6th Grade Passages

Between BOY and MOY Student Packet

Caroline Herschel

Did you know that one of the first women astronomers began her career as a maid?

16 Caroline Herschel was one of six children. When Caroline was small, she suffered from a disease
32 called typhus. She recovered, but her growth was permanently stunted. She only grew to be four
48 feet three inches tall. Her father told her that the only thing she could do in life was to be a maid.

70 Her brother, William, felt sorry for her. He took her to England to live with him. She was his
89 housekeeper. William had a job as a chorus director. He was very skilled in music. But he really
107 had an interest in astronomy. He began to make very powerful telescopes.

119 Soon, people realized how well-made his telescopes were. He began making and selling them. He
135 quit his chorus job. William became very respected in the field of astronomy. He even discovered
151 Uranus.

152 Caroline spent years watching her brother. She began to develop an interest in astronomy too. She
168 learned all she could from him. Soon, she was helping him build telescopes. She kept wonderful
184 notes about their observations.

188 William even gave her her own telescope. He knew she would want to make observations on her
205 own.

206 Her first big accomplishment came when she discovered a comet. She would go on to discover 7
223 more.

224 Caroline won several awards for her work in astronomy. She was even honored in other countries,
240 including Germany and Prussia. In 1835, she became an honorary member of the Royal
254 Astronomical Society. She was one of the first women to achieve this goal.

267 Caroline lived to be 98 years old. She had many friends. When she died, everyone who knew her
285 was sad.
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An Unusual Job

Robert Crisman has a big job. He works to keep the faces of four Presidents looking good. He repairs cracks on Abraham Lincoln's nose. He smoothes the lines on George Washington's forehead. Of course, Crisman does not work on real Presidents. He works on Mount Rushmore.

What is Mount Rushmore? Mount Rushmore is a mountain in South Dakota. It is made of a very hard rock called granite. The faces of George Washington, Thomas Jefferson, Abraham Lincoln, and Theodore Roosevelt are carved into the side of this mountain. The carvings begin at the top of the mountain. They are about 60 feet tall. They were made as a monument to honor these great Presidents. The carvings make people think about what these leaders stood for — courage, leadership, freedom, and a love of country.

Why do the carvings need repair? Over time tiny cracks occur in the hard granite. When they first appear, these small cracks are not a problem. But the weather causes some to get bigger. In the winter, rain and melted snow get inside the cracks. When the water freezes, it makes the cracks longer and deeper. When a small crack becomes a large crack, it needs to be repaired. If it is not fixed, pieces of the carvings may break off.

How does Robert Crisman do the repairs? Every September Crisman goes down the side of the mountain to see if anything needs to be repaired. To do this, he first puts on special gear. He uses safety belts like the ones used by people who climb mountains. Then Crisman straps himself into a seat. The seat is fastened to strong ropes. Two people on top of the mountain lower Crisman down. Each year Crisman works on the side of the mountain for four days. Each day he works on a different carving. As Crisman climbs around the huge faces, he carefully checks each one. He inspects the carvings for breaks and chips. If he finds a large crack, he fixes it. Before 1991 Crisman filled in the cracks with a paste that took three years to dry. Then a company made something new for him to use called silicone. The silicone fills up the cracks and dries in just one day.

When Crisman first started his job, he did not like to look at the ground so far below him. Now he is used to working up high. He likes his job and knows he is doing something important. About two million people visit Mount Rushmore each year. Robert Crisman's work helps keep the Presidents' faces looking good for everyone to see.

A Great Comet

For six months in 1997, people watched a glowing object in the night sky. Comet Hale-Bopp made
18 a show in the sky that lasted from January to June. Its head shone as brightly as a star. Its tail swept
40 back like a fan. Some people thought it might be the best comet to pass by Earth in 20 years.

60 Comets begin as dirty chunks of rock in an icy fog. Some of these rocks move toward the sun
79 when its gravity pulls them. Once the rocks get near the sun, they begin to look like comets. Each
98 comet forms a tail and a round head that are characteristic of all comets. The round head and tail
117 make a comet easy to recognize. Comets travel in orbits, or circles, around the sun. These orbits
134 can be big or small. Comets that make small orbits around the sun come near Earth every 200
152 years or less. They are not very bright, but we see them more often.

166 Hale-Bopp is a comet that makes big orbits around the sun. It will not pass near Earth again for
186 about 2,400 years.

189 In the 1990s about 12 comets a year were discovered. Most of these could not be seen in the sky
209 without special equipment because they did not come very close to Earth. Even though Hale-Bopp
225 was far away from Earth, it could be seen because its head was huge. The heads of most comets
245 are no larger than six miles in diameter. Hale-Bopp's head was about 25 miles across. Because
263 of its size, Hale-Bopp glowed brightly. Most of the famous comets have had long, thin tails that
280 streamed for millions of miles. Hale-Bopp's tail was wider and shorter.

291 People enjoyed watching Hale-Bopp for several reasons. It glowed brightly. Hale-Bopp could be
306 seen without a telescope for six months, from an hour after sunset until an hour before sunrise each
324 day. Everyone had sufficient time to see this bright traveler. There were plenty of chances to look
341 at it. There will continue to be many more comets for us to see. Like Hale-Bopp, they will look
362 like glowing balls in the night sky.
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