

*Island of the Blue Dolphins*, Chapter 27  
**Earthquake and Tsunami Demonstration**

**Grade Level**

Upper Elementary: Third Grade through Fifth Grade

**Subject**

Science

**Next Generation Science Standards**

3-ESS, 3-PS2-2, 4-PS4-1

**Background Information**

What do an earthquake and tsunami sound like, look like, and feel like? Karana now knows the answers to these questions, after her personal and traumatic experiences in chapter 27.

How do her descriptions of the events correspond to the scientific explanations of what is occurring? This demonstration is a simple representation of an earthquake and tsunami.

Note: *Island of the Blue Dolphins* describes a tsunami wave occurring before an earthquake is felt. But, in fact, an earthquake would occur first, creating a tsunami.

**Materials**

- Plastic box (about shoe size)
- Sand or dirt—amount to fill one side of box
- Water—to fill one side of box
- Strong piece of cardboard—size to fit in securely across middle of the box standing upright and be slightly shorter than the top of the box

**Procedure**

1. Make one demonstration unit for use with the whole class or make multiple units for students to use in small groups.
2. Place sand in box and push to one side with cardboard separator. Secure cardboard in place. You may “decorate” sand with small leafy branches and a toy or paper structure.
3. Fill the other side of the box at least halfway with water.
4. *Simulate* an earthquake by gently moving the box back and forth until the water spills over the cardboard separation and floods the sand. A stronger motion will provide a more dramatic representation.
5. Discussion: An undersea earthquake can cause a tsunami (a long, high, and destructive sea wave caused by an earthquake, submarine landslide, or other disturbance).

## **Enrichment Activities**

Additional resources:

- <https://www.nps.gov/brca/learn/education/plateact5.htm>
- [https://msnucleus.org/membership/html/k-6/pt/earthquakes/1/pte1\\_2a.html](https://msnucleus.org/membership/html/k-6/pt/earthquakes/1/pte1_2a.html)