Name _____

Signal From Stone

Directions: Read the science passage. Then answer the vocabulary questions that follow using evidence from the text.

In the early 21st century, scientists studying ancient rock layers noticed unusual chemical patterns locked inside microscopic crystals. These crystals acted like time capsules, preserving clues about Earth's past environment. By using advanced scanning tools, researchers were able to **analyze** the structure of the crystals without damaging them. The data revealed traces of oxygen arranged in a pattern that suggested a dramatic shift in the planet's atmosphere.

This discovery was **significant** because it challenged long-held assumptions about when oxygen first became abundant on Earth. Scientists formed a **hypothesis** that early microorganisms may have played a larger role in changing the atmosphere than previously believed. To support this idea, researchers gathered **evidence** from multiple locations and carefully **interpreted** the results to avoid bias. Although further testing is required, the findings have already influenced how scientists **evaluate** the timeline of life on Earth.

1. What does **analyze** most nearly mean as it is used in the passage?

2. Why is the discovery described as **significant**? Use context clues from the text.

3. What is a **hypothesis**, and how do scientists use it in this research?

4. How does the author show the importance of **evidence** in scientific discovery?

5. What does it mean to **interpret** results carefully in this situation?

6. Based on the final sentence, what does **evaluate** suggest about how scientists think about new information?