Name: _____ Date: _____

Four Little Dots Beside Jupiter

Circle group

In 1610, a scientist named Galileo built a telescope. He pointed it at the bright planet Jupiter. Next to the planet, he saw three tiny, bright dots in a line. He thought they were faraway stars.

The next night, he looked again. The dots had moved. Stars do not move like that. He kept looking night after night and wrote down what he saw. Sometimes a dot was left of Jupiter. Sometimes it was right. Sometimes a dot went away and then came back. Soon there were four dots.

Galileo realized the dots were not stars. They were small worlds circling Jupiter, like our moon circles Earth. Today we call them Io, Europa, Ganymede, and Callisto. They are called the Galilean moons. You can see them with a good pair of binoculars.

This discovery mattered. Many people then thought everything in the sky circled Earth. Here was proof that some things circled another world. Galileo found it with careful notes and patience.

Questions

1. What did Galileo point his telescope at in 1610?

_____

_____

2. What did Galileo first think the dots were?

_____

_____

3. How did he learn they were not stars?

_____

_____

4. How many moons did Galileo find?

_____

_____

5. Why did the discovery matter?

_____

_____

6. How did Galileo make his discovery?

_____

_____

Words to know

telescope: a tool that makes faraway things look closer
planet: a large round world that travels around a star
realized: suddenly understood something
discovery: something found or learned for the first time
proof: facts that show something is true

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Four Little Dots Beside Jupiter

Triangle group

In 1610, a scientist named Galileo built a telescope and pointed it at the bright planet Jupiter. Next to the planet, he noticed three tiny, bright dots in a straight line. He thought they must be faraway stars.

The next night, Galileo looked again, and the dots had moved. Stars do not shift around like that. He kept looking night after night and wrote down what he saw. Sometimes a dot was on the left of Jupiter, and sometimes it was on the right. Sometimes one dot disappeared, and then it came back. Soon there were four of them.

Galileo realized that the dots were not stars at all. They were small worlds circling Jupiter, just as our moon circles Earth. Today we call them Io, Europa, Ganymede, and Callisto, and they are known as the Galilean moons. They are so bright that people can spot them with a good pair of binoculars.

This discovery mattered because many people at the time believed that everything in the sky circled Earth. Here was proof that some objects circled another world. Galileo had found it with careful notes and plenty of patience. His story reminds us that a big idea can begin with something as small as a dot of light that moves.

Questions

1. What did Galileo point his telescope at in 1610?

_____

_____

2. What did Galileo first think the dots were?

_____

_____

3. What showed him that the dots were not stars?

_____

_____

4. How many moons did Galileo find in all?

_____

_____

5. Why did the discovery matter?

_____

_____

6. How did Galileo make his discovery?

_____

_____

Words to know

telescope: a tool that makes faraway things look closer
planet: a large round world that travels around a star
realized: suddenly understood something
discovery: something found or learned for the first time
proof: facts that show something is true

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Four Little Dots Beside Jupiter

Square group

In 1610, a scientist named Galileo constructed a telescope and aimed it at the brilliant planet Jupiter. Beside the planet, he noticed three tiny, bright dots arranged in a straight line, and he assumed that they were distant stars.

The following night, when Galileo looked again, the dots had changed position. Stars do not wander about in that manner. He continued to observe night after night and recorded everything he saw. Sometimes a dot appeared to the left of Jupiter, and sometimes to the right. Occasionally one of the dots vanished, only to reappear later. Eventually, there were four of them.

Galileo came to understand that the dots were not stars at all. They were small worlds circling Jupiter, just as our own moon circles Earth. Today we call them Io, Europa, Ganymede, and Callisto, and they are known collectively as the Galilean moons. They are bright enough that people can spot them with a good pair of binoculars.

This discovery was important because many people at the time believed that everything in the sky revolved around Earth. Here was clear evidence that some objects circled another world. Galileo uncovered it through careful notes and remarkable patience. His story reminds us that a great idea can begin with something as small as a moving dot of light.

Questions

1. What did Galileo aim his telescope at in 1610?

_____

_____

2. What did Galileo assume the dots were at first?

_____

_____

3. What revealed to him that the dots were not stars?

_____

_____

4. How many moons did Galileo eventually find?

_____

_____

5. Why was the discovery important?

_____

_____

6. How did Galileo achieve his discovery?

_____

_____

Words to know

telescope: a tool that makes faraway things look closer
planet: a large round world that travels around a star
discovery: something found or learned for the first time

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

For the teacher: Four Little Dots Beside Jupiter

Each student sheet carries a shape, not a level. The same topic and facts, written three ways.

Circle: Four Little Dots Beside Jupiter

Easier · 161 words · Flesch-Kincaid grade 3.9

1. The planet Jupiter.
2. Faraway stars.
3. The dots moved from night to night.
4. Four.
5. It showed that some things circled another world, not Earth.
6. With careful notes and patience, looking night after night.

Triangle: Four Little Dots Beside Jupiter

This passage · 210 words · Flesch-Kincaid grade 5.6

1. The planet Jupiter.
2. Faraway stars.
3. They moved from night to night.
4. Four.
5. It showed that some objects circled another world, not Earth.
6. With careful notes and plenty of patience, by looking night after night.

Square: Four Little Dots Beside Jupiter

Harder · 216 words · Flesch-Kincaid grade 8.3

1. The planet Jupiter.
2. Distant stars.
3. They changed position from night to night.
4. Four.
5. It showed that some objects circled another world rather than Earth.
6. Through careful notes and remarkable patience, observing night after night.