

The Monarch's Long Trip

Every fall, millions of orange and black monarch butterflies begin an amazing journey. Monarchs that live in the eastern United States and Canada fly south to the mountains of central Mexico. Some travel more than 2,000 miles, which is farther than driving from New York to Utah. They cannot survive freezing winters, so they head for forests where the air stays cool but not icy. There, they cluster together on fir trees by the thousands, covering the branches like orange leaves. In early spring, the butterflies wake up and start flying north. Along the way, they lay eggs on milkweed plants, the only plants monarch caterpillars can eat. The butterflies that finish the trip north are the children, grandchildren and even great-grandchildren of the ones that left Mexico. Scientists are still studying how monarchs find their way to a place they have never been. Today there are fewer monarchs than there used to be, partly because milkweed is disappearing. Many families and schools now plant milkweed gardens to give the butterflies places to eat and lay eggs.

1. Where do eastern monarchs spend the winter?

- a) in the mountains of central Mexico b) in Canada c) in Utah

2. Why do monarchs fly south in the fall?

3. What is the only plant monarch caterpillars can eat?

- a) milkweed b) fir needles c) clover

4. Who finishes the trip north in spring?

5. How do milkweed gardens help monarchs grow in number?

The Science Fair

For the science fair, Theo wanted to find out which paper towel brand soaked up the most water. He bought three brands and cut each into squares of the same size. One at a time, he dipped a square into a cup of water for ten seconds, then squeezed it into a measuring cup. He wrote every result in a notebook. On the first try, the cheapest brand held the most water, which surprised him. Theo's older sister, Nia, looked at his notes. "Did you use the same amount of water each time?" she asked. Theo frowned. He had refilled the cup with whatever was in the pitcher. He decided to start over. This time he measured exactly one cup of water for every test and repeated each test three times. When he finished, a different brand came out on top. At the fair, Theo showed both sets of results on his poster. A judge asked why he had included his mistake. "Because it shows why careful measuring matters," Theo said. The judge smiled and wrote something on her clipboard.

1. What question did Theo want to answer?

2. What did Nia notice about the first experiment?

- a) He did not use the same amount of water each time.
- b) He used too many brands.
- c) He forgot to write the results.

3. Name two things Theo changed the second time.

4. Why did Theo put his mistake on the poster?

5. What do you think the judge thought of Theo's answer? Explain.

Inside a Volcano

Deep under the ground, it is so hot that some rock melts into a thick, glowing liquid called magma. Magma is lighter than the solid rock around it, so it slowly pushes upward. Sometimes it collects in a space called a magma chamber, a few miles below the surface. When enough pressure builds up, the magma forces its way out through cracks. Once magma reaches the surface, it is called lava. Some volcanoes erupt with huge explosions that throw ash and rocks high into the sky. Others ooze lava gently, and it flows downhill like slow, red-hot syrup. When lava cools, it hardens into new rock. Over thousands of years, layer after layer of cooled lava and ash can build a mountain. The islands of Hawaii were made this way, one eruption at a time. Scientists who study volcanoes are called volcanologists. They measure small earthquakes, gases and even tiny changes in the shape of the ground. These clues can warn people living nearby that an eruption may be coming, giving them time to move to safety.

1. What is magma?

- a) melted rock under the ground b) cooled lava c) volcanic ash

2. What is magma called once it reaches the surface?

- a) lava b) ash c) a chamber

3. How were the islands of Hawaii formed?

4. Name two things volcanologists measure.

5. Why is a volcanologist's job important to people who live near a volcano?

Grandpa's Old Radio

In the corner of Grandpa's garage sat a wooden radio covered in dust. "It hasn't worked in thirty years," Grandpa said. "I used to listen to baseball games on it with my father." Zoe ran a finger across the knobs and asked if they could fix it. Grandpa laughed, but he pulled out his toolbox. They spent the whole weekend on the project. Zoe held the flashlight while Grandpa unscrewed the back panel. Inside were glass tubes, coils of wire and a lot of spider webs. They cleaned every part with a soft brush. Grandpa found a wire that had snapped and showed Zoe how to join it with solder. On Sunday evening, they plugged the radio in and turned the big knob. At first there was only crackling. Then, slowly, a voice came through, calling the play-by-play of a ball game. Grandpa sat down on an old stool and didn't say anything for a long time. Zoe noticed his eyes were shining. "Same station," he finally said quietly. "After all these years." They listened together until the very last out.

1. Where was the old radio?

- a) in Grandpa's garage b) in the attic c) in Zoe's room

2. What did Grandpa use to listen to on the radio as a boy?

- a) baseball games b) music shows c) the news

3. What was wrong inside the radio?

4. What did Zoe do to help?

5. Why do you think Grandpa's eyes were shining?

Camels: Built for the Desert

Deserts are some of the hardest places on Earth to live. Days can be scorching, nights can be freezing, and water may be days away. Camels have special features that help them survive there. Many people think a camel's hump is full of water, but it actually stores fat. When food is scarce, the camel's body uses the fat for energy. A camel can go about a week without drinking, and when it finds water, it can gulp down around thirty gallons in just a few minutes. Its thick fur keeps out the daytime heat and keeps the camel warm at night. Camels also have two rows of long eyelashes and can close their nostrils to keep out blowing sand. Their wide, padded feet spread out on soft sand like snowshoes, so they do not sink. For thousands of years, people have relied on camels to carry heavy loads across the desert. That is why camels are sometimes called "ships of the desert." Even today, in some places camels are still used for travel, milk and wool.

1. What does a camel's hump store?

- a) fat b) water c) air

2. About how long can a camel go without drinking?

- a) about a week b) about a day c) about a year

3. How do camels keep sand out of their eyes and noses?

4. Why don't camels sink in soft sand?

5. Why do you think camels are called "ships of the desert"?

The Spelling Bee

Amira had practiced for the school spelling bee every night for a month. Her little brother quizzed her at breakfast, and her mom made flash cards for the car. On the day of the bee, twenty students sat in a row of folding chairs on the stage. Amira's hands felt cold, and her heart was thumping. Round after round, students sat down when they missed a word. Amira spelled "journey," "careful" and "neighbor" without a mistake. Soon only two spellers were left: Amira and a fourth grader named Ben. Ben spelled "mysterious" perfectly. Then it was Amira's turn. "Your word is rhythm," said the judge. Amira took a deep breath. She remembered that the word had no regular vowels. "R-H-Y-T-H-M," she said slowly. The judge nodded. Ben's next word was "necessary," and he forgot one of the s's. Amira had to spell one more word to win. When she spelled "calendar" correctly, the audience burst into applause. Ben walked over and shook her hand. "Good job," he said. "See you next year." Amira grinned. "I'll be practicing," she said.

1. How long did Amira practice for the spelling bee?

- a) a month b) a week c) a year

2. Who helped Amira practice?

3. Which word did Ben miss?

- a) necessary b) mysterious c) rhythm

4. What was the winning word?

- a) calendar b) rhythm c) neighbor

5. How did Amira feel at the start of the bee? Which clues tell you?

Keepers of the Light

Long before ships had computers and satellite maps, sailors faced a dangerous problem at night. Rocky coasts, hidden reefs and sandbars were almost impossible to see in the dark. To warn them, people built lighthouses: tall towers with a bright light at the top. Each lighthouse had its own pattern of flashes, so sailors could tell which one they were looking at and figure out where they were. Some towers were also painted with stripes or checks so they could be recognized during the day. Before electricity, lighthouse keepers had a lot of work. They carried fuel up long spiral staircases, trimmed the wicks and polished the giant glass lenses until they sparkled. On foggy nights, they rang bells or sounded horns so ships could hear the coast even when they could not see it. Keepers often lived with their families in small houses next to the tower, sometimes on lonely islands. Today, almost all lighthouses run automatically, and ships use GPS to find their way. Still, many lighthouses have been saved as museums, and visitors climb their stairs to enjoy the view.

1. Why were lighthouses built?

2. How could sailors tell one lighthouse from another at night?

- a) Each had its own pattern of flashes.
- b) Each had a different color tower.
- c) Each played a song.

3. What did keepers do on foggy nights?

4. What do ships use today to find their way?

- a) GPS
- b) lighthouse keepers
- c) maps drawn by hand

5. Why do you think keepers' lives could be lonely?

The Empty Lot

For as long as Marcus could remember, the lot at the end of his street had been full of weeds, broken glass and an old shopping cart. One day in March, he and his neighbor Mrs. Alvarez stood looking at it. "This could be a garden," she said. Marcus wasn't so sure, but he agreed to help. They asked the city for permission and put a sign-up sheet at the corner store. The first Saturday, only four people came. They filled twelve bags with trash and pulled out the shopping cart. The next week, eleven people showed up, and a hardware store donated wood for raised beds. By May, there were tomatoes, peppers, sunflowers and a bench made from leftover boards. Neighbors who had never spoken to each other traded tips about watering and shared extra zucchini. Marcus took charge of the sunflowers and measured them every week. The tallest one grew taller than his dad. At the end of the summer, the neighbors held a picnic in the garden. Mrs. Alvarez gave a short speech and thanked everyone. Then she handed Marcus a small sign to hang by the gate. It said, "Garden Manager."

1. What was in the lot before the garden?

2. Whose idea was the garden?

- a) Mrs. Alvarez's b) Marcus's dad's c) the city's

3. How many people came the first Saturday?

- a) four b) eleven c) twelve

4. What did the hardware store donate?

5. Why do you think Mrs. Alvarez gave Marcus the "Garden Manager" sign?

3rd grade reading comprehension — answer key

The Monarch's Long Trip

1. a) in the mountains of central Mexico
2. They cannot survive freezing winters.
3. a) milkweed
4. The children, grandchildren and great-grandchildren of the butterflies that left Mexico.
5. They give monarchs places to lay eggs and food for the caterpillars, so more caterpillars can survive.
(inference; accept reasonable answers)

The Science Fair

1. Which paper towel brand soaks up the most water.
2. a) He did not use the same amount of water each time.
3. He measured exactly one cup of water each time and repeated each test three times.
4. To show why careful measuring matters.
5. The judge was impressed: she smiled and made a note, probably because he was honest and understood good science. (inference; accept reasonable answers)

Inside a Volcano

1. a) melted rock under the ground
2. a) lava
3. Layers of cooled lava and ash built up over thousands of years, one eruption at a time.
4. Any two of: small earthquakes, gases, changes in the shape of the ground.
5. Their measurements can warn people early, so they have time to leave before an eruption. (inference; accept reasonable answers)

Grandpa's Old Radio

1. a) in Grandpa's garage
2. a) baseball games
3. A wire had snapped (and it was full of dust and spider webs).
4. She held the flashlight and helped clean the parts.
5. Hearing a game on the same radio and station brought back happy memories of his father, and he felt emotional. (inference; accept reasonable answers)

Camels: Built for the Desert

1. a) fat
2. a) about a week
3. Two rows of long eyelashes, and they can close their nostrils.
4. Their wide, padded feet spread out like snowshoes.
5. Like ships carry people and cargo across the sea, camels carry people and heavy loads across the desert.
(inference; accept reasonable answers)

3rd grade reading comprehension — answer key

The Spelling Bee

1. a) a month
2. Her little brother quizzed her and her mom made flash cards.
3. a) necessary
4. a) calendar
5. Nervous. Her hands felt cold and her heart was thumping. (inference; accept reasonable answers)

Keepers of the Light

1. To warn sailors at night about rocky coasts, reefs and sandbars.
2. a) Each had its own pattern of flashes.
3. They rang bells or sounded horns.
4. a) GPS
5. Many lived in small houses on far-away islands, away from towns and other people. (inference; accept reasonable answers)

The Empty Lot

1. Weeds, broken glass and an old shopping cart.
2. a) Mrs. Alvarez's
3. a) four
4. Wood for raised beds.
5. He worked hard all season and took responsibility for the sunflowers, so she trusted him to help lead the garden. (inference; accept reasonable answers)