Reading Comprehension Worksheet

Grade 5

Answer Key

The Race to Map the Ocean Floor

A Surprising Gap in Our Knowledge

It might seem strange, but humans have mapped the surface of Mars in more detail than we have mapped our own ocean floor. More than eighty percent of Earth's oceans remain completely unmapped in any detailed way. Considering that oceans cover roughly seventy percent of our planet, this gap represents an enormous unexplored portion of Earth itself.

How Scientists Actually Map Underwater Terrain

Since light cannot travel far underwater, scientists cannot simply photograph the ocean floor the way satellites photograph land. Instead, researchers rely primarily on sonar, a technology that sends sound waves down through the water and measures how long they take to bounce back. By recording thousands of these echoes, ships can build a detailed picture of the seafloor's depth and shape, one sound wave at a time.

Why This Slow, Difficult Work Matters

Mapping the ocean floor is not simply an academic exercise. Detailed seafloor maps help scientists understand ocean currents, predict tsunamis, and locate valuable mineral resources. They also reveal underwater mountain ranges, deep trenches, and volcanic activity that shape marine ecosystems in ways researchers are still working to fully understand.

An International Effort With a Deadline

In response to this knowledge gap, an international project called Seabed 2030 has set an ambitious goal: to produce a complete, detailed map of the entire ocean floor by the year 2030. The project relies on data contributed by research vessels, naval ships, and even specially equipped fishing boats from countries around the world, combining their individual sonar readings into one shared global map.

Circle the Correct Answer

1. According to the passage, how does the mapping of Mars compare to the mapping of Earth's ocean floor?

Answer: b) Mars has been mapped in more detail than our own ocean floor

2. What technology do scientists primarily use to map the ocean floor?

Answer: b) Sonar

3. What is one reason detailed seafloor maps matter, according to the passage?

Answer: a) They help predict tsunamis and locate mineral resources

4. What is the goal of the Seabed 2030 project?

Answer: b) To produce a complete, detailed map of the entire ocean floor by 2030

True or False

5. More than eighty percent of Earth's oceans remain unmapped in detail.

Answer: True

6. Scientists can simply photograph the ocean floor the way satellites photograph land.

Answer: False

7. Seabed 2030 relies only on data from naval ships, with no other contributors.

Answer: False

Fill in the Blank

8. Sonar works by sending sound waves down and measuring how long they take to _____ back.

Answer: bounce

9. Seabed 2030 is described as an _____ effort involving many countries.

Answer: international

Think and Explain

10. This passage is organized into four sections with headings. Explain how the passage's structure builds an argument for why ocean floor mapping matters, using at least two headings as evidence in your answer.

Sample answer: Accept reasonable answers noting that the passage first establishes the problem (a surprising knowledge gap), explains how the problem is being addressed (sonar technology), argues why solving it matters (predicting tsunamis, locating resources), and finally describes the collaborative global solution (Seabed 2030), building a logical case section by section for why this work is worth doing.

11. What is the main idea of this passage as a whole? Support your answer with details from at least two different sections.

Sample answer: Accept reasonable answers noting that the ocean floor remains largely unmapped despite its importance, and that an international collaborative effort using sonar technology is working to close this gap by 2030, supported by details from multiple sections of the passage.