

TEACHING NOTES

Book title: Sweeping Tsunamis

Series: Awesome Forces of Nature

The 2004 tsunami in the Indian Ocean received the attention of the world. Why did such a devastating tsunami occur? What exactly is a tsunami? Sweeping Tsunamis explains how these earthquakes that occur at the ocean's floor rise up to the surface of the sea and sweep over the land. Students will learn how the movement of Earth's plates initiate a tsunami, where "the ring of fire"—or area susceptible to tsunamis—is located, and what destruction tsunamis leave behind. Also included are case studies of three recent tsunamis.



Text Structure: Cause and Effect 

Tell students that this book uses a cause-and-effect structure to help explain why tsunamis happen. Remind students that a *cause* is the reason why something happens, and an *effect* is the result of that happening. Have students turn to page 6. Point out the clue words and phrases *when*, *as the result of*, and *causes* that signal cause-and-effect relationships in the passage. While you draw a copy of the reproducible graphic organizer on the board, ask students to read pages 6–7. Then, show students how to record one of the cause-and-effect relationships from the passage on the graphic organizer (*an earthquake occurs/ giant chunks of land drop down in the ocean floor*). Have students work in pairs to complete the graphic organizer with other causes and effects from the passage. Remind them that sometimes an effect may be the cause of another effect (*giant chunks of land drop on the ocean floor/millions of tons of seawater move in to fill the gap; water moves/a series of waves forms on the surface; underwater volcano explodes/volcano destroys rocks and starts tsunamis; rocks or ice from mountains suddenly drop in the water/tsunami forms; meteorite plunges into ocean/tsunamis form*). Students may add boxes to the flowchart as needed.



Text Feature: Boldface Print

Tell students that they may run across a word in boldfaced print as they read, especially if they are reading a textbook or scientific article. Explain that the author uses boldface print to tell readers that a particular word is important and that readers should be sure that they understand its meaning.

Think aloud:

“When I read the words *crest* and *trough* on page 13, I wasn’t sure I knew what they meant. Then I noticed that the words were in boldfaced print, so I looked them up in the glossary at the back of the book. The glossary says that *crest* means ‘highest point’ and that *trough* means ‘the lowest level of a wave.’ The author used boldfaced print to remind me to look up the meaning of these important words.”

Encourage students to look up each boldfaced word to be sure of its meaning and the way that the author is using it in the text.



Comprehension Strategy: Visualizing

Have students reread page 5. Explain that visualizing means forming mental pictures about what you read. In order to visualize, readers should pay attention to the author's use of descriptive language. Model for students how to visualize the description on page 5, using the five senses.

Think Aloud:

"If I saw a tsunami, the water would be too tall and wide for me to see where it stopped and began. The sound of water smashing like 'concrete' would be deafening. I can imagine people fleeing and large buildings snapping like 'matchsticks' or crumbling in seconds. I could feel the ground trembling."

Ask students to pay attention to the sights, sounds, sensations, and scents described in the book, particularly in the case studies. Remind them to use these descriptions to visualize and gain a better understanding of the text.



Word Study: Word Origins

Write the word *evacuate* (p. 18) on the board. Then explain that the word is derived from the Latin verb *évacuātus*, meaning to empty out. Point out to students that understanding the origin of a word will help them to learn and remember its meaning. Ask them if they now know the meaning of *evacuate* as it relates to tsunamis. Encourage them to look up the origins of other words when they are unsure of meanings.



Writing and Responding: Letter

Have students reread page 22 and then write a letter to one of the scientists who try to predict tsunamis. In their letters, students should describe what they learned about tsunamis and ask any questions they have about the work these scientists do. Encourage them to use new vocabulary words in their letters.

 Indicates a graphic organizer is linked to this activity.

NAME _____

