

### Cold-Read Task

Read “Quarter of Americans Convinced Sun Revolves around Earth, Survey Finds” by Liz Fields. Then answer the questions.

#### 1. Part A

Reread the title of the article.

#### **Quarter of Americans Convinced Sun Revolves around Earth, Survey Finds.**

Which explains the meaning of the word *survey* as it is used in the title?

- a. to look carefully in order to examine the things and people around you
- b. to record the data of an area in order to construct a map or description of the area
- c. a study of the opinions or experiences of people by asking them questions
- d. a general view or description of someone or something

#### **Part B**

Which detail **best** helps in understanding the meaning of the word *survey*?

- a. Some Americans think that the sun revolves around Earth.
- b. People were asked different questions and their answers were recorded.
- c. Information was presented at an annual meeting.
- d. Nicolaus Copernicus introduced his astronomical model of the universe.

## 2. Part A

Which **best** summarizes the article, “Quarter of Americans Convinced Sun Revolves around Earth, Survey Finds”?

- a. According to a 2014 survey, many Americans responded incorrectly to basic questions about astronomy and science. The reason that many Americans failed to answer questions correctly may be connected to the current state of science education.
- b. According to a 2014 survey, most Americans believe that the sun revolves around the earth. This belief is based in heliocentrism and was widely accepted hundreds of years ago. The reason that many believe in this theory may be connected to the current state of science education.
- c. According to a 2014 survey, many Americans responded correctly to basic questions about astronomy and science. The reason that many Americans correctly answered the questions may be connected to their belief in the Copernican Revolution.
- d. According to a 2014 survey, most Americans responded incorrectly to basic questions about Nicolaus Copernicus and his model of the universe. The reason that many Americans incorrectly answered the questions may be connected to the National Science Foundation report to the President and lawmakers.

## Part B

What **two** pieces of evidence from the article **best** support the answer to Part A?

- a. "Does the Earth go around the Sun, or does the Sun go around the Earth?"
- b. "If you answered the latter, you're among a quarter of Americans who also got it wrong, according to a new report by the National Science Foundation."
- c. "A survey of 2,200 people that was released Friday revealed some alarming truths about the state of science education across the country, with many failing to answer even the most basic astronomy and science questions, according to a release about the survey."
- d. "Asked whether there needed to be more government funding for science, 30 percent said there should be."
- e. "It is conducted every two years and will also be included in a National Science Foundation report to President Obama and lawmakers."
- f. "Heliocentrism, the theory that the earth and planets revolve around a relatively stationary sun, became widely accepted in the 16th century, when Nicolaus Copernicus introduced his astronomical model of the universe, which led to the Copernican Revolution."

3. **Part A**

How does the author of “Quarter of Americans Convinced Sun Revolves around Earth, Survey Finds” support the idea that many Americans are not knowledgeable about basic astrological and scientific facts?

- a. by using the theories of well-known scientists
- b. by comparing Americans to people in other countries
- c. by using quotations of some of the Americans that were studied
- d. by using data from a survey of Americans about science topics

**Part B**

Which **paragraph** from the article **best** support the answer to Part A?

- a. Paragraph 1
- b. Paragraph 5
- c. Paragraph 6
- d. Paragraph 8

View "[Galileo: Sun-Centered System](#)" from PBS LearningMedia. Then answer the questions.

4. **Part A**

Read this excerpt from the video, "Galileo: Sun-Centered System."

**For him demonstration was the mark of science. For something to count as a scientific claim it had to be conclusively shown to be the case. Anything short of that was called conjecture or opinion. While he searched for a demonstration a letter arrived for one of his followers Benedetto Castelli, suggesting that the planet Venus could hold the key.**

Which explains the meaning of the phrase *scientific claim* as it is used in the excerpt?

- a. the questions surrounding the order of the universe
- b. the opinions and ideas of well-known scientists
- c. the theories of scientists that can be proven
- d. the beliefs of many people based on observation

**Part B**

Which context clue in the excerpt **best** helps in understanding the meaning of the phrase "scientific claim"?

- a. "One of his followers Benedetto Castelli"
- b. "Conjecture or opinion"
- c. "He searched for a demonstration"
- d. "Planet Venus could hold the key"

### 5. Part A

According to the video “Galileo: Sun-Centered System,” which statement **best** summarizes what people thought about Copernicus’s model of the universe during his lifetime?

- a. People thought that his ideas needed to be accepted as fact.
- b. People thought that his ideas were silly because of what they believed that they knew about the world.
- c. People thought that his ideas were true because he used scientific research to prove them.
- d. People thought that his ideas were false because Galileo had proof of another model.

### Part B

Which evidence from the video **best** supports the answer to Part A?

- a. “Sixty years before the telescope a Polish clergyman, Nicholas Copernicus, noticed that the calculations needed to predicted the positions of the planets in the sky would be simplified if he assumed that the sun, rather than the earth, were at the center of the universe.”
- b. “In the Copernican system the Earth was never still. It has 2 separate motions. Revolving around the sun each year and spinning on its axis once each day.”
- c. “I mean they were saying this is just absolutely ridiculous. I mean look at the ground it’s as solid as you can see. Clearly the Earth is not moving. Nothing could be more obvious than the fact that the Earth is not moving.”
- d. “Galileo had read Copernicus and already suspected that his system was correct, but even with his telescope he did not see a way of proving that the Earth moved around the Sun.”

## 6. Part A

The video develops the claim that Copernicus and Galileo both developed new models of the order of the universe based on what they observed in the sky. How does the video support this claim?

- Write the letter of **one** main strategy used throughout the video to support the claim into the chart.

Strategy	Evidence #1	Evidence #2

- The video uses interviews with experts and scientists to support the claim.
- The video uses information about Galileo's life in a sequence to support the claim.
- The video compares and contrasts Copernicus's ideas with Galileo's ideas.
- The video uses data from the two scientists' research and experiments.

## Part B

- Write the letter of **two** details that best demonstrate the strategy being used into the chart..
- Narrator: "Galileo was born into a world where each morning reaffirmed the common view that the sun revolved around the earth. This belief was confirmed each day as the sun appeared to pass overhead each day."
  - Narrator: "60 years before the telescope a Polish clergyman, Nicholas Copernicus, noticed that the calculations needed to predicted the positions of the planets in the sky would be simplified if he assumed that the sun, rather than the earth, were at the center of the universe."
  - Ernan McMullin, Notre Dame: "For him, demonstration was the mark of science. For something to count as a scientific claim it had to be conclusively shown to be the case. Anything short of that was called conjecture or opinion."
  - Letter to Galileo from his friend, Castelli: "My dear Galileo, if Copernicus is correct, and Venus revolves around the sun rather than the Earth it is clear that she would be seen not unlike the phases of the moon—sometimes as crescent and sometimes not."

- e. Owen Gingerich, Harvard-Smithsonian Astronomer: “I always think that his Dialogue on the Two Great World Systems was the persuasive book that made it intellectually respectable to believe in a moving world, a Sun centered universe. It was the book that won the war.”
7. Write a multi-paragraph essay that explains how the theory of the sun and planets has changed over time. In your response explain the theories of Ptolemy, Copernicus, and Galileo. Include why some theories were more widely accepted than others. Cite evidence from both sources to support your response. Be sure to observe the conventions of standard English.