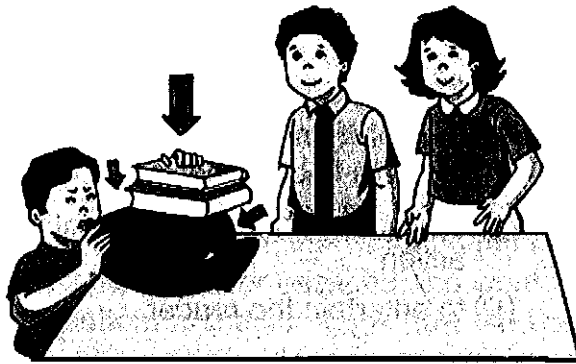


Read the story "The Hot Air Balloon Adventure". After carefully reading this selection, answer the questions that follow. As you read the story, you may come across words you do not know. Use the science glossary to find their meaning.

The Hot Air Balloon Adventure

The alarm went off. Josh looked at the time, it was almost 6:00 a.m. He and his dad had to be down at the field in an hour. Today was the day they would watch the hot air balloons take off. He could hardly wait! He got out of bed, ran to his dad's room, and woke him up. "Let's get going, Dad," Josh shouted. His dad let out a small groan as he hopped out of bed.



As Josh got ready, he had a million thoughts going through his head. He remembered that in science class he learned all about air. He thought that oxygen was the most abundant gas in air, but he found out that air contained 78% nitrogen, 21% oxygen, and 1% of all other gases which included argon, carbon dioxide, neon, helium, methane, krypton, and hydrogen. He knew that air takes up space and has mass. He learned this from an experiment that his teacher did in class. She took

a balloon and placed it on one side of the pan balance. The balance hardly moved. She then took an identical balloon and blew air into it. The balloon inflated with air. She then placed the inflated balloon on the other side of the pan balance. Down went the pan! This proved that air has mass. He thought about the barometer that was hanging on the wall in his classroom. The class learned how to read the barometer. He remembered that a barometer measures air pressure. When the barometric pressure drops, a storm is approaching. When the barometric pressure increases, it indicates fair weather. He looked out of his window and was happy to see the Sun shining. "The barometer must be rising," he said to himself.

Another thought came into his mind. He remembered seeing the video his grandmother took when she went to Africa. She rode in a hot air balloon over the Serengeti. The balloon went up over 500 feet. The video showed how the pilot prepared the balloon for takeoff. One day he hoped that he would ride in a hot air balloon, but for now, just seeing one take off in flight would be a big thrill.



There was a mass of activity down at the field when Josh and his dad arrived. Balloons were lying all over the field. His dad pointed to one balloon and to Josh's

surprise, he saw his grandmother talking to the pilot. "I didn't know Grandma would be here with us," said Josh. "Is she going for another ride?" he asked.

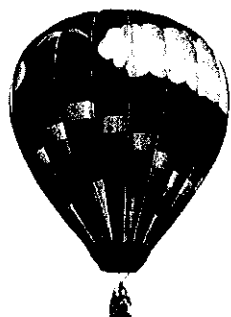
"You never know what Grandma will do," replied his dad.

"Hurry, Josh!" his grandmother shouted as she waved him to come over to the balloon. He ran over and was introduced to the pilot. Josh looked around and saw a propane tank and heard loud sounds.

He saw a huge fan. "How do you get this balloon off the ground?" Josh yelled above the noise.



"It is simple," said the pilot. "First, you fill the balloon with air using this fan. Once the balloon is filled with air, the propane tanks are used to heat the air. Warm air rises and so does the balloon. Once the temperature of the air inside the balloon matches the temperature of the air outside, the balloon will begin to descend. The propane tanks are used to add heat to the balloon so that it will stay afloat. When the temperature of the air is increased, I am able to fly higher. When the temperature of the balloon is cooled, I am able to make the balloon descend. Maintaining the temperature will keep the balloon steady."



Josh watched as the balloon began to inflate. The basket, or gondola, of the balloon was tethered to the ground. The pilot stepped into the basket and told the passengers to board. Grandma came over and took Josh by the arm. "Are you ready?" she asked.

Josh looked at his grandmother and asked, "Ready for what?"

"Ready to go for a ride?" she said.

He looked at her in amazement and began to smile. "Let's go!" he yelled. "This is going to be one of the best days of my life!"

Hot Air Balloon Adventure

Follow Up Questions

1. Scan the story for the answer to this question. When a pilot wants his helium balloon to go higher, what does he do?
 - (A) raises the temperature of the air inside the balloon
 - (B) lowers the temperature of the air inside the balloon
 - (C) waits until a gust of wind propels the balloon higher
 - (D) releases the propane tank
2. What happens to the barometer when the weather changes from cloudy to sunny?
 - (A) The barometer is not working.
 - (B) The barometer is rising.
 - (C) The barometer is falling.
 - (D) There is more oxygen available in the air.
3. The gas that is most abundant in the atmosphere is which of the following?
 - (A) oxygen
 - (B) hydrogen
 - (C) nitrogen
 - (D) carbon dioxide
4. What does a barometer measure?
 - (A) air speed
 - (B) air pressure
 - (C) air temperature
 - (D) amount of rain
5. What is the main idea of this story?
 - (A) Air has mass, takes up space, and its pressure can be measured.
 - (B) A propane tank is used to lift helium balloons.
 - (C) A barometer measures air pressure.
 - (D) A filled balloon has more mass than an unfilled balloon.
6. Which statement below contains a fact and an opinion?
 - (A) Air has mass; air pressure can be measured.
 - (B) Oxygen is a gas; argon has a pleasant smell.
 - (C) A barometer is a tool; a pan balance is a tool.
 - (D) Hot air rises; cool air falls.

