Name: _____ Date: _____

Mina and the Eight Planets

Reading level 8 (4th grade) · 730 words

How many planets are there? That was Mina's homework, so she asked Grandpa Birch, and he did not even stop to think. "Eight," he said, "and they all go around the Sun. They are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune." "Show me," said Mina. So Grandpa found a nickel, and then he went to look in the fruit bowl.

"This nickel is Earth," said Grandpa. "It is our home, and it is the only planet with liquid water lying right on top, like a lake or the sea." Mina picked up the nickel, and it felt very small to be a whole world.

Grandpa put a blueberry down beside the nickel. "This is Mercury," he said. "It is the smallest planet, and it is the one closest to the Sun, so if Earth is a nickel, then Mercury is a blueberry." Mina rolled it around the table. "It is a bit wider than our Moon," said Grandpa.

"Venus comes next," said Grandpa, "and it is the hottest planet of all, even hotter than Mercury." "Hotter than the one closest to the Sun?" asked Mina. "Yes," said Grandpa. "Venus has thick air that traps the heat, like a blanket, and it is hot enough to melt lead." Mina decided she would not want to visit Venus.

Next came a raspberry. "That is Mars," said Grandpa. "We call it the red planet. The dirt on Mars has iron in it, and the iron has rusted, like an old bike left out in the rain. Mars has two moons, and they are shaped like potatoes." Mina looked at the raspberry and tried not to eat it.

Mina looked at the table and asked, "Where are the big ones?" Grandpa laughed. "They will not fit in a fruit bowl. If Earth is a nickel, then Jupiter is as big as a basketball, and Jupiter is the biggest planet of all. It is made of swirling gas, so there is no ground to stand on."

"Saturn is the one with rings," said Mina. "That is right," said Grandpa. "The rings are made of ice and rock, and some of the bits are as tiny as dust while others are as big as a house. Saturn is also not very heavy for its size, so it could float in a bathtub if you could find one big enough!"

"Then there is Uranus," said Grandpa, and he tipped his hand onto its side. "It spins on its side, like a rolling ball. The last one is Neptune, and it is so far from the Sun that noon there would look like dim twilight to us." "So Neptune never has a bright day?" asked Mina. "Not like ours," said Grandpa.

"What about the Sun?" asked Mina. "The Sun is much bigger than any planet," said Grandpa. "It is about a hundred times wider than Earth. Light from the Sun takes about eight minutes to reach us. So the next time the Sun is warm on your face, that light left it eight minutes ago."

Grandpa tapped the table. "When I was your age, I would have told you there were nine." "Nine?" said Mina. "What happened to the ninth one?" "That was Pluto," said Grandpa. "It is far out past Neptune, and for a long time people counted it as the ninth planet. Then, in 2006, everything changed."

"In 2006, a group of astronomers called the IAU met and voted on what a planet really is. They agreed that a planet goes around the Sun. It is round. And it is big enough to clear other big things out of its path." "Did Pluto do that?" asked Mina. "Not quite," said Grandpa.

"Other scientists had found worlds a lot like Pluto, way out in the cold, full of icy things. Pluto was not the only one out there. So the IAU made a new name for these small round worlds. The name is dwarf planets. Pluto is a dwarf planet now, and there are five of them. Some people were upset!"

"Is Pluto gone?" asked Mina. "No," said Grandpa. "It is still there. A spaceship named New Horizons flew past it in 2015 and took pictures." Mina wrote on her homework: Eight planets. Five dwarf planets. One of them is Pluto. Then she looked at the fruit bowl. Which fruit would you pick for Pluto?

Questions

1. How many planets does the book say there are?

A. Nine
B. Eight
C. Five

2. If Earth is a nickel, what is Mercury?

A. A raspberry
B. A basketball
C. A blueberry

3. Why does Mars look red?

A. It is closest to the Sun
B. The iron in its dirt has rusted
C. It is covered in red water

4. Why did the IAU make a new name for Pluto?

A. Pluto got too hot
B. Pluto turned into a moon
C. Scientists found other worlds like Pluto

5. In the book, noon on Neptune looks like "twilight." What does twilight mean?

A. A bright morning
B. Dim light, like early evening

C. A storm

Words to know

planet: star-circling world
rings: bands around Saturn
rusted: turned red-brown
dwarf: very small kind
twilight: dim evening light

Answer key: Mina and the Eight Planets

1. B. Eight
2. C. A blueberry
3. B. The iron in its dirt has rusted
4. C. Scientists found other worlds like Pluto
5. B. Dim light, like early evening