

### 33. Galileo's Vision by David White

**A** <sup>1</sup>It was a clear night in 1610 when Galileo Galilei looked through his telescope and saw the four closest moons of Jupiter. <sup>2</sup>They were only dots in the sky, but they were there.

**B** <sup>3</sup>It was quite a discovery. <sup>4</sup>In fact, the moons Galileo saw were the first moons other than our own moon that anyone had ever seen.

**C** <sup>5</sup>Now, Galileo didn't invent the telescope. <sup>6</sup>Hans Lippershey of Holland did in 1608. <sup>7</sup>He designed it so people could look at things far away. <sup>8</sup>But Galileo was the first to use a telescope to look at stars and planets.

**D** <sup>9</sup>Using the telescope, Galileo also discovered that our moon was not the perfect, mysterious sphere everyone thought it was. <sup>10</sup>He proved that the moon was filled with craters. <sup>11</sup>He also proved that the light that seemed to be coming from the moon was actually a reflection of light coming from the sun.

**E** <sup>12</sup>Galileo was also the first scientist to prove a theory by testing it and recording results. <sup>13</sup>Until that time, scientists would prove their theories by making arguments without giving evidence.

**F** <sup>14</sup>Galileo was the first to provide visual evidence in support of the theory that Earth revolves around the sun. <sup>15</sup>A man named Copernicus of Poland had written in 1543 that Earth was not the center of the universe. <sup>16</sup>He had said that the sun was the center of what we call the solar system and that Earth circled the sun. <sup>17</sup>Not many people believed



him. <sup>18</sup>Teachings until that time had placed Earth firmly at the center of the universe, with everything else revolving around it.

<sup>19</sup>Galileo, night after night, saw the moons of Jupiter at different points in the sky. <sup>20</sup>It was clear that they were circling Jupiter, not Earth. <sup>21</sup>What Galileo saw helped prove Copernicus's theory.

**G** <sup>22</sup>Astronomy has come a long way since 1610. <sup>23</sup>We now know that Jupiter has at least 16 moons. <sup>24</sup>We know that our own solar system has nine planets. <sup>25</sup>We know that seven of those planets have moons. <sup>26</sup>We know that the universe contains other solar systems like ours. <sup>27</sup>We have telescopes searching the night sky for signs of life. <sup>28</sup>Thousands of people now do what one man started on a hill in Italy almost 400 years ago.

**DIRECTIONS:** Choose or write the best answer to each of the following questions using the evidence presented in the passage. When required, list specific sentence numbers or paragraph letters from the story to support your answer.

- 1. Which of these best explains why people before Galileo hadn't seen moons around Jupiter?
  - A. They hadn't looked in the right place.
  - B. They hadn't turned the telescope toward the night sky.
  - C. They thought Jupiter didn't have moons.
  - D. They thought Earth was the center of the universe.

Give the number of the sentence that best supports your answer. \_\_\_\_

- 2. Which of these words best describes the process that Galileo introduced to scientific theory?
  - A. visualization
  - B. determination
  - C. argumentation
  - D. experimentation

Give the number of the sentence that best supports your answer. \_\_\_\_

- 3. The author's purpose in writing this passage was probably
  - A. to discuss modern astronomy.
  - B. to show how to use a telescope.
  - C. to prove Galileo's theories about the universe.
  - D. to show Galileo's contributions to science.
- 4. Scientists before Galileo proved theories by making arguments. This kind of proof can best be described as
  - A. theoretical.
  - B. historical.
  - C. natural.
  - D. technical.

- 5. Compare the two scientific theories described in paragraph F.

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- 6. Explain one way that Galileo changed the way people thought about the Moon.

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Give the letter of the paragraph that best supports your answer. \_\_\_\_

- 7. Which of these statements about the passage is an opinion?
  - A. The moon is filled with craters.
  - B. Galileo put the telescope to good use.
  - C. Galileo discovered four moons of Jupiter.
  - D. People didn't believe Copernicus's theory at first.

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1. Cause/effect

**B. They hadn't turned the telescope toward the night sky.**

1 best evidence sentence: **8**

<sup>8</sup>But Galileo was the first to use a telescope to look at stars and planets.

2. Conclusion

**D. experimentation**

1 best evidence sentence: **12**

<sup>12</sup>Galileo was also the first scientist to prove a theory by testing it and recording results.

3. Author's purpose

**D. to show Galileo's contributions to science.**

4. Inference

**A. theoretical.**

B. historical.

C. natural.

D. technical.

Sentences 12 and 13 says Galileo was the first scientist to prove theories using evidence. Scientists before him, then, must have relied on untested theories. There is no evidence for B, C, or D.

5. Compare/contrast

**The old theory was that Earth was the center of the universe and that planets and moons circled it. Copernicus's theory said the Sun was the center of our solar system and that Earth circled the Sun.**

6. Reading for detail

(Accept either)

**1. Before Galileo, people thought the Moon was perfectly smooth and round and that it gave off its own light.**

**2. Galileo proved that the Moon had craters and was not its own source of light.**

1 best evidence paragraph: **D**

7. Fact/opinion

**B. Galileo put the telescope to good use.**

B contains the word "good," which is a value judgment—an indicator of an opinion. A, C, and D are facts.