# Words in the Gears

Use context and precision to unlock a historical text.

**CCSS.ELA-Literacy.L.8.6** "Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression."

NAME _____ DATE _____

## 1 READ AND MARK

Read it twice

**YOUR JOB** Circle four words or phrases that are important to understanding the mechanism, then number the nearby clues that help you infer or confirm each meaning.

### A Machine from a Shipwreck

1. On a windy morning in 1901, divers near the Greek island of Antikythera brought up a corroded bronze object from an ancient shipwreck. At first, the lump seemed unremarkable, but careful cleaning revealed gears, dials, and Greek inscriptions. Researchers later concluded that the device could predict some movements of the sun, moon, and planets. Its intricate design challenged the assumption that ancient engineers used only simple machines. Today, the Antikythera Mechanism is displayed as evidence of sophisticated scientific thinking in the ancient Mediterranean.

2. In 2005, scientists used X-ray imaging to examine the mechanism without pulling apart its fragile pieces. This noninvasive method let them see hidden writing and gear arrangements inside the object. The images showed that the device tracked cycles, including eclipses, which occur when one celestial body blocks light from another. A cycle is a pattern that repeats in a regular order. By comparing the markings with ancient calendars, scholars could interpret how a user might have set the dials and read the predictions.

3. The mechanism does not prove that every ancient society had the same technology. Instead, it provides a valuable example from one place and time. Historians must be cautious when they generalize, or make a broad claim from limited evidence. Still, the artifact helps revise a common narrative: technological progress has not always moved in one straight line. Knowledge can be lost, rediscovered, and improved by later generations. Precise terms such as artifact, generalize, and narrative help writers explain this complicated history clearly.

## 2 ANSWER WITH EVIDENCE

Use the passage

1. Use clues in paragraph 2 to infer the meaning of noninvasive. What does this word mean?

2. What does cycle mean in the passage, and what example shows why cycles mattered to the mechanism?

3. What does generalize mean in paragraph 3? Why do historians need to be cautious about generalizing from this mechanism?

4. Which word in paragraph 1 most precisely describes scientific thinking that is highly developed? Explain which details support your choice.

## 3 YOUR TURN

Your own words

Write exactly two sentences about a science, history, arts, or sports topic. Use one domain-specific word and one general academic word accurately, and include a context clue that helps a reader understand the domain-specific word.

**ANSWER KEY** # Words in the Gears



## PART 1 · READ AND MARK

Circle four words or phrases that are important to understanding the mechanism, then number the nearby clues that help you infer or confirm each meaning. Accept any marking that follows this job and points at the right text.

## PART 2 · ANSWERS

| # | QUESTION | ANSWER |
|---|---|---|
| 1 | Use clues in paragraph 2 to infer the meaning of noninvasive. What does this word mean? | **Noninvasive means done without cutting into, pulling apart, or damaging the object.** |
| 2 | What does cycle mean in the passage, and what example shows why cycles mattered to the mechanism? | **A cycle is a pattern that repeats in a regular order. Eclipses are an example because the mechanism tracked them.** |
| 3 | What does generalize mean in paragraph 3? Why do historians need to be cautious about generalizing from this mechanism? | **Generalize means make a broad claim from limited evidence. The mechanism is only one example from one place and time.** |
| 4 | Which word in paragraph 1 most precisely describes scientific thinking that is highly developed? Explain which details support your choice. | **Sophisticated. The gears, dials, inscriptions, and ability to predict movements of the sun, moon, and planets show advanced design and thinking.** |

## PART 3 · YOUR TURN (SAMPLE ANSWER)

During photosynthesis, plants use chlorophyll, a green pigment that absorbs light, to help make food. This process demonstrates how organisms convert sunlight into chemical energy.

Accept reasonable inferences supported by nearby context clues. For Part 3, accept varied topics if the response has exactly two sentences, uses both types of vocabulary accurately, and includes a useful context clue for the domain-specific word.