

Ask and Answer Questions

Asking and answering questions can help you check your understanding of complex scientific text. You can ask yourself what the main ideas are, or whether you need to reread a section of text.



Find Text Evidence

The last paragraph in the section “Deep Diving” on page 411 of “Mysterious Oceans” asks several questions about oceans. You may wonder how to find the answers.

page 411

The deep ocean is also a mysterious environment that remains largely unexplored. Little is known about it or its creatures. Do any of them **cache** food the way land animals do? Do any ocean species **hibernate**? As one example among countless mysteries, not a single, live giant squid had ever been spotted until a few years ago. We knew they existed only because their corpses had been found.

There must be reasons why we know so little about ocean life. I’m going to ask myself, “Why is the deep ocean so mysterious?” I will reread the section to try to answer this question.

Your Turn

COLLABORATE



Use the information in the first two paragraphs of “Deep Diving” on page 411 to begin to answer the question “Why is the deep ocean so mysterious?”

Cause and Effect

To figure out cause and effect relationships in a text, first look for an event or action that makes something happen. This is the **cause**. Then look for what happens as a result of that cause. This is the **effect**. Words and phrases such as *because of*, *as a result*, *if/then*, or *when* can signal cause and effect.



Find Text Evidence

In the first paragraph of the section “Amazing Adaptations” on page 412 of “Mysterious Oceans,” the author explains that a new type of submersible was invented. The word when signals a cause and effect relationship. This invention caused something else to happen.

Cause



Effect

Invention of submersible



Exploration of ocean floor

Your Turn

COLLABORATE



Reread the rest of the section “Amazing Adaptations” on page 412. Identify the cause and effect relationships explained in these paragraphs.

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Expository Text

The selection “Mysterious Oceans” is expository text.

Expository text:

- Presents information about a topic, with main ideas and key details
- May be organized to show cause and effect relationships
- May include text features such as photos and maps



Find Text Evidence

I can tell “Mysterious Oceans” is expository text. The text gives information about oceans and includes main ideas and cause and effect relationships. A map gives visual information.

page 411

Deep Diving

It has no mouth, eyes, or stomach. Its soft body is encased in a white cylinder and topped with a red plume. It can grow to be eight feet tall. It is a sea creature known as a giant tube worm, and it lives without any sunlight on the deep, dark ocean floor.

What we sometimes call the deep ocean, in contrast to shallow waters, covers almost two-thirds of Earth’s surface. On average, oceans are about two miles deep. However, the deepest point known on Earth, Challenger Deep, descends nearly seven miles.

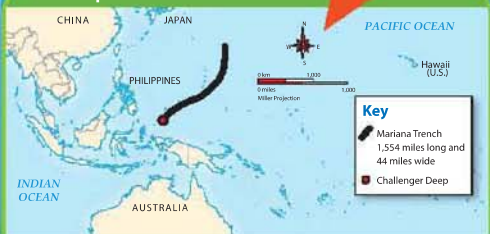
Some deep ocean fish are swimming among tube worms. New ocean species are being discovered all the time.

The ocean’s floor is varied, consisting of vast plains, steep canyons, and towering mountains. It includes active, **dormant**, and extinct volcanoes. This undersea world is a harsh environment because of its **frigid** temperatures and lack of sunshine.

The deep ocean is also a mysterious environment that remains largely unexplored. Little is known about it or its creatures. Do any of them **cache** food the way land animals do? Do any ocean species **hibernate**? As one example among countless mysteries, not a single, live giant squid had ever been spotted until a few years ago. We knew they existed only because their corpses had been found.

The Challenger Deep is located in an undersea canyon called the Mariana Trench.

The Deepest Known Point on Earth



Map A map is a flat picture of an area. Most maps have a title, a scale to show how many miles are represented by an inch, a compass rose to show directions, and a key that explains colors or symbols.

COLLABORATE

Your Turn

Study the map on page 411. What is the approximate length and width of the Mariana Trench? How does the map help you visualize it?

Context Clues

If you read an unfamiliar or multiple meaning word that puzzles you, you can look for clues to its meaning as you read the paragraph in which it appears. Clues to a word's meaning can be found in the beginning, middle, or end of a paragraph.



Find Text Evidence

In first paragraph of "Mysterious Oceans" on page 411, I see the word cylinder. I'm not sure what cylinder means. Since the creature being discussed is called a tube worm, I think that a cylinder may refer to the tube around the worm.

It has no mouth, eyes, or stomach. Its soft body is encased in a white **cylinder** and topped with a red plume. It can grow to be eight feet tall. It is a sea creature known as a giant **tube worm**, and it lives without any sunlight on the deep, dark ocean floor.



Your Turn

COLLABORATE



With a partner, use context clues to figure out the meaning of the following words in "Mysterious Oceans." Remember, you may find context clues in the beginning, middle, or end of a paragraph.

sparse, page 412

aggressive, page 412

predators, page 412



Readers to . . .

Writers vary their sentences by expanding, combining, and reducing them. A combination of long and short sentences makes the text livelier. A variety of **sentence structures** also makes the writing clearer and more interesting to read. Reread this passage from “Mysterious Oceans.”

Expert Model

Sentence Structure

Identify some of the ways the writer varies her sentences to make the writing lively.

The ocean’s floor is varied, consisting of vast plains, steep canyons, and towering mountains. It includes active, dormant, and extinct volcanoes. This undersea world is a harsh environment because of its frigid temperatures and lack of sunshine.

The deep ocean is also a mysterious environment that remains largely unexplored. Little is known about it or its creatures. Do any of them cache food the way land animals do? Do any ocean species hibernate? As one example among countless mysteries, not a single, live giant squid had ever been spotted until a few years ago. We knew they existed only because their corpses had been found.

Writers



Juan wrote an expository text about living in a cold environment. Read his revision of this section.

Student Model

My Cat and the Cold

Another reason that I would rather live in a cold climate is my cat, Blue.

When

We got my cat from the shelter. Our

vet said it would be a good idea to

keep her inside, and we think she must have lived outside before.

For one thing, she trots out in cold

weather, and she also likes to hunt for food. To get warm, Blue curls up in

sunlight. When it's very hot, though, she lies around. She looks really sad.

Editing Marks

^ Add

^, Add a comma.

✂ Take out.

sp Check spelling.

≡ Make a capital letter.

Grammar Handbook

Adverbs

See page 469.

COLLABORATE

Your Turn



- What kinds of sentences does Juan use?
- Identify adverbs that come before adjectives and other adverbs.
- Tell how other revisions improved Juan's writing.

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