reward your parrot with praise and a little food treat.

Unit 20: Robots Among Us

In stories about the future, there are often robot helpers, but the idea of robots has been around for a long time. In the middle ages, clockmakers created machines that looked and moved like people. They were called clock jacks. For example, a clock jack might signal the hour by striking a bell with its hammer. In the eighteenth century, toymakers created wind-up mechanical toys and those that imitated people or animals were very popular. The word robot first appeared in a play written in 1921. The play was about a mechanical man who could think. The author called it a robot, an old word that described hard work. In his play, the robot destroys the man who made him.

The robots in use today don't look like people. They are machines that are programmed to do certain tasks. These tasks are ones that are boring, dangerous, or impossible for people to do. Robots were first used in industry to build cars. The first robot run by computer was designed in 1963. A computer-controlled robot was able to do more complicated tasks. There are now robots that can approach and study erupting volcanoes. Some can explore the ocean floor or outer space while others can carry dangerous materials. Scientists keep trying to create robots that can think on their own. Robots are able to do a lot, but so far they aren't able to carry on a real conversation with us!

LEVEL 20 | PASSAGE COMPREHENSION 7

Unit 1: Demonstration

In 1818, the English writer Mary Shelley published a story that became her best-known work. She wrote about a scientist who combines parts from dead bodies to build a monster. The scientist, whose name is Frankenstein, then uses electric current to bring the monster to life. The monster looks too different and frightening to join human society, and he is terribly lonely. At the end, the monster destroys his creator. English speakers today use the term Frankenstein or Frankenstein's monster to name something that people make and then cannot control. Shelley's story is considered the very first work of science fiction. Writers of science fiction imagine what might happen as a result of developments in science and technology.

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Unit 1: Ask an Archaeologist

Dr. Angela Murock Hussein is an archaeologist who loves to talk about her favorite subject—mysteries from the past. Here are three questions Dr. Hussein received from three different young people who wanted to learn more about archaeology.

Can you tell me about woolly mammoth bone huts? – Craig

In the later part of the ice age, a time known as the Upper Paleolithic, animals called woolly mammoths roamed much of Europe. The humans living at that time either hunted these animals or scavenged their bodies. Archaeologists have found huts made from mammoth bones from this time period. Most likely the huts were covered in skins or other materials to make them weather-proof. Inside, there are remains of hearths, or fireplaces, used for cooking. These mammoth bone huts have been found in the Ukraine and Russia. In this region, there were no natural caves or large stones for rock shelters. Therefore, shelter had to be constructed out of the materials available.

What is the oldest pottery that has been uncovered? – Evan

It was previously thought that pottery was first used when people started farming around 12,000 years ago. Before this, humans were hunter-gatherers, moving around to find food. Because pottery is heavy and breaks easily, archaeologists believed it was impractical for hunter-gatherers to carry it from place to place. Recently, pottery has been uncovered in the Xianrendong Cave in southern China. Archaeologists believe that this pottery is from 20,000 years ago. This artifact offers evidence that some hunter gatherers likely did use pottery.

The earliest pottery was made when the earth was at the height of the ice age. Less food was probably available at this time. Cooked food provides more energy to people than food that is uncooked. Therefore, archaeologists believe that these pots would have been used to prepare food that would have helped people survive.

I heard that archaeology is being used to figure out what happened to Amelia Earhart. What has been found so far? – Ashlyn

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Amelia Earhart was a renowned and famous pilot. In 1937, she tried to be the first woman to complete a solo flight around the world. Sadly, her plane disappeared somewhere over the Pacific Ocean. In 1940, part of a skeleton was found on the island of Nikumaroro in the Pacific Ocean. Recently, researchers went to the island. They wanted to find evidence to prove whether or not the skeleton belonged to Amelia. Any objects made by people would be partly buried after so many years. Therefore, the researchers needed to use expert techniques to uncover any remains around the island. So far they have found a campsite with a zipper, a handheld mirror, and hand lotion that all date to the late 1930s. They also found the handle to a knife similar to one that Amelia owned.

Unit 2: Digging Deep

Alejandro walked up the steps to the doors of the Cemi Museum in the town of Jayuya in Puerto Rico. It was his first week as a university student. His professor had invited the class to the museum for an archaeological exhibit. Alejandro stepped through the museum doors, trying his best to appear confident. Even though he was proud that he was the first in his family to attend university, he was still feeling a bit shy and out of place among his classmates. Did he belong here? Could he reach his dream of becoming a doctor?

"Breathe. Just stand tall. Just focus on the exhibit," Alejandro reminded himself. He and his classmates were at the museum to learn about the history of medicine on the island. Their professor brought them there to hear about the Taíno, an indigenous tribe that has lived on various Caribbean islands, including Puerto Rico, since as early as 1350. Alejandro was especially interested in this exhibit. From the time he was young, his mother had told him about his connection to the Taíno, their land, and their wisdom. She always told him that their family came from intelligent and thoughtful people with knowledge of the islands and its plants. He had grown up in a world where people had firsthand knowledge of the medicine growing around them.

Dr. Evita García, the lead archaeologist, stood at the podium. Dr. García and her team had spent five years excavating sites throughout the region. To excavate the site, Dr. García's team of archaeologists dug through layers of earth and looked for artifacts such as pots, bones, and building materials.

Dr. García began speaking, "I'd like to introduce you to a group of people who have lived here for more than 600 years."

Alejandro listened attentively as she continued. "From the artifacts we found at the excavation sites, we know that the Taíno's vast knowledge of herbs and plants was used to cure sick people," she explained. "My team found many artifacts such as bowls and sharp stones that were used by the Taíno to grind herbs for medicine. Today, these practices are still in place. It's just incredible that such wisdom has been passed down and carried on."

After Dr. García finished her talk, Alejandro walked through the exhibit hall to view the artifacts. He saw the bowls Dr. García's team found during their dig. She explained how the bowls were used to grind native plants into a powder, and how that powder was used to help sick people who were ill feel better.

This reminded Alejandro of the times his mother would care for his brother when he was sick. She would send him through el campo to find herbs growing nearby. She would then boil the herbs into a sort of medicine for his brother to drink. These memories were very special to Alejandro. Maybe this was the reason he was inspired to learn about medicine. He already had healers in his family, so why couldn't he become a medical doctor?

Unit 3: The Mystery of the Nazca Lines

Near the coast of northern Chile and southern Peru, between two deep valleys, is the Nazca Plain. It is long and narrow, about a mile wide (about 1.6 kilometers) and extending roughly 37 miles (about 60 kilometers). There is almost no wind here and the rains come rarely, maybe once every several years.

This plain is the site of something that has been puzzling the modern world since the 1930s. There are outlines of about 70 animal and plant shapes made by shifting rocks and soil. Many of them are enormous. The largest, a pelican, is about 935 feet long (285 meters). There are also various mathematical shapes, including straight lines, triangles, spirals, circles, and those uneven four-sided shapes known as trapezoids. Some of them are quite sizable, too. The longest straight line extends 9 miles (14.5 kilometers).

Archaeologists believe they know the who, when, and how of these shapes and lines. It's the why that is the mystery.

Who? The Nazca people flourished in this area 1500-2000 years ago. They were an advanced farming culture that built waterways and created beautiful bowls and jars. And they are responsible for these shapes and lines known as the Nazca Lines.

When? Archaeologists believe that the earliest work was done between 500-200 BCE. The majority of the work came later, between 200 BCE and 500 CE.

How? In the earlier works, gravel was often removed and piled inward so that the outlines of the figures were raised above the ground. But mainly, the reddish gravel was carefully removed to uncover the lighter sand underneath. In most regions, this work would barely last a year, brushed away by wind or washed away by rain. But on these dry and windless plains, the Nazca Lines have remained.

Why? Here is a sampling of the many theories for the existence of the Nazca Lines.

- Since these lines and drawings can best be seen from the height of a low-flying plane, one outlandish, unlikely idea was that they were alien landing strips. (The loose gravel on these plains would have made for very poor spaceship landings.)
- A less unlikely theory suggests that the giant drawings were offerings to the gods above, in hopes of receiving good weather for crops.
- It was suggested in the 1940s that the lines might be a guide to the stars, but later studies have challenged this idea.
- One theory links the drawings to religious practices. The straight lines are thought to be roads people traveled to get to important religious sites.
- The mathematical figures seem to match up with actual underground water sources. A theory proposed that they were maps to guide people to water.

No single theory covers all the lines and shapes. It is most likely that the Nazca people had many reasons for creating these fascinating pictures that they left for us to puzzle over.

Unit 4: "Circles"

An excerpt from a poem by Carole Lindstrom

First powwow. / First plane ride—Detroit! / Arriving at high school, / Nations are gathering. / Mom met Dad / and moved far away. / Raised apart / and distant from / our ways. / Want to remember / everything. / Trusty camera—check! / Show and share with friends / back in DC. / Not during honor songs / or sacred moments. / Ask first outside arena. / And don't touch regalia. / Ready! / Drum pounds / BOOM BOOM BOOM BOOM. / Ground under my feet / Sounds / Boom boom boom boom. / It feels like home. / Like a circle / joining together, / a line heading / in opposite / directions. / We come together / Like a circle. / Like we / never left. / Because we are / all related. / Women in their jingle dresses, / straight and tall, / glide across the floor in their / soft moccasins—barely touching, / leather, wood, / leather, air / making circles as they float. / Circles / In the jingles / In the skirts / In the drum / In the turns / In the lives / Fancy dancers in bright regalia / spin and dip. / Colorful ribbons adorn, / feathers flying / in the sky, / making whirling circles. / Circles / In the feathers / In the footwork / In the beadwork / In the drum / In the lives. / Auntie Rose / bouncing / grandbabies / on her round knees. / Baby Savannah wearing her / beaded headband. / Beads, circles / touched by / aunties, kokums, / and me. / Bleachers filled with relatives, / some seeing each other / for the first time. / Is that Cousin Charlie / at the big drum? / I've only seen him in photos. / And Cousin Wanda / lining up for the Shawl Dance? / We are all related, / no matter how far apart. / Raised with powwows, or not. / We are all connected. / Coming together, / like circles."

Unit 5: Wealth and Worries

Cast of Characters

MR. CHEN, a rich merchant

MRS. CHEN, his wife

MR. LI, a poor laborer

Scene 1

[Late in the evening in the courtyard of the Chen family's house. MR. CHEN is sitting at a table while MRS. CHEN stands nearby.]

MR. CHEN. [Counting a large pile of gold coins] Forty-one, forty-two, forty-three, forty-four, forty-five... [Continues counting as MRS. CHEN comes closer]

MRS. CHEN. [Placing her hand on MR. CHEN's shoulder] My dear husband, you're working much too hard. I am worried about your well-being.

MR. CHEN. [Looking up] Yes, my hours are long, but I must work hard if we are to remain rich.

[Melody of flute is heard from neighborhood.]

MRS. CHEN. [Listening] That's a lovely tune. Neighbor Li must be playing his flute. He knows how to have fun after a day's work.

MR. CHEN. Li works all day digging ditches and chopping wood. He earns pennies. What a terrible way to live!

MRS. CHEN. But isn't that music sweet? Li and his family seem happy, even though they are not rich. We have piles of gold, but are we happy?

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MR. CHEN. I'd be happier if I could count these coins in peace without that music distracting me. I have an idea: I'll give Li enough money to make him a rich man. He'll soon be too busy to bother with that flute. First thing tomorrow, I'll have a servant bring Li to me.

[Curtain]

Scene 2

[Early morning in MR. CHEN's courtyard. MR. LI stands respectfully before MR. CHEN, who is seated at a table that holds a small sack.]

MR. CHEN. Neighbor Li, you work so hard yet have no fortune to show for it. I've been thinking of your future. I am giving you the gold pieces in this sack. There is no need to repay me, but you must use it wisely. [Hands the sack of coins to MR. LI, who looks startled]

MR. LI. My family and I have never had such riches. I am grateful. [Bows and leaves the courtyard]

[Curtain]

Scene 3

[The same courtyard, three days later]

MR. CHEN. [Speaking to his wife] Well, three days have passed since I gave Neighbor Li a sack of gold. My plan worked. He has finally stopped playing that silly flute. Now I can count my gold in peace.

[MR. LI enters holding the sack of gold. He looks exhausted. He bows to MR. CHEN and MRS. CHEN.]

MR. LI. Please forgive me for interrupting you, but I must return this gold. [He places the sack of gold before MR. CHEN.] These past few days, I have spent every hour worrying about what to do with such a fortune. I worried about spending it. I worried about making more of it. I worried about someone stealing it. I worried about my children fighting over it. I thank you for the gift, but I must return it. [MR. LI places a new flute next to the sack of gold.]

MR. CHEN. [Looking surprised] What is this?

MR. LI. This flute is my gift to you. Please accept it. When you gave me the gold, I felt the heavy burden that you must bear every day. I am most happy when I am making music with my family. I hope that you, too, may find such peace and joy.

[MR. LI bows and exits. MR. CHEN and MRS. CHEN look confused. Then, MR. CHEN picks up the new flute and begins to play. MRS. CHEN smiles.]

[Curtain]

Unit 6: "Songs for the People"

An excerpt from a poem by Francis Harper

Let me make the songs for the people, / Songs for the old and young; / Songs to stir like a battle-cry / Wherever they are sung. / Our world, so worn and weary, / Needs music, pure and strong, / To hush the jangle and discords / Of sorrow, pain, and wrong. / Music to soothe all its sorrow, / Till war and crime shall cease; / And the hearts of men grown tender / Girdle the world with peace.

Unit 7: The Travels of Marco Polo

"Here are seen huge serpents, ten paces in length. . . . The jaws are wide enough to swallow a man."

This description of crocodiles comes from one of the most influential books ever written. Its author, Marco Polo, lived from 1254 to 1324.

Marco Polo was born in Venice, a city in present-day Italy that was a leading center of trade. His father and uncle were wealthy merchants and the first Europeans to visit the court of Kublai Khan, the Mongol ruler of China. When the Polo brothers set off from Venice to visit the Great Khan again, 17-year-old Marco went with them.

The Polos took an overland route. They braved many dangers, from murderous bandits to flooded rivers. They journeyed over mountains and through deserts, finally arriving at Kublai Khan's court after a journey of three and a half years.

Kublai Khan took a liking to Marco Polo. The young man spoke several languages and was a sharp observer. Kublai Khan made Marco Polo a trusted ambassador and sent him to the provinces of China and beyond, to report back about the lands and customs. The Polos became members of Kublai Khan's court.

When the three merchants returned home to Venice, they had been gone for 24 years.

Venice and its rival city of Genoa fought a war. Marco Polo was captured in battle. He entertained a fellow prisoner with stories of his travels to the Far East. His cellmate, who happened to be a writer, wrote down the stories. After his release from prison, Marco Polo had copies made.

The book, The Travels of Marco Polo, described things that were new to Europeans. Marco Polo reported that throughout China, paper money was used instead of metal coins. He said that homes were heated with black stones (coal) instead of wood. He described messengers riding in relays over long distances—a postal system.

Polo told about busy cities larger than any in Europe. He described silks, jewels, furs, and other finely made objects. He described elephants on parade and grand banquets. He told about the peoples of the empire and how the Great Khan ruled over all.

Did Marco Polo really serve in the court of Kublai Khan? Had he really seen what he described? From his own day to the present, many people questioned the truth of his accounts. It was said that on his deathbed, Marco Polo was urged to confess that he had told lies in his book. He claimed, "I have only told the half of what I saw."

Versions of Marco Polo's book were printed in many languages. In the late 1400s, the book inspired another explorer, Christopher Columbus, to set sail on an ocean route to the lands of wealth that Marco Polo so vividly described.

Unit 8: Dots and Dashes

Dit-dit-dit, dah-dah-dah, dit-dit-dit. Three short, three long, and three short tones are the internationally recognized call for help: S-O-S. Once used by ships and aircraft in trouble, this message is based on Morse code. In Morse code, sequences of dots and dashes stand for numbers, letters, and punctuation. The dots correspond to quick tones (dit), and the dashes correspond to longer tones (dah). The sounds were tapped out by operators of a device called a telegraph.

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Early Discoveries

- A scientist in Denmark, Hans Christian Oersted, discovered the connection between electricity and magnetism in 1820. A wire carrying an electric current could make a magnetized needle move.
- Oersted's discovery led other inventors to develop devices that used electric pulses to make needles point to letters of the alphabet. These were the first telegraphs.
- The word telegraph is based on the Greek word parts tele, meaning "distant," and graph, meaning "writing." In other words, writing that could travel across distances.

A patent for the telegraph was given to the American inventor Samuel F. B. Morse in 1840. As with all new technologies, Morse's telegraph was based on earlier discoveries. Morse spent years improving the technology, with help from a scientist and an engineer. During that time, he wrote about what the telegraph might achieve, explaining that the telegraph could make "one neighborhood of the whole country." How? By shrinking the time it took to send information back and forth.

Before the invention of the telegraph, communication over long distances depended on mail delivery. Mail traveled across oceans by ship, which could take months. It traveled across land only as quickly as the person, animal, or vehicle that carried it. Morse's telegraph could send pulsing electric signals across wires faster and farther than ever before. It was the first invention that used wires and electricity to send messages, and it would change long-distance communication forever.

How did the telegraph work? A person operating the device sent a message in Morse code using pulsing electric signals. At the receiving end, another skilled operator decoded the signals into words. Once the operator translated the message into English, it could be shared.

Telegraph technology required wires strung across land and cables set underwater. After those systems were set up, high-speed, long-distance communication became possible for the first time. Businesses, news reporters, railroads, and the military used telegraphs to send and receive information.

Individuals also sent written messages called telegrams. Telegrams were messages sent by telegraph and then hand-delivered in written form. These communications were limited to special events because they were expensive.

Telegraphs were in use for about one hundred years. Eventually, they were replaced by faster technologies, including telephones. Telephones also relied on wires and electricity, however, they transmitted voices. This difference meant that Morse code was no longer needed: individuals used telephones to talk and listen over long distances.

Unit 9: Propaganda or Truth

On February 15, 1898, the American battleship Maine blew up in the harbor of Havana, Cuba, killing 266 sailors. But why? Had Spanish forces set off an explosive device? Spain denied it, claiming that the explosion was caused by an accident on board. American newspaper publishers rushed to blame Spain, even without all of the facts. Newspapers urged revenge and called on Americans to "Remember the Maine."

Did Spanish forces actually sink the Maine, killing American sailors? Even today, the answer is unknown.

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Yellow Journalism: A Brief History

During the late 1800s and early 1900s, strongly expressed opinions without much care for proof were common in American newspapers. This kind of biased reporting came to be known as "yellow journalism." (The name came from "The Yellow Kid," a popular comic strip in the newspapers.) This type of journalism was designed to offer exciting stories and sell more papers. It was also designed to influence people and events.

In the case of the Maine, yellow journalism worked dangerously well. In response to what they read in newspapers about how the ship sank, many Americans angrily demanded war against Spain. Historians say that yellow journalism played a major role in causing the Spanish-American War.

The Problem: Propaganda

There's a term for information that gives just one side of an issue and makes people think and act in certain ways: propaganda (PROP-uh-GAN-duh). Often, propaganda supports a political cause. Propaganda uses several strategies to influence people and events. For example, propaganda builds on people's trust in the source of information. In addition, news stories with propaganda include only some facts and leave out others. Propaganda also often appeals to human emotions like anger and fear. Lastly, propaganda tends to have slogans that are easily repeated, like "Remember the Maine."

Unfortunately, biased reporting in the form of propaganda did not end with yellow journalism of the late 1800s and early 1900s. It still exists today and the problem is worse in some ways. Today, the internet makes instant global communication possible—it's easier than ever to spread the misleading ideas and half-truths of propaganda.

One Powerful Solution: Critical Thinking

How can people resist the pull of propaganda? They can think critically about what they read and hear. When citizens think critically, they try to understand more than one side of an issue and they look for the truth. They ask themselves questions like:

- Is this a fact or an opinion?
- Are the facts actually true? How can I check?
- Are the opinions based on evidence?
- Why might someone disagree?
- Are there words that quickly make me feel angry or scared?
- Who wrote this? Is the writer likely to be biased?
- Where can I find another point of view?

When people notice propaganda, they can try to think critically and decide for themselves whether to agree or disagree with its message.

Unit 10: Powder Art

Every January in Chennai, India, a street is cleared. Barricades are set up on both sides. People of all ages are ready for the big competition: the kolam contest.

A kolam is a design that is drawn every morning on the floor of Hindu homes, usually at the entrance. The design can be small to fit a compact space, or huge and striking to fill up a large area. Traditionally, kolams are drawn with rice flour, which means they can be food for ants, birds, and small insects. So, drawing a kolam every morning begins the day with kindness and generosity.

For the contest, kolams are drawn with either ground rice or kolam powder. Kolam powder is a special powder made from a crushed white stone. The kolam artist begins by taking a pinch of powder between the thumb and index finger. When the artist rubs her fingers together, a sprinkle of powder falls to the ground. In this way, she can make dots, lines, or curves. She then creates a pattern of dots on which she will make her design. This technique takes weeks of practice to learn and years to perfect. Most young girls learn kolam art from their mothers and grandmothers.

The kolam contest began in 1996 with a few contestants. Since then, it has grown to be a part of a four-day festival in Mylapore. The festival has something for everyone: stalls of delicious food, plays and puppet shows, rides, board games, craft classes, music and dance performances, and more. Sometimes there is more than one kolam contest. There is even one for just children to compete, too!

In one recent year, nearly one hundred contestants joined the competition. Each participant squatted or bent down to draw their most impressive kolam patterns in a four-by-four foot space. Powder flowed from their fingers with ease and expertise. As the contest continues to gain popularity, it attracts all sorts of competitors who want to join in on the fun, too!

The participants have forty-five minutes to lay out their masterpieces. The winners of the kolam contest receive a gift basket, a plaque, and a certificate. But no matter who is declared the winner, a beautiful carpet of kolams will be complete for onlookers to enjoy.

Unit 11: Nia's Story

When Mr. Powers announced a story competition one afternoon during class, Nia was ecstatic! She loved stories and had a cornucopia of her own to tell, almost too many to count. Her love of stories came from her granny, who constantly told her stories. Nia most loved to hear the story about how her family picked her name, and why its meaning in the Swahili language is important to them.

Each student in Nia's class was invited to compose a story about something unique to their family or culture. Mr. Powers said the stories would be shared onstage and that winners would receive a prize.

Nia rushed home after school, eager to begin. But when she opened her notebook and picked up her pen, her excitement stumbled. To tell her stories, she would have to make all the words come out just right—in front of everyone. The problem was, oftentimes when Nia had to speak, her words got jumbled up on the way out. Knowing others were watching only made it worse. Nia wanted to share her story, but how would she do it?

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The Competition
On competition day, Nia was extremely nervous. The first person to share was Nia's friend, Chung-Hee, who told the story of the time she went to Korea with her family and learned how to make kimchi, a type of Korean food. Chung-Hee smiled confidently as she told the story, and when she came off the stage, Nia congratulated her.

One after another, other competitors spoke about their special stories. Before Nia knew it, it was her turn. She stood in front of dozens of students and teachers and did something unexpected: she turned on the projector screen to tell her story in a different way. Without speaking a word, Nia told everyone about how she got her name.

The projection started with a picture of Nia's mother. An audio recording of her mother's voice filled the room, explaining that Swahili was the language of the Bantu peoples who live in East Africa. Next was a picture of granny, along with another recording—this time of granny's voice. Granny explained that Nia's name meant "purpose" in Swahili. In the recording, Granny said that she wanted Nia to live a life full of purpose.

Nia had also recorded some lines. The recordings allowed her to practice and edit until she got the words just right! It meant telling her stories, even if the words wouldn't always come out right.

When the presentation ended, Nia gazed at the audience to see Chung-Hee bouncing up and down with her thumbs up. Nia grinned.

The Award
After the competition, Mr. Powers got on stage to announce the three winners. Nia felt nervous again, but this time the nerves were a thrilling, hopeful kind. She loved the feeling of competing for something she cared about and getting to do it her own way! When Mr. Powers announced her name for second place, she realized that getting a prize was just extra, like sprinkles on a bowl of ice cream.

Unit 12 A Close Circle of Friends
"Field Day is this Friday," Ms. Kanner told Class 6A during the morning's announcements, "and our class needs four speedy runners for the relay race." She looked around the room. "How about you, Felipe?"

Felipe nodded and gestured to his two buddies, Ruben and Jack. Ms. Kanner listed the three names and said, "We need one more."

Nelson felt the urge to volunteer because he loved races, but he hesitated. He had been in this school for only two weeks, and it felt as though nobody had even noticed him. Maybe it was because he was small and easy to overlook. Plus, everyone already was part of a circle of friends. Ms. Kanner picked Thomas, whose hand was up, and Nelson tried not to think about his disappointment.

That afternoon Nelson sat on the grass by the track as Felipe, Ruben, Jack, and Thomas practiced running the 400 meters around the oval and passing the tube-shaped baton. Thomas had the fastest time, so he was assigned the anchor leg. After they left, Nelson jogged around the track a few times, just to loosen up his muscles, before increasing his pace.

On Friday morning, Thomas arrived in school with a sorrowful expression and a limp. He explained that his toe had been broken in a skateboarding accident. When Ms. Kanner asked for a replacement for the relay race, Nelson spoke up. "I can run," he offered without hesitating.

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Looking at Nelson skeptically, Felipe asked, "You sure about that?"

"I can run anchor," asserted Nelson quietly but with confidence.

Felipe ran the first leg of the 1600-meter relay, pacing himself well. He saved a burst of speed for the last 50 meters and then passed the baton to Ruben. Ruben held the lead until the halfway point, when two runners caught up to him. He barely managed to keep up with them. Straining, he reached for Jack's outstretched hand, but there was a fumble, and Jack couldn't hold onto the cylinder. A dropped baton meant precious seconds lost. By the time Jack had completed his leg and passed the baton to Nelson, Team 6A was in third place.

Nelson eased into the run, keeping his eye on the runner ahead of him. After 100 meters, he pumped harder and passed on the right. At 200 meters, Nelson was on the heels of the first runner, letting her set the pace. "Stay with her, stay with her, stay with her, and GO!" Nelson reached inside for the power he needed. His legs and arms and lungs were in perfect sync, and he heard his teammates screaming for him when he crossed the finish line first.

As Nelson leaned over, hands on knees, to catch his breath, Felipe slapped him on the back and laughed, "Man, you're pretty good. What's your name again?"

A few days later, Nelson saw Felipe and his two buddies on the basketball court. "Hey, Nelson, I'm glad you're here!" Felipe called out. "Now we can play two-on-two."

Unit 13

A bee lands on a blossom to sip sweet nectar that the hive will use to make honey. The bee's hind legs collect tiny grains of pollen to bring back to the hive as food. Other pollen grains stick to its body and drop off at the next flower the bee visits.

Pollen must be transferred between male and female plant parts in order for the plant to make seeds and reproduce. Wind is one method that plants use to transfer pollen. But 75 percent of the world's flowering plants require animals to do the job. The most common pollinators are bees.

Sweet flower scents and nectars attract other insect pollinators, such as flies, beetles, butterflies, and moths. Unlike bees, these insects don't collect pollen on purpose. Like bees, as they travel from flower to flower, their bodies pick up and drop off the sticky grains.

Birds are pollinators, too. A hummingbird hovers above a flower and uses its long bill to sip nectar. When it flies off to the next flower, pollen is clinging to its feathers. Other pollinators are mammals such as bats and small rodents. It's estimated that 100 thousand different animal species pollinate plants throughout the world.

Plants depend on pollinators. People who grow plants, including fruit crops, depend on them, too. Worldwide, some pollinators have been declining. There are many causes: disease, pesticide use, pollution, loss of habitat, loss of food plants, and more. In an apple-growing region of China, for example, wild bees began vanishing in the 1990s. To keep producing apples, every year thousands of villagers spent days hand-pollinating the apple blossoms with feathered sticks. Eventually, most growers switched to crops that do not need pollination. It was the end of the apple industry in that region.

Everywhere in the world, people can take action to help pollinators. Here are a few ideas.

Do learn about flowering plants that are native to your region and produce a lot of nectar and pollen. Plant a garden with a variety of those plants, so that they flower at different times of the growing season. Even if you live in a city apartment, you can plant window-box flowers to attract pollinators and keep them fed.

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Don't clear every brush pile or cover every bare patch on the ground. They provide materials that bees, birds, and other animals use to build nests.

Do provide shallow water sources for butterflies and other pollinators, especially when it is hot and dry.

Don't try to kill off all the insect pests that eat plants in your garden. Try not to use chemical pesticides to reduce their numbers. Instead, use natural methods, such as including plants to attract predators that eat only harmful insects, not pollinators. Removing pests with gloved hands is another option.

We all need pollinators, and pollinators need us.

Unit 14: Life Underfoot

Most of us don't even notice soil. We call it dirt and make sure to wipe our shoes before bringing that dirty stuff into the house. But as farmers know, soil is precious and essential to life. Without soil, land plants would not grow; without plants, every plant-eater and every living thing that eats plant-eaters would die. Soil is that important! But what is soil?

Little Bits

Soil contains mineral particles from rocks that have broken down. If you were to look at a handful of soil from different places, you would see that not all soil is the same. There are differences in color, feel, and the ability to hold onto water. Particle sizes differ, ranging from sand to silt to clay. A good garden soil, called loam, is a mix of sandy, silty, and clay particles. But soil isn't just made of minerals. It also contains vegetable matter, such as pieces of leaves and twigs. Animals' bodies provide other organic matter. And feasting on all that matter are all sorts of organisms. The nonliving, the once-living, and the living are all components of soil.

Decomposers

Soil is home to animals that you can see easily, like earthworms and insects, munching on organic matter. If you look closely at a fallen leaf, you may see threadlike fungi spreading on it. You won't be able to see the microscopic bacteria in soil, though they're amazingly abundant. Countless numbers of fungi and bacteria live in soil. A single gram of soil can contain thousands of different kinds of living organisms.

Living organisms in soil are called decomposers because their eating breaks down, or decomposes, organic matter. In other words, they make things rot. Over time, the decomposers' actions create humus (HYOO-mus), the rich, organic material that makes the best soil for growing crops. Decomposers in soil provide another essential function: They are nature's sanitation department. Without them, the earth would be one gigantic garbage dump, piled high with once-living things that never decay.

Maintaining Healthy Soil

Soil is essential for life on earth. As a result, healthy soil is important for all. But how do we know what makes soil healthy, and how do we keep it that way? Healthy soil does not blow or wash away easily, stores air and water well, and provides nutrients for plants. There are a few simple strategies for maintaining healthy soil:

- Leave soil alone—Let decomposers do their work without disruption.
- Grow a variety of plants—Each kind of plant helps soil in a unique way.
- Let roots stay where they are—A plant's roots make nutrients in soil.
- Cover soil up—Soil loves to stay cool and moist.

Unit 15: Living with "Good Germs"

We wash our bodies to keep our skin clean. We wash our hands and our food to keep disease-causing germs from getting into our bodies. These are healthy practices, but they don't begin to keep us germ-free. Our bodies are the home planet for an enormous variety of tiny creatures, some of them on us and some of them in us. And that's a good thing.

For starters, tiny mites make their homes on our faces and in our eyelashes. Although they are actually relatives of spiders, these creatures are invisible to the naked eye. Each one is less than 0.016 of an inch (0.4 millimeters) long. They can slip easily into facial pores, those extremely small openings on the nose, forehead, cheeks, and chin. These face mites particularly like to nestle inside our follicles, the pores from which hair grows. The tiny creatures feed on the oil and dead skin cells in our follicles and also lay eggs there. But don't worry about rising mite populations! Our immune systems, the collection of processes in our bodies that protect us from disease, work constantly to keep down these mites' numbers. As a result, we don't even notice them.

Our skin is also home to much, much smaller forms of life, each consisting of just a single cell: bacteria. We generally have over 200 kinds of bacteria living on our skin. Instead of harming us, these beneficial bacteria help with the healing of wounds. But that's nothing compared with the bacteria inside our bodies.

A healthy human body contains about 30 to 50 trillion cells—and about that many bacteria, too! Our immune systems target other microorganisms that cause us harm but not these bacteria. Like the ones on our skin, these bacteria are basically harmless or even helpful.

Let's start with our mouths. Some 25 kinds of bacteria live around our teeth and in small openings in our gums. Brushing and flossing each day keeps their numbers down and prevents them from forming sticky deposits called plaque. But there will always be a large colony of bacteria in our mouths, and that's good. They compete for the same food as the bad bacteria that can get in our mouths, helping to prevent illness.

There are very few bacteria in our stomachs because the stomach is such a high-acid environment. But our guts generally contain at least 500 kinds of bacteria, numbering in the billions. These bacteria help us digest our food (we couldn't do it without them!), produce vitamins, absorb nutrients, and fight off harmful bacteria that have invaded our digestive systems.

So don't worry about all the extra company our bodies contain. It's perfectly healthy!

Unit 16: It Came From Space

Whenever the planet's creatures looked up, they saw a sky filled with familiar things. There was the sun, which appeared and disappeared each day. There was the moon, which grew and shrank, and could bring light to the night. There were clouds, which cast shadows and sometimes brought lightning and rain.

High above the gases surrounding the planet, way beyond the moon, millions of other unseen objects were orbiting the sun. These space rocks weren't as large as planets. Many were as small as pebbles, but others were several miles across, even larger. At times, some of these rocky objects came close to the creatures' planet. The planet pulled the objects toward its surface. This pull of gravity caused the space rocks to leave their orbit and head toward the planet. Because these space rocks were small, they burned up in the atmosphere before ever reaching the planet's surface.

But then something happened never before seen by the creatures. Their planet's gravity drew in an object that was unusually large, at least 6 miles wide (10 kilometers). This gigantic object did not disintegrate in the air above. It crashed through the atmosphere, burning like a tremendous torch. As powerfully as a fist punching through water, it smashed right into the planet's crust. The explosion was deafening.

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Anything living near the crash site was wiped out instantly. Creatures far away saw the flaming sky, heard the crash, and felt the heat. Many ran or hid. They had no understanding of what happened and no idea that the sky would soon change and no longer hold its familiar sights.

The impact carved out a deep crater about 112 miles (180 kilometers) across. Billions of tons of rocks and dust shot into the atmosphere. Fires spread across the land. Smoke and dust blocked sunlight, and endless night came to the planet for months. Without sunlight, plants died. The animals that once ate the plants died, and their predators starved, too. Without sunlight, temperatures dropped. The cold killed off animals that needed warmth to live. Smaller animals with fur were better able to survive the cold. They found food in the dead plants and in the seeds that plants left behind. Eventually, the skies would clear, revealing a very different planet.

The crash of a giant object from space—an asteroid—occurred on Earth 66 million years ago. The event and its effects form the leading scientific theory to explain the extinction of dinosaurs and the rise of mammals.

Unit 17: Phaethon: A Greek Myth

Phaethon was just a boy when he ventured into the land of the sunrise. The Sun's home could not be visited by mortals; however, Phaethon was only half-mortal because his mother was mortal but his father was a god, the Sun himself. Phaethon had never met his father before.

Phaethon entered the Sun's brilliant palace, shielding his eyes from the blazing light. As he approached the Sun's sparkling throne, the Sun asked "What brings you here?"

"My mother tells me that you are my father, but my schoolmates tease me for saying that I am your son. I am here to find the truth," said Phaethon.

The Sun smiled kindly and replied, "Yes, Phaethon, I am indeed your father and now that you are here, I can show my love for you. Ask anything of me, and on my oath, you shall have it."

Phaethon recalled how often he had watched his father in his fiery chariot flying in a high arc across the sky. It was an amazing sight that made him burst with pride; how thrilling it would be to make that sky journey himself! "I wish to drive your chariot," Phaethon said.

The Sun immediately regretted his promise. "I cannot take back my oath," he told Phaethon, "but you do not realize what you are asking. No god but me is strong enough to drive the chariot across the sky. The horses are mightier than any you have known, and the dangers are too great. Please, ask for something else."

But Phaethon's mind was made up and he pleaded, "Just for one day." The Sun did not have time for more arguments, for the day's chariot ride was about to begin.

Phaethon stepped into the golden car and took the reins in his hands. As the horses galloped out from the gates, their feet flew over the clouds at breathtaking speed. Phaethon held on as the chariot climbed swiftly, but his grip on the reins felt as light as air to the horses. Instead of following their steady path, they swerved to the right and to the left. Out of control, they soared up to the starry heavens, nearly touching the hideous fangs and claws of the Scorpion. Phaethon dropped the reins and huddled in terror.

Then the chariot made a steep plunge all the way down to the earth, setting it ablaze. The rivers turned to steam, the forests burned to ash, and green lands turned into vast deserts. Phaethon, choking on burning smoke, wished for an end to this terrifying ride.

Zeus, the king of the gods, heard Earth crying out for help. He looked down from Mount Olympus and saw the Sun's chariot careening wildly. Zeus hurled a thunderbolt at the reckless chariot, causing it to shatter. The horses galloped into the sea, ending the journey.

Unit 18: The Moon: True or False?

How much do you know about Earth's moon? Read these True or False statements to learn more!

Earth is the only planet in our solar system that has just one moon. True or False?

The answer is True.

Neither Mercury nor Venus has a moon. Mars has two moons. All of the giant outer planets—Jupiter, Saturn, Uranus, and Neptune—have multiple moons. Saturn and Jupiter, for example, have at least 53 moons each, with more being discovered.

The moon's craters were mostly formed by volcanoes. True or False?

The answer is False.

Scientists have found some evidence of volcanic eruptions on the moon, but those are not what caused lunar craters. Most of the large, bowl-like holes on the moon's surface are impact craters. They formed when asteroids, comets, and pieces of those space bodies were pulled by the force of gravity and crashed into the moon. The enormous Orientale crater, which can be seen on the lower left edge of a full moon, is more than 600 miles (900 kilometers) wide. Scientists say that it was caused by an asteroid crash about 3.8 billion years ago.

The earth's shadow causes the moon to change shape in phases. True or False?

The answer is False.

Watching the moon from Earth, it looks as though the moon changes shape. These "phases" of the moon are not caused by Earth's shadow. Instead, these changes occur because the position of the earth, moon, and sun change each day. Here's more information about why.

When the moon glows at night, the light we see is not from the moon at all. The light is actually sunlight reflected off the moon. Every 29 1/2 days or so, the moon completes a trip around Earth. As the moon's position changes, different parts of the sunlit moon are reflected to Earth. It looks as though the moon is growing from a sliver to a full circle and then shrinking once again. The changing views of the sunlit surface are called the phases of the moon.

- On Day 1, no sunlight is reflected from the moon to Earth; that's the "new moon" phase.
- Next, the moon appears to grow fatter (the growing moon is called a waxing crescent).
- On Day 8, the half-lit moon is in its "first quarter" phase.
- On Day 15, the "full moon" appears.
- On Day 23, the half-lit moon is in its "last quarter" phase.
- We then see a shrinking (waning) crescent.
- On the 29th day or so, we're back to "new moon."

The moon has a "dark side." True or False?

The answer is both True and False.

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It takes the moon one month to orbit Earth. As it revolves around Earth, the moon is also spinning, or rotating, on its axis. This rotation is very slow. A lunar day—the amount of time it takes the moon to spin once around its axis—actually takes one month. Because the moon's orbit around Earth and its rotation are the same amount of time, the same side of the moon always faces earth.

Each side of the moon is called a hemisphere. From our viewpoint on Earth, we always see the same hemisphere of the moon lit by the sun. We never see the other hemisphere when it is lit by the sun. In other words, viewed from Earth, the moon does have a "dark side" because it looks as though one side of the moon is always dark. However, the sun does shine on both moon hemispheres. Therefore, if we could watch the moon from the sun, we would see both sides of the moon illuminated: neither side would be dark all of the time. Viewers from Earth just never get a glimpse of the other side. That's why the answer is True (the moon looks like it has a "dark side" when viewed from Earth) and False (both sides of the moon reflect light when viewed from the sun).

Unit 7: Farming Indoors

One of humanity's foremost challenges is providing food for the growing number of people on the planet. The United Nations, a global organization, made a forecast predicting two billion more people by the year 2050. If that's true, our current farms will not be able to produce enough food. Food supplies will be inadequate.

Why Not Add More Farms?

Typical farming relies on fossil fuels and requires a lot of water, using up many natural resources. Extreme and variable weather conditions are also problematic. Hurricanes and floods can wipe out an entire season of growing in a matter of hours. Exposure to heavy rains or long droughts can also kill crops. For these reasons, we need new strategies, not just more farms.

Vertical Farming

A new form of agriculture is popping up in places all over the world called vertical farming. Plants are grown indoors, stacked on shelves rather than spread out across fields. Special lights are placed over the plants and turned on and off to maximize growth.

The benefits of vertical farming include:

- Less water is needed. Estimates suggest they use 90% less than typical farms.
- Growth is faster. Seedlings can be moved out of trays and transplanted into vegetable beds within a few weeks, maturing into full-grown plants quickly.
- Plants are healthier. Pesticides and chemicals are unnecessary.
- Farms are weather-proof. Catastrophic weather and crop destruction is not an issue.
- Locations are convenient. Farms can be located in cities, so there's no need to transport food over long distances. That means fresher food and reduced pollution from trucks.

Despite these benefits, it's too soon to foresee the impact of vertical farming. Energy costs are high and fertilizers are expensive. Farmers are experimenting with options to improve the process. Some are even raising fish alongside vegetables so they can use aquatic waste as fertilizer!

Waste from fish, that's right. People are determined to find solutions. If it works, why not?

Unit 8: Edible Forks and Spoons

Every year, an estimated 40 billion plastic utensils are thrown out in the United States alone. In India, the rate is even higher, at 120 billion utensils thrown out per year. Where does this garbage end up? In landfills, waterways, and oceans. Given the dangerous chemicals contained in these plastics, negative consequences may be piling up as quickly as the trash.

However, plastic utensils are convenient and getting people to give up convenience can be difficult. Although the problem may seem insurmountable, a husband and wife team in India believe they've found a way to solve it. Narayana Peesapaty and Pradnya Kesnar have created edible cutlery that doesn't just work well. It tastes good, too.

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Why edible cutlery? If people eat their utensils instead of throwing them away, perhaps we can forestall the build up of harmful waste. Stopping plastics from damaging our land and water may not be easy, but an innovative solution like this one might make it doable.

Easily mistaken for wood but made out of flour, the utensils can be used with both liquids and solids. Dunk them into hot tea and they hold their shape. Their rigidity and hardness are unaffected. Plus, even if people throw these edible forks and spoons away, unlike plastic ones, they'll decompose within days.

Using procedures typical of manufacturing processes, the company is now ready to mass-produce this healthy alternative to toxic and troublesome plastic. Could this new product make a meaningful change in one of the foremost, leading challenges of our time? The couple is optimistic and hopeful about their chances.

Their utensils are tasty, nutritious, and environmentally friendly. They come in several flavors, and crunch like a pretzel with every bite. They can be thrown out or fed to the family dog. Let's face it, they're just plain fun. It might just be time to transform how we eat (or at least what we eat with).

Unit 15: The Ocean Cleanup

Life can be unpredictable and full of surprises. You never know when inspiration may strike. For Dutch inventor Boyan Slat, it happened while scuba diving, at age sixteen, when he noticed more garbage than fish.

Back home, he began to investigate the issue. Massive garbage patches were floating around the world's oceans, one of them three times the size of France. Boats and nets were being used to haul it out, but at the rate they were going, it would take thousands of years to catch up. Other things were problematic, too. Wildlife was getting caught in the nets, and the boats were spewing hazardous fumes and deadly poisons into the air, adding to the pollution problem. There had to be a better way.

Boyan began to explore the idea of using natural ocean currents to gather trash. Two years later, The Ocean Cleanup was born, an organization focused on developing advanced technologies to rid the ocean of plastic.

After years of research, the company created a plan to fix the garbage problem. A key part of the plan is a system of giant, floating booms. Booms are barriers that float in the ocean. These enormous booms, each a mile long, are constructed on land out of pipes. Then, they are transported out to sea in sections and reassembled there.

The booms are curved in a wide arc and designed to reproduce the effects of a beach, gathering trash along the edges, then funneling it into a collection bin. Engineers expect to see a major reduction of trash. In fact, they estimate half the garbage will be gone within five years of putting the booms in place.

This is very good news. Removing the plastic before it breaks into tiny particles is key for keeping our ecosystems healthy. Boyan's team plans to do that and more. You see, as long as they're picking up the trash, why not recycle it?

Unit 16: Cracking Kindling

Ayla Hutchinson wasn't expecting to invent an innovative product that would be sold globally, all around the world. She was trying to do homework. The science project would be due soon and she didn't have an idea yet.

She sat on the couch, thinking and thinking, while her mother chopped kindling (wood for a fire). Coming up with an idea for a science project was difficult. What if she wasn't an inventive person? Maybe creativity wasn't her strength. Wondering if her mom might have an idea, she explained the assignment. She needed to identify a problem, then solve it.

Whack! The hatchet hit her mom's finger and cut it open.

When the bleeding stopped, Ayla realized she'd stumbled upon an idea. Cutting kindling was unsafe. She'd witnessed the precariousness of the process and accidentally uncovered an activity in need of a better solution.

She went to work, designing and redesigning the idea. Instead of swinging a hatchet, she thought, why not flip the blade upside-down and put it on the ground? That way, the blade wouldn't pass by your hand and nick it.

Now she had a new problem. Someone might stumble and fall on the blade unless a safety ring were constructed around it. She sketched out another design, then showed it to her family.

The first Kindling Cracker™ was unveiled and displayed at Ayla's 8th grade science fair in New Zealand. Today, thousands are being distributed internationally. The award-winning tool has been so successful, the Hutchinsons have been forced to find a professional manufacturer overseas, with a factory that can produce large quantities quickly.

According to Ayla, the best part isn't the media attention or the money. It's knowing you've helped someone. She and her father drove five hours to deliver the tool to an elderly woman who heats her home with wood. The tea and cookies they received in return made the trip well worth the effort.

LEVEL 21 | FLUENT READING 3

Unit 1: Demonstration

Fear
The jittery-janglies are on the attack! / Face them head on, don't step back. / They snarl and growl, "You're weak, not strong!" / Just smile and say, "I'll prove you wrong."

Unit 4: Poetry Set

The Stone Age
Early humans made tools of stone / and natural things like shells and bone. / They figured out how to shape sharp spears. / Those Stone Age people were engineers!

Limerick
A bridge engineer, Mr. Crumpett, / Built a bridge for the good River Bumpett. / A mistake in the plan / Left a gap in the span, / But he said, "Well, they'll just have to jump it."

Studying History
Hastings, Gettysburg, Normandy, / Waterloo, Yorktown, Coral Sea, / just a few historic battles fought / and now in textbooks often taught. / But isn't history about so much more / than who was fighting whom in war?

The Right to Report
Freedom of the press / means that shining a light / on shadowy activities / is a human right.

Mystery Outline
A crime has been committed / by a character quick-witted. / The evidence is carefully perused / by the brilliant star detective / who's amazingly effective / at identifying who should be accused.

Grass, Cow, Milk
The dairy cow is always munching, / and what she eats becomes the milk / we like to have when lunching. / So, in a way, when we fill our glasses, / the milk we drink is really grasses.

Unit 8: Poetry Set

Science Fiction
Science fiction has often tracked / what happens when our smart machines / take control of how we act. / Are we now so enslaved to screens / that science fiction has turned to fact?

Energy
Heart is beating, eyes are blinking, / hand is gripping, brain is thinking, / lungs are breathing, mouth is drinking– / all this work, and more besides, / is powered by what our food provides.

"Rain in Summer"
An excerpt from a poem by Henry Wadsworth Longfellow

How beautiful is the rain! / After the dust and heat, / In the broad and fiery street, / In the narrow lane, / How beautiful is the rain!

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Famous Detective
Sherlock Holmes, detective renowned, / was a fictional character, so isn't around, / but if I could call up Holmes right now, / I'd ask him please to show me how / to recall the steps to be retraced / to find the homework I've misplaced.

Eyewitnesses
Reporter Roberto at the scene of the crime / spoke to folks who saw the thieves climb / into a small car, which was white or tan, / or maybe not a car at all but a moving van. / Roberto reports this fact undeniable: / "These eyewitnesses are unreliable."

Sweet Desserts
I just ate dessert at the ice cream shop, / three big scoops, marshmallows on top. / This treat, I know, was not nutritious, / but I was craving a taste delicious. / Perhaps I should have been more cautious, / because right now I'm feeling nauseous.

LEVEL 21 | ACADEMIC VOCABULARY 3

Units 1–2: The Food Supply Chain

Imagine skipping breakfast and then going outside and running around for hours. Something negative might happen, like you run out of energy or feel run-down. That's because food is fuel that allows our bodies to keep going.

We use up calories when we run, walk, or even just think. We need to eat enough to replace the calories we burn. Fruits, vegetables, grains, and healthy fats provide the nutrients our bodies need.

It is common for people to buy food in grocery stores—from an apple to a loaf of bread. But before food is available for people to buy, a lot has to happen. The food supply chain explains the many steps food goes through as it makes its way from a farm all the way to a shelf at a store, or to a plate on a table.

Farmers grow crops, such as wheat. They plant it, care for it, and make sure it stays healthy. When the wheat is ready, the farmer harvests it. Despite all of this work, there are still many steps in the food supply chain before the wheat arrives at a store as bread. The farmer sells the wheat and it ends up in a flour mill. Workers in the mill process the wheat, turning it into flour. Some flour is transported to stores for people to buy, or sold to bakeries and restaurants.

Think about what you're going to eat for breakfast tomorrow. Where did that food come from?

Unit 5: Who Should Make the Rules?

A healthy human diet includes fats. Fats provide calories for energy, make muscles work, and help cells grow. Not all fats are alike, however. The healthiest fats come from vegetables, nuts, and fish. Studies of human diets point to one kind of fat with negative effects on health. These fats are called "trans" fats. They were once put in pastries, chips, and many other foods that are processed in factories before people eat them. In the 1990s, scientists showed links between trans fats and heart disease. The public demanded changes. Governments got involved. In some parts of the United States, laws were passed to stop restaurants and factories from using trans fats.

People want their governments to protect them from foods that are unsafe to eat. But what about foods that are bad for health despite being safe to eat? Soda is one example. A 20-ounce bottle of cola has about 15 teaspoons of sugar and 240 calories. Foods with such "empty calories" do not provide needed nutrients. Instead, these foods can have negative effects on health. In 2012, the mayor of New York City tried to stop restaurants from selling extra-large sodas. The soda industry went to court to fight the proposed rule. The judges decided that the city did not have the right to enforce such a rule, which limited personal freedoms.

Units 6–7: Step Into the Past

If you could travel back in time, what events would you like to witness? What famous people from history would you like to meet? These kinds of questions appeal to authors of historical fiction. Their storytelling is historical because it is based on real events in history and may include people who actually lived. It is fiction because the story comes from the author's imagination. The author creates fictional characters whose conflicts arise in a historical setting—50 or 500 or 5,000 years ago, for example. Commonly, the characters are dealing with major issues of the time. There may be struggles between cultures, political groups, or enemies at war. As with other fictional plots, events are shown from the characters' perspectives. Readers become involved with the characters' conflicts and are eager to find out what the resolution will be. The added bonus in historical fiction is that readers become time travelers. They are witnesses to how people lived in an earlier age. Authors of historical fiction perform thorough research in order to show accurate, true details about the past and make it come alive for readers.

Unit 10: Book Reviews

In Louise Erdrich's novel *The Porcupine Year*, readers travel back to 1852 Minnesota, USA to witness the adventures of Omakayas, a 12-year-old girl. Omakayas and her family are Anishinabe (AH-nish-in-AH-bay). Like other Native Americans of the time, this family must deal with the issue of European-American settlement. Forced to leave their homeland, they are searching for a place where they can live freely. The author makes their journey come alive, showing details of everyday life, along with conflicts, danger, and suspense. Readers get to know Omakayas and share her perspective of the people around her. The resolution of the novel shows the journey's end and leaves readers hoping for a bright future for Omakayas.

It is 1975. Hà and her family face an unknown future as refugees who are escaping from South Vietnam. Refugees are people who flee their own country because of war or other conflicts. To understand the issues that Hà tries to deal with, read the beautifully written and moving novel *Inside Out & Back Again*, by Thanha Lai. The author has shared her own perspective on her childhood in Vietnam and her arrival in the United States. Kim Hà, the main character, finds it hard to adjust to life in the strange place called Alabama. Readers witness Hà's experiences of being lonely, struggling with English, and accepting loss.

Units 11–12: The Luddites

As computers, smartphones, and the internet became part of everyday life, some people were not eager to use them. "Don't be such a Luddite," they were told. "Luddites refuse to accept progress and are left behind." Why are people who struggle with technological change called Luddites?

The original Luddites were workers in Britain in the early 1800s. This was a period of inventions and innovations in power-driven machinery. Machines in factories were taking over the jobs of craftworkers, especially in the textile industry that produced cloth. Machines that spun yarn and wove fabrics were far more productive than individuals working at home on spinning wheels or weaving looms. The consequences were painful to many craftworkers, who could no longer make a living. For those with jobs in the new factories, conditions were terrible and pay was low. Angry at these changes, some groups of workers took action. They called themselves Luddites, after a fictional leader named Ned Ludd. Between 1811 and 1816, the Luddites attacked factories and destroyed machines. The government arrested them. They were sentenced to death or sent out of the country. The Luddites' protest failed. But is it fair to say that the Luddites refused to accept progress?

Unit 15: Advances in Technology

New technologies are changing restaurants. Innovations in the restaurant industry include robots that can do the work that human workers have always done. Robots can take orders for food, flip burgers, and bring food to tables. Robot cooks don't mind heat and repeated tasks. Plus, robots are faster and more productive than human workers. As the price of robots declines, restaurant companies will pay less for robots over time than for human workers. However, there are other costs. Restaurants worldwide employ many millions of people. As innovations in robots continue to improve and make progress, where will those people find jobs?

The flying machine called a drone is changing the world. A drone has no crew, is smaller than a plane, and is operated remotely. The first drones had military uses but now their use has grown. Today, utility companies use drones to fly over power lines. Drones find problems for people to fix, making workers more productive. Drones fly over areas hit by floods, mudslides, and other disasters. They send images that guide rescue workers' efforts. Drones can even deliver supplies. Of course, technological changes are never problem-free. As a consequence of so much drone use, people worry about protecting their privacy from all those snooping cameras.

Units 16–17: Finding the Truth

What big decision was made at yesterday's city council meeting? How are rescue efforts proceeding after last week's earthquake? Is there any progress in the peace talks between nations? We learn about local, national, and international events because of the work of journalists. These professionals gather information and report it so that the public can know the facts and form opinions based on evidence. Journalists work for print and online newspapers and magazines, and for radio, television, internet news sites, and news services.

Journalism can be a dangerous profession. A journalist investigating illegal activities may be targeted by criminals. Journalists reporting from battlefields risk their lives. Exposing wrongdoing in government is especially risky in countries where the government restricts what can be reported. According to the Committee to Protect Journalists, in 2017, 262 journalists from around the world were in jail because of their reporting.

As a group, journalists are "the press" or "the news media." Critics claim that the press is biased. They argue that journalists express their own viewpoints, not just the facts. Professional journalists respond that their goal is fair, accurate reporting. Their job is to give the public honest answers to the "five Ws and H": who, what, when, where, why, and how.

Unit 20: Female Journalists

In 2003, American journalist Roxana Saberi eagerly accepted a job reporting from Iran. Saberi wanted her American readers and viewers to get true, accurate information about issues affecting the Iranian people. The Iranian government restricted many freedoms, controlling what people could do. Saberi had to be careful. She had lived in Iran for six years when she was suddenly accused of spying for the United States, and as a result, arrested. Saberi was not a spy, but that fact did not matter. She was sentenced to eight years in prison. Saberi did not know it at the time, but journalists in other countries were investigating her story. They reported on her unjust imprisonment, and media attention spread worldwide. Did the journalists' actions have an impact? Maybe—because Saberi was set free.

Margaret Bourke-White was one of the greatest photojournalists of the twentieth century. Photojournalists investigate and report the news like other journalists, but they do it with their cameras. When Bourke-White decided to become a photojournalist, almost all of these professionals were male. However, she would not let the biased views people had about the roles of women stop her from becoming a photojournalist. Bourke-White was fearless. To take the best photos, she dangled out of planes, balanced on tall towers, and risked her life to take photos of battles during World War II. Bourke-White believed that accurate stories could be told "in the simple black-and-white truthfulness of the photograph." Her photos were not really "simple," however. They were dramatic, artistic, and moving.

LEVEL 21 | TEXT CONNECTIONS 4

Unit 1: Demonstration A

In 1818, the English writer Mary Shelley published a story that became her best-known work. She wrote about a scientist who combines parts from dead bodies to build a monster. The scientist, whose name is Frankenstein, then uses electric current to bring the monster to life. The monster looks too different and frightening to join human society, and he is terribly lonely. At the end, the monster destroys his creator. English speakers today use the term Frankenstein or Frankenstein's monster to name something that people make and then cannot control. Shelley's story is considered the very first work of science fiction. Writers of science fiction imagine what might happen as a result of developments in science and technology.

Ever since Mary Shelley wrote her famous story about the Frankenstein monster, science fiction writers have explored a similar theme: Human technology can lead to destruction. Science fiction also explores the opposite theme: The future will be better because of advances in technology. Writers of science fiction imagine time travel, aliens, space travel, and machines that don't yet exist. The setting is often the future—on Earth, on another planet, or in a spacecraft. Science fiction is a genre, or category, of literature, though not all the stories are in books. Science fiction is also popular in movies and video games. Science fiction is for everyone who looks at modern technologies and wonders, "What would happen if...?"

Unit 1: Demonstration B

The book *Treasure Island* is on every list of classic adventure stories. This book is described with words like suspenseful, rousing, and fast-paced. Robert Louis Stevenson wrote the book a long time ago. It was published in 1883. I wondered whether it would still seem as exciting as people say. I'm a big fan of adventure stories, so I decided to read the book for myself.

The story takes place in the 1750s. The narrator is 12-year-old Jim Hawkins, who has found a map to a treasure that pirates buried on a distant island. Jim serves as a cabin boy on a ship sailing to the island. He is befriended by the ship's cook, Long John Silver, who is none other than the cruel leader of the pirate gang that is pretending to be the regular crew on the ship. The author drops clues to what is really going on. But Jim realizes the truth only after he overhears the pirates making their plans to find the treasure and take over the ship. He escapes to the safety of a wooden fort on the island, along with the captain, the ship's owner, the doctor, and a few honest sailors. In the following battles against the mutineers, Jim is an action hero, brave, lucky, and clever. He performs daring deeds, and more than once outwits his scheming, heartless enemy.

The character of Long John Silver is one of the most interesting in the book. He is a mean-spirited pirate, who is still able to charm others. He can talk his way out of trouble and find opportunity in situations that seem hopeless.

Sometimes the language of the book is hard to understand. The characters use words and expressions that are not spoken anymore, and there are many sailing terms that I didn't know. But I understood enough to follow the action, and action is the most important feature of the book. As I read, I kept thinking that the story would make a great movie or graphic novel.

It turns out that *Treasure Island* has been made into a movie more than once. I plan to watch a movie version, because it's always interesting to compare a book and a movie that tell the same story.

On a scale of 1 to 10, I give the book *Treasure Island* a 7. It is old-fashioned in some ways, but I did want to keep reading to find out what would happen next.

Unit 1: Travels with Ray

Hey there, Earthling, it's me Ray, just an ordinary ray of sunlight traveling at the speed of light down to your planet, Earth. I may be moving fast, but I have a lot of universe to cover, so we have some time to get to know each other. (Eight minutes and 20 seconds, to be precise.)

I was born on a giant ball of hot gas that you Earthlings call the sun. And believe me, everything your science teacher has told you about the sun is true. It's hot, it's bright, and you definitely wouldn't want to live there.

All my life, I've known I was destined for something big, something life-changing, more than just day after day of blazing heat and light. I've always had a lot of energy, so when I heard that sunlight supplies a whole system of transferring energy on Earth, I jumped at the chance to have that kind of power. Seriously, I jumped, and here I am—zooming through the atmosphere, about to reach Earth's surface.

Crikey, is that the fresh scent of Earth air? Do I feel those dainty drops of moisture you Earthlings call rain? Yes, indeed, I've finally arrived and now it's my time to shine. Those plants over there are such a spectacular shade of green, but—watch out—I'm going to crash!

Oh boy, what a colossal mess I've made of my first assignment on Earth. Wait a minute, something strange is happening to me....

Pssst, I'm over here, inside this green plant. After I crashed into one of its leaves, I got tangled up with some molecules in here, which meant using some of my energy, and now I just don't feel like myself anymore. Oh well, this might be my only chance to make some friends here on Earth, so I may as well look around.

Awww, look at that cute little mouse. Poor thing, it looks so hungry. Hey there, mouse, stop eating my leaf! Oh my, now it's consuming me, and something very strange is happening again....

Hello again! It's me, Ray, inside the mouse. After it ate that leaf, I was thrown together with more molecules, and now I feel completely different with even less energy than before. This must be what it's like to be part of a food web—Earth's system of transferring energy from one organism to another.

Don't look now, but I think I see a snake, and—if I'm not mistaken—snakes eat mice. I'm giving the mouse energy so it can escape, but I don't think it's enough. Oh dear, the snake is eating my mouse... and me. Energy is transferred again! What on Earth will happen next?

Unit 2: Diagram of a Food Web

A food web is a system of organisms that transfer energy to each other by eating and being eaten. Arrows show the direction that energy flows through the system.

The combination of gases inside the sun make the light and heat we feel on Earth. Sunlight provides plants with the energy they need to make their own food, and then animals get some of that energy when they eat plants or other animals. Almost every living thing receives energy from the sun—either directly from rays of sunlight or indirectly from another organism in the food web.

Green plants receive energy from the sun when sunlight reaches the earth's surface. The plant uses sunlight, water, and air to make its own food. Because plants produce their own food, they are called producers. The sunlight energy in plants is the base of all food webs.

The mouse cannot make its own food like the green plant can. The mouse must eat the plant to get the sunlight energy. Animals that get energy from plants or other animals are called consumers. Consumers eat, or consume, other organisms.

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The snake does not get its energy from eating plants. Sunlight energy passes to the snake when it eats other animals, such as the mouse. Each time energy is transferred in the food web, there is less available because each plant or animal uses up some energy for its own survival.

Some animals, like the mountain lion, eat only other animals. Mountain lions get energy by eating rabbits and mice, which have eaten plants.

When the hawk eats the snake, it gets energy from whatever the snake ate. This snake had eaten a mouse, which had received energy from eating a plant, which in turn had made its own food from sunlight energy.

The coyote gets energy by eating many different animals, and even plants. Energy passes to the coyote throughout the food web, from different sources.

Unit 3: Interview with a Food Scientist

This interview between ten-year old Riley Noor and food scientist Dr. Alisha Lee explains how food scientists know so much about the foods we eat.

Riley: Thank you for meeting with me, Dr. Lee. I have so many questions about food! First of all, how does food give us energy?

Dr. Lee: The energy in the food we eat can be traced all the way back to the sun. Sunlight gives energy to green plants so they can produce their own food using air and water in a process called photosynthesis. Plants use this "food" to grow and make seeds so there will be more plants.

Riley: But what does that have to do with how we get energy?

Dr. Lee: Every time you have a salad, eat rice, or drink orange juice, you're getting energy directly from green plants. Green plants can also be mixed with other ingredients to make food. A chocolate chip cookie, for example, is made from flour, sugar, eggs, butter, and chocolate. Flour and sugar start out as green plants. Eggs and butter come from animals that eat green plants. Even chocolate is made from cocoa beans, which grow on green, leafy trees. So, when you eat a cookie, the energy from the sun gets passed on, or transferred, to you!

Riley: How do we know how much energy we're getting when we eat?

Dr. Lee: You can see exactly how much energy you're getting from any food just by walking through the supermarket. The next time you go shopping, pick up a box, a can, a bottle, or a bag and look for the word calories listed on the Nutrition Facts label. Calories are an actual measurement of the energy available when you eat a serving of food. Part of my job is to examine foods to determine that measurement.

Riley: What do people mean when they talk about burning calories?

Dr. Lee: Burning calories is what happens when your body uses, or burns, the energy it gets from food you eat. In my lab, I actually burn food, like a chocolate chip cookie, to calculate how much energy it can provide. We set the food on fire (in a laboratory where it's safe) and measure the heat that it creates while burning.

Riley: What else do you study in the foods we consume?

Dr. Lee: I also measure the amount and specific kinds of vitamins and minerals that are in foods. Those are the parts of food that help your body grow and stay healthy. Even that chocolate chip cookie has some vitamins and minerals. (Not as much as fruits and vegetables, of course!)

Units 5–6: "Sol Painting, Inc."

An excerpt from a story by Meg Medina

I wonder what it's going to be like for me this year. Roli and I will both be at Seaward Pines, although I'll be in the lower school with all the other seventh-grade "amoebas" (his word). Roli is five years older than I am—a senior. The last time we were in the same school, I was in kindergarten and he was one of the bossy safety patrols with a plastic badge. After that, he became a Sunshine Scholar at fancy Seaward Pines School, where everybody thinks he's a genius.

Mami says I'm going to love Seaward Pines, but I don't know. I'm not much for fancy, and everything about that place is shiny and stiff. Even the red blazers I'll have to wear look hot and silly, if you ask me. Plus, no one from our neighborhood goes there, except Roli, so I'll have to make new friends. Stuff like that doesn't bother Roli. In fact, he's never brought home a friend in all the years he's gone there. I asked him about it once, but he told me to close my oral cavity.

I think what Mami really means is that she's going to love it. Last year was tough on her. My highest grade was a C.... Well, it was frustrating for me, too. To think, all my years of perfect attendance and neat penmanship did absolutely nothing to butter up my teachers at report card time. It's what we call a poor return on investment in the business world. Mami finally said, "¡Hasta aquí!" and called Papi to "discuss my future," so I knew I was dead meat. I fought it as best I could, but they decided that I needed "a more structured learning environment," aka Seaward Pines.

"Why does it matter if I get an A in science or English?" I cried to Mami. "I'm going to take over Papi's business anyway!"

She gaped at me like a fish out of water. ''Business? Is that what you're calling a dented van and the few guys who show up when they feel like it? A business?''

Mami: She has no vision. No wonder she and Papi don't get along.

Anyway, with Roli's help, I managed to broker a deal. I agreed not to run away. I'd go to Seaward Pines but only if I could apprentice with Papi and get paid. So far, they're living up to the agreement. I'm twelve, so for now, I mostly do the trim, and I'm not allowed to go on all the jobs on account of child labor laws and all that [nonsense]. I've been on two sites so far: Ramon's Auto Parts (not bad since it was air-conditioned) and the marina, which left me smelling like bait for days.

Unit 6: "Secret Samantha"

An excerpt from a story by Tim Federle

This is an excerpt from a longer story, Secret Samantha, by Tim Federle. In this part of the story, Samantha needs to find a gift for Blade, a new girl in school whose name she drew from a hat to be her Secret Sharer. It's supposed to be a fun holiday activity, but Sam and her mom can't agree on what to buy.

The mall is a zoo, if the zoo forgot to build cages.

Half the shops are permanently closed, and the food court is a war zone. But after we pick up [a gift card] for Miss Lee, Mom beelines straight for a boutique that's within the price range of our Secret [Sharer] rules.

"What about this, Sammy?" she says, holding up a mini makeup kit that's right by the front of this quirky pop-up shop. Mom calls me Sammy because she knows I hate Samantha, and she knows I prefer Sam, and so Sammy is kind of "in the middle." We are working on being in the middle with one another.

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"Maybe," I say, and Mom goes, "Speak up, Sammy," and I say, "Maybe."

That right there is a good example of me being in the middle, because I wanted to throw the makeup against the wall and shout, "Blade doesn't need makeup to be cool!"

"Well, I'll hold on to it," Mom says, making apology eyes at the cashier. "Unless you find something better."

But I don't find something better, is the problem. I go up and down the aisles, and I find things that I could use—like these turquoise dragon earrings that might distract people from my giant ears, or this mini embroidered DIVA pillow that would be a good bed for my bunny, Sir Hop-a-Lot—but none of it seems very Blade.

"Samantha?" I hear from the front. I'm allowed out of my mom's sight for about ten seconds for every year I've been alive.

As I'm shuffling back to her, I'm making note of the silver high heels she's got on that I know make her feet "scream." She always looks so dolled up but so uncomfortable. She's the very opposite of me. I'd rather be plain and relaxed. If I could wear sweatpants to church, I would. If I could buzz off my hair, I would. I'm serious!

"So?" Mom says, tapping the makeup kit against the counter. "Shall we?"

But then she gets a phone call from her boyfriend—I recognize the special ring—and she hands the cashier both of her credit cards, says, "One of those should work," and steps away to take Scott's call.

Unit 7: Interview with a Peer Mediator

Interviewer: Can you start by telling us exactly what a peer mediator does?

Samira: A peer mediator is a student who has been trained to help other students (peers) work through disagreements. Every peer mediator is different and has different strengths, but we all have a common goal: to help people compromise to resolve their conflicts.

Every time other students come to me for help as a peer mediator, I encourage them to try to understand each other's point of view. My job isn't to fix their problem but to help them find a solution together.

Interviewer: How do you help your peers work together to resolve their conflicts?

Samira: Being a peer mediator requires a lot of patience, training, and practice. It's not easy being the only calm person in a room with two people who are so angry they can't even talk to each other! Every time I go into that room, I try to focus on three areas: conflict, communication, and compromise.

Conflict

First, I make sure everyone understands the conflict. That means figuring out exactly what people disagree about. It might be that two students want to use the same piece of playground equipment at the same time, or that one student feels disrespected by another, or that something valuable is missing. Sometimes two people might think they disagree when, actually, they just don't understand each other.

Communication
Then, I focus on open communication—speaking with respect and active listening. Active listeners hear what was said and make sure they understand what was meant. This means listening carefully to different points of view, restating or summing up what the other person said, and asking follow-up questions to clear up any confusion. I try to be an active listener, and I encourage my peers to do the same. It's a skill that can help them work through future conflicts on their own.

Compromise
Finally, I help students work together to reach a fair solution by compromising. Compromising doesn't mean giving in or giving up. It means understanding another person's point of view and working together to find a solution that everyone can agree on. Often, I have students sign a contract that states the compromise to help them remember what they decided together. As a peer mediator, I don't solve problems. I show people how to work with each other to compromise and find their own solutions.

Interviewer: What would you say to someone who might be interested in becoming a peer mediator?

Samira: I definitely recommend doing it! Students can start by talking to a teacher. Since I became a peer mediator, I've learned a lot about myself and other people. It's a great way to help make your school the best it can be.

Unit 9: Lonnie G. Johnson, Innovator

Lonnie Johnson is always thinking about how the world works and how it can work even better. Ever since he was a boy in Alabama, Lonnie has been an innovator. His natural curiosity led him to a career in engineering and invention that has been a roller coaster ride of both successes and hard times.

Growing up, Lonnie's family encouraged him to be creative and follow through on his ideas. He designed go-karts, made rocket fuel, and even built a robot from scrap metal. Lonnie named the robot Linex and entered it in a science competition. He won first prize!

Lonnie received a scholarship to study at Tuskegee University where he earned a degree in engineering. After graduating, Lonnie joined the United States Air Force. He then worked at the National Aeronautics and Space Administration (NASA) on the space program. He built and tested spacecraft models with a team of engineers. Lonnie was successful and well-respected, but he had always dreamed of being a famous inventor.

Lonnie left NASA to work on his own inventions full time. Unfortunately, he couldn't convince companies to produce any of his ideas. Without a job and without a successful product, Lonnie and his family did not have enough money. They were forced to move out of their home into a much smaller apartment. Life was hard—much harder than when Lonnie worked at NASA or with the Air Force. Anyone else might have given up.

But Lonnie refused to let go of his great ideas. "I don't know what it is with me, but I've never been very good at giving up," Lonnie has said. So, despite many setbacks, he kept improving his designs. It took seven years, but eventually Lonnie found the right toy company for his most famous innovation, the Super Soaker™ water toy. Never before had a water toy been able to squirt water so far. Now he spends his days inventing technology that will help the planet.

Unit 10: Building a Better Battery

All batteries have a positive end that is marked with a plus sign. The positive end has chemicals that are needed to create electricity. Commonly, these chemicals work well but can overheat. Inventor Lonnie Johnson created a new, innovative battery that uses ceramic to solve this problem. Ceramic makes the battery safer and helps create energy that lasts twice as long as a regular battery.

All batteries have a negative end that is marked with a minus sign. The positive and negative ends must be made of different materials. There needs to be a chemical reaction at both ends of the battery to produce electricity. In Lonnie Johnson's new battery, the positive and negative ends likewise serve this important role in producing energy.

In this example, the positive and the negative ends of the battery are connected to a light by a metal wire. The wire creates a path, called a circuit, from the negative end of the battery to the light, and then to the positive end. Electricity flows through the circuit. All batteries create electrical energy as part of a circuit.

Here, the light is powered by the energy created in the battery. All batteries create energy that can power many things from a flashlight to a phone to a car!

Unit 11: Interview with a Civil Engineer

Interviewer: Our guest today is Grace Jenkins, a civil engineer. Civil engineers design roads, bridges, dams, and other structures. Mrs. Jenkins, can you tell us about one of your projects?

Grace Jenkins: Right now, I'm working with an engineering team to design a building in California, USA. This is an area where earthquakes are a real problem. The building needs to be both tall and safe—tall, to meet the client's needs, and safe, in the event of an earthquake.

Civil engineers are always thinking of new ways to make structures stronger and safer. One innovation in creating earthquake-proof structures is something called controlled rocking. For this project, we're designing a building that can rock back and forth—not fall!—if an earthquake hits.

Interviewer: How do you design a building like that?

Grace Jenkins: It's a fairly long process. First, I meet with the client to understand their needs. I ask a lot of questions about what the building will be used for and who will use it. I also ask about the budget, or the amount of money a client can spend on the project.

Getting answers to these questions and discussing different ways to meet the client's needs often takes a long time. Video meetings and email are two innovations, or new ways of doing things, that have made this part of the process much easier.

Interviewer: What do you do next?

Grace Jenkins: I meet with people who work for the city to understand the building codes and regulations, or rules, that we need to follow. These rules tell us how tall the structure can be, what building materials we're allowed to use, and where we need smoke detectors. Other rules ensure that the building accommodates people of all abilities, whether they use a wheelchair or have limited eyesight. There are also rules that protect the environment, rules that keep the workers safe, and even rules that limit how much noise we can make!

For this project, we're going to use an innovative building material that can collect solar energy. This new type of glass helps the building produce its own electricity, which saves money and is good for the environment.

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Interviewer: Then your job is done?

Grace Jenkins: No, then we need to hire construction workers and begin building! During this part of the process, I continue to meet with the client and city officials. From beginning to end, one structure can take years to complete.

Building smaller sections of the structure—or modules—ahead of time on an assembly line and then delivering them to the construction site is a new way of doing things. This innovation, called modular construction, can save a lot of time.

Interviewer: When do you think the building you're working on now will be completed?

Grace Jenkins: We're hoping to wrap up the project next spring. I hope you'll visit when we finish!

Unit 13: A Timeline of the War of 1812

Hostility and distrust between Americans and British grow when the British force Americans to join the British Royal Navy. At the same time, many Native American nations unite to stop the United States from claiming more land in the Northwest Territory. This area includes Ohio, Indiana, Illinois, Michigan, and Wisconsin. Some American settlers and Native Americans peacefully share this land and trade.

Americans and British clash over control of the Northwest Territory. This area is already home to thousands of Native Americans. British troops offer weapons to some Native Americans to help them fight against American soldiers.

The United States declares war. Some Native Americans support the United States. Other Native Americans join the British army to fight against American soldiers. Fort Wayne is attacked and surrounded by Native Americans. They prevent anyone from entering or leaving. People in Fort Wayne begin to run out of food. American soldiers set fire to nearby Native American villages.

More battles take place throughout the Northwest Territory. The war damages relationships between Native Americans and American families who have settled in the Northwest Territory. Settlers and Native Americans who once traded with each other and lived in peace are now unsure who to trust.

Fort McHenry in Maryland is attacked by British soldiers at night. In the morning, Francis Scott Key sees that the American flag is still flying. He writes "The Star-Spangled Banner". Relationships between American settlers and Native Americans grow worse as native people are forced off land where they have lived for centuries.

The Treaty of Ghent is signed, and the war officially ends. The treaty states that the United States must return any land that had been home to Native Americans before the war. This does not happen. American settlers continue to expand westward and claim land for the United States.

Unit 14: Salt: A Story of Friendship in a Time of War

An excerpt from a book by Helen Frost

Salt: A Story of Friendship in a Time of War, by Helen Frost, tells a story from the different perspectives of two friends at the beginning of the War of 1812. Both boys are twelve years old. James is a white settler living with his family at Fort Wayne in what is now Indiana, USA. Anikwa is Native American and lives in a nearby village with his family and other members of the Miami nation. In this excerpt, Fort Wayne is under attack, and the boys are thinking about how the war has impacted their lives.

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Anikwa
It's raining. / Like everyone in Kekionga, / we've invited people we don't know / to stay with us. The man we saw / standing in the hole is here. / He's Ojibwe—Father / remembers him / from the Greenville treaty-signing, / and tells us the man's name is "Brings In Light." / It's true—light from the fire bounces off his face and shines on us. / Wedaase is here, too, sitting beside Father, telling everyone about the time / he saw me with James. He asks if I'm a spy for the Americans. (Does he mean it?) / My face turns hot, and Father answers for me: We trust James and his family. / His mother has always been kind to us. She took care of Anikwa's mother / when we were too sick to care for her ourselves. Ever since, we've / called her Sister. James is like a cousin to our children. / Wedaase says, Be careful, friend. That kind / of cousin can turn his back on you / when you need him most. / Father looks at Wedaase, then at me. / Is he remembering the kindness Mrs. Gray showed / my mother long ago, or is he thinking about the other day, / when Mr. Gray looked at the floor and said, / No more salt?

James
Oatmeal for lunch again? Two raisins each for me and Ma, three for Pa. / Same as we had for lunch and breakfast yesterday! I'm sick of oatmeal. / Why can't we have bread and cheese for lunch? I ask. Ma looks at Pa. Don't / complain, he says. (I didn't complain—I only asked.) We have to make / our provisions last. (For how long?) He's already told me we can't go out / hunting or fishing "until this is over with." I look at my feet, and Molly's, / thinking about the moccasins Mink makes, and the socks Ma knits / for our Miami friends. Not just trading, more like friends or relatives. / Ma's being quiet. Could I talk to Pa about what Isaac said? Pa, I say, / Isaac says the Indians are on the British side. I thought they were on ours. / He answers: They're coming here from all around—we don't know them all. / It's hard to say who our friends are. Ma looks out the doorway. Dark clouds / are gathering behind the flag. As long as we have no evidence to the contrary, / she says, we'll continue to treat the Miami as the friends they've always been.

Unit 15: *Salt: A Story of Friendship in a Time of War*

An excerpt from a book by Helen Frost

Anikwa
It's almost dark / when we walk into Kekionga. / Or where it used to be. Now it's … ashes. / Kwaahkwa told us, but no one could / imagine how terrible it is: / every house / torn apart / and burned. The fish / we had to leave on drying racks / scattered everywhere, and trampled. / Corncobs and fish heads covered with flies— / the army must have eaten what they wanted, and then / destroyed whatever was left over. Didn't they know— / they must have known—it's too late to grow more / corn, and we won't be able to catch many / fish before the river freezes. / Will the animals find / their way / back? / Will deer give us / hides for warmth and shelter, meat / for winter food? Father says, It's worse than I thought. / Grandma says, You helped them go to Piqua. / They should help us now.

James
Anikwa looks at me like he's forgotten who I am, his eyes so sad / and angry I don't know what to say. I made him a new whistle, but now / it seems like it belongs someplace we can't go back to. I keep it / in my pocket. We give them a ball of twine, a new blade for their saw. / Ma says, This is not on credit. It's a gift. Pa looks surprised to hear that, / but he doesn't disagree. A few leaves are turning yellow, falling / from the trees into the river. When I do offer the whistle to Anikwa, / he takes it, but he doesn't smile. He looks older. He looks hungry. / They all do. Mink spreads out her hands and speaks to us. Old Raccoon / repeats her words in English: Please sit with us and eat. He goes away and / comes back with a roasted rabbit. Mink holds out a small gourd bowl to Pa. / He turns red and looks down at the ground before he dips his fingers in. Salt. / Thank you, he says softly. I whisper to Ma, They hardly have any food. Why / are they feeding us? She answers, You should know by now. This is who they are.