Lesson Plan

Tsunami Jeopardy
Book: Detecting Tsunamis
Series: Detecting Disasters
Level: Navigator

Objective
To help students practice quickly and accurately recalling specific details from a text, and to help them explore the tools scientists use to study natural disasters and help keep people safe from those disasters.

Supplies
- *Detecting Tsunamis*
- Whiteboard
- Clues and Questions (attached)

Before the Activity
Read through the *Detecting Tsunamis* book, or assign it to students to read on their own. Draw a Jeopardy-style chart on the whiteboard, like this:

Tsunami Formation	Tsunami Stats	Tsunami Tools	Tsunami Warnings	Tsunami Safety
100	100	100	100	100
200	200	200	200	200
300	300	300	300	300
400	400	400	400	400
500	500	500	500	500

Activity
Split students into two teams. Let each team choose a team name, and write both names in the corner of the whiteboard. Explain that students will be playing a game of Jeopardy.

On each team's turn, they can choose a category and a number. The clues are split by topics into five categories: tsunami formation, tsunami stats, tsunami tools, tsunami warnings, and tsunami safety. There are five numbers in each category. Clues with bigger numbers will give the team more points, but they will also be harder to answer.

When a team chooses a category and number, you (the teacher) will read the clue out loud.

Both teams try to think of a question for which the clue is an answer. For example, if the clue says, "This natural disaster is a series of very long ocean waves," the question would be "What is a tsunami?"

When a team has a response, a student from the team should raise his or her hand. The teacher will call on the first student with a hand raised. If the student is correct, the student's team wins the number of points in the box. If the student is incorrect, his or her team loses the number of points in the box. If a student yells out an answer without raising his or her hand, the team loses the number of points in the box.

Evaluation
The team with the most points when all of the clues have been read wins the game.
(Note: There will be more than one way to correctly frame the questions. Variations in answers are acceptable as long as they are still questions and are still accurate summaries of the text.)

Standards
This lesson may be used to address the Common Core State Standards' reading informational texts standards, grade 4 (RI 4.1) and the National Science Education Standards' Content Standards E and F, grades K–4.

Clues and Questions:

Tsunami Formation
100. Unlike waves caused by wind, tsunami waves do this as they get closer to shore. (What is growing or getting taller?)
200. This natural disaster is the most common cause of tsunamis. (What is an earthquake?)
300. These three things occasionally cause tsunamis. (What are volcanic eruptions, landslides, and meteorites?)
400. Each one of a tsunami's waves can last this long. (What is 15 to 25 minutes?)
500. This word describes what an underwater earthquake does to the water above it. (What is "displaces"?)

Tsunami Stats
100. Tsunami waves can be as tall as this object. (What is a 10-story building?)
200. This kind of tsunami can start more than 620 miles from shore. (What is an ocean-wide tsunami?)
300. This kind of tsunami starts between 62 miles and 620 miles away from the earthquake that started it. (What is a regional tsunami?)
400. This kind of tsunami takes an hour or less to hit. (What is a local tsunami?)
500. The distance between a tsunami's crests can be this long. (What is 100 miles or 160 km?)

Tsunami Tools

100. This instrument measures tide levels. (What is a sea level gauge?)

200. This instrument measures and records the shaking of the ground. (What is a seismograph?)

300. This object is anchored to the sea floor and floats on the surface. (What is a buoy?)

400. These stations collect data from the ocean floor. (What are Deep-ocean assessment and reporting of tsunamis stations, or DART stations?)

500. This government agency studies the ocean and the atmosphere. (What is the National Oceanic Atmospheric Administration, or NOAA?)

Tsunami Warnings

100. When an earthquake is detected along the US coast, scientists can send out warnings within this much time. (What is five minutes?)

200. It takes scientists this long to send out a worldwide warning. (What is 10 minutes?)

300. This means an earthquake has hit the ocean floor and there is a chance a tsunami will happen. (What is a tsunami watch?)

400. This means people should head to safety because a tsunami is very likely. (What is a tsunami warning?)

500. Scientists make this with the data they collect to find out if a tsunami is likely to be dangerous. (What is a computer model?)

Tsunami Safety

100. This place can be dangerous for hours after the first wave hits (What is the shore?)

200. Japan built these along parts of its coastline to protect against tsunamis. (What are large walls?)

300. These people design buildings that absorb shock and can resist tsunamis. (What are engineers?)

400. When water on the beach does this, it can be a sign that a tsunami is coming. (What is recede?)

500. The deadliest tsunami in history struck Thailand, Indonesia, Sri Lanka, and India in this year. (What is 2004?)