

# MANILA SCIENCE HIGH SCHOOL

Senior High School Department

## Lesson: Tsunamis

Name: Zamora, Johnzel Isaiah G.

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Section: 11 - Mendeleev

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**Purpose:** Unlike earthquakes, tsunamis are predictable. Tsunami warnings or advisories are issued right after an earthquake. Time is a factor to beat. Japan built seawalls and gates. It has sensors distributed in its archipelago to monitor tsunamis. This activity aims to teach you how tsunamis are formed and how they can be predicted.

### Instruction:

Study the figure of a tsunami to answer the following questions.

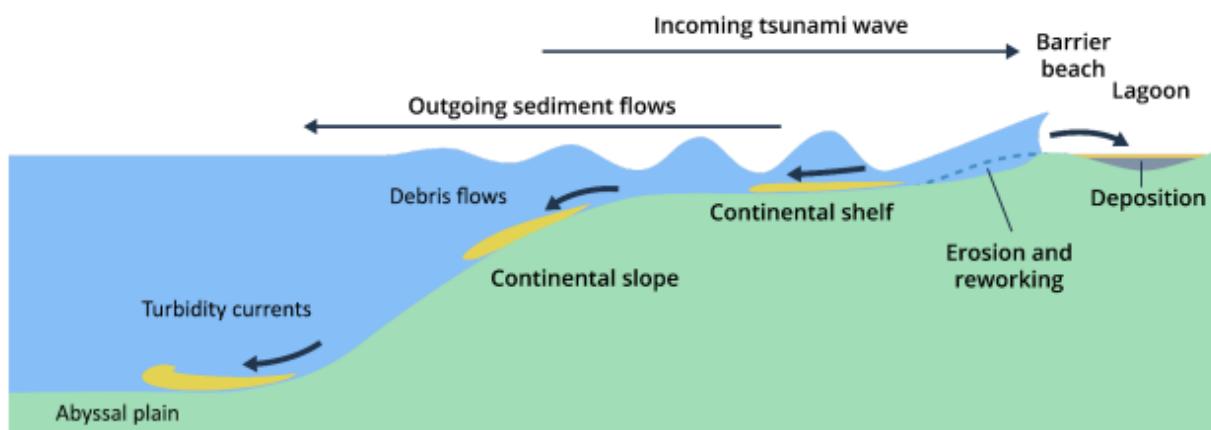


Figure 1. Tsunami

1. What do you observe in the given figure?

It shows the stages of the formation of a tsunami, in which it grows in size the closer it gets to coastal areas.

2. Where is the origin or the source of a tsunami? What happens in the source of a tsunami?

Tsunamis come from the movement of ocean floors due to underwater earthquakes.

3. How does the source or origin affect the surrounding water?

The sudden seismic activity of the seabed causes a sudden movement which causes a strong upward force of water, causing large waves.

4. What happens to the water as it moves away from the source?

**It decreases in size, but increases in speed and length.**

5. What happens to the water as it moves toward a shallower area?

**It increases in height, but decreases in speed and length.**

6. What happens to the water as it moves toward a beach?

**The waves become stronger and taller the closer they get to the shore.**

7. What is formed when the water approaches a shallower area like an island?

**Tsunami waves that are often more powerful compared to others.**

8. What do you call this moving body of water toward a shallower area?

**This is called a tsunami.**

9. What is a tsunami?

**Series of waves caused by movements underwater due to an earthquake.**

10. What is the difference between a tsunami and an ocean wave?

**Normal ocean waves are weaker and are only caused by wind, whilst the movement of tsunami waves start from the very bottom of the ocean due to earthquakes.**

11. What causes a tsunami? Explain the process.

**Tsunamis are caused by seismic activity underwater, mainly due to events such as earthquakes and volcanic eruptions.**

12. What are the effects of a tsunami? Explain its effects.

**Some of the major effects of a tsunami are flooding, casualties, and destruction of infrastructure and property.**

13. Can you predict tsunamis? How?

**Yes, with the help of technology such as earthquake detectors.**