



Prepare with Pedro!

TSUNAMIS

Dear Educator:

Thank you again for inviting us to share our *Prepare with Pedro* emergency preparedness program with your students. To help build on our presentation, we have developed these K–2 lesson plans, with separate activity sheets for two age levels.

Pedro will guide you, your students and their households through engaging, standards-based activities that teach science and health concepts, while building language arts and critical-thinking skills. The lessons follow a Before–During–After approach to navigating tsunamis that will empower students to be preparedness advocates at home.

We hope that you will use these resources to further enrich your students' learning experience and help them prepare for emergencies.

Sincerely,

Your Friends at the
American Red Cross

Activity 1 Wave Watch

Objectives

- Create awareness among students and households about tsunamis, including how they form and key tsunami warning signs
- Engage students in reading and writing activities to foster language and literacy skills
- Involve students in a compare and contrast exercise to build critical thinking skills

Grades K–1

Introduction: Begin by asking students what they remember about tsunamis based on what they learned with Pedro. **Say:** A *tsunami* is several huge waves in the ocean that cause the water to come onto land. Sometimes the water stays just on the beach, but other times it can go into places it shouldn't be, like a town or city.

Say: A tsunami starts when parts of the ground under the ocean bump into each other and shake a lot, like in an earthquake. **Ask:** Have any of you seen a big wave in the ocean?

Say: In a tsunami, really huge waves form in the water above where the ground is shaking. Then they rush across the ocean very quickly and come onto land. We want to stay safe from these waves and anything they

might knock over. There are ways to know that a tsunami is coming so we can be prepared.

Define *tsunami watch* (a tsunami might be coming; it's time to **prepare**) and *tsunami warning* (a tsunami is heading this way or is about to happen; it's time to **take action**). Explain that there are a few ways you might hear a tsunami watch or tsunami warning, including a news report on TV or the radio, an alert on a cell phone or from a grown-up.

Distribute the activity sheet. Draw students' attention to the word *tsunami* at the top and point out that the first letter of the word, the 't,' is silent, so the word starts with the 's' sound. Invite students to say the word with you. **Say:** Pedro is at the beach with his friends Ramona and Jaime. They need help remembering the ways they might hear about a tsunami watch or a tsunami warning.

Part 1: Read the directions and the image captions (cell phone, road sign, and TV). Have students circle the correct images.

Next, **say:** There are also things we might see and hear to warn us that a tsunami might be coming. For example, you might hear a loud roar. What kind of animal roars? (A lion.) Read aloud the directions to **Part 2** and explain that together, you will figure out the tsunami warning signs. For each pair of images,

ask the following questions. Invite students to raise their hands to vote for the answer. Confirm which picture is correct, invite one or two students to provide evidence for their thinking and have students color in the correct answer.

- **Picture pair 1: Ask:** What happens under the ocean that can cause a tsunami? Color in the correct answer.
- **Picture pair 2: Say:** Another thing that happens in a tsunami is that the ocean water moves far back from the shoreline. Color the picture that shows the water far back from the shore.
- **Picture pair 3: Ask:** Do you remember what kind of waves a tsunami makes, big or small? Color in the picture that shows the correct answer.
- **Answers:** 1. earthquake; 2. water moves far back from the shoreline; 3. big waves

To conclude, read the message at the bottom of the activity sheet, which shares the above warning signs with households and urges them to evacuate quickly in the event of a tsunami. Emphasize to children that they are not in charge of recognizing tsunami warning signs, but they can be helpers if they notice something. **Say:** If you see or hear a tsunami warning sign, tell a grown-up right away. Your grown-ups will be in charge of making a plan to stay safe. You're the helper.

Grades 1-2

For **Part 1**, complete the same exercise as in the Grades K-1 activity with one difference: instead of circling the correct pictures, students write the correct word under each picture.

Next, **say:** We can look and listen for warning signs that a tsunami is on the way. For example, you might feel the ground shaking from the earthquake that caused the tsunami. If you are ever along the coast and suddenly the water moves really far back from the shore, that's another sign that a tsunami might be coming. Also, as the waves grow bigger and stronger, they sometimes make a roaring sound that is another sign a tsunami might be coming.

Read the directions for **Part 2** and invite students to complete the phrases under each tsunami warning sign. Draw their attention to the Word Bank for hints and assist as needed by reminding students of the tsunami warning signs.

Answers: 1. An **earthquake**; 2. water moves far **back** from the shore; 3. **big** and strong waves



Activity 2

Get to Higher Ground

Objectives

- Create awareness among students and households about two key actions to take during a tsunami: evacuate and get to higher ground
- Engage children in sorting and sequencing activities to build critical-thinking skills
- Promote parent/caregiver involvement through at-home activities

Grades K-1

In this activity, you will teach students the importance of evacuating to higher ground during a tsunami, which means at least 100 feet above sea level.

Say: So far, we've learned what tsunamis are and how to know if a tsunami is coming. Now, let's find out what to do if one happens. Because tsunamis are so big and bring a lot of water onto land, it's important to leave the area where the water might come ashore. Another word for leaving where you are is *evacuate*. When you evacuate during a tsunami, you want to move away from the shore and go somewhere high up, which is called *getting to higher ground*. **Ask:** Why do you think going somewhere high up is a safe action to take during a tsunami? **Say:** The water from the tsunami rushes onto the ground near the ocean, so you want to be far from the ocean in a high place where the waves can't reach you. (Depending on your student group, you might want to review the term *sea level* and what it means to be above, at, and below sea level.)



Distribute the activity sheet and read the directions for **Part 1**. Focus on the images one at a time and invite students to share aloud whether each one looks like a safe or unsafe place to go in a tsunami. (The answers are based on two broad, relative categories: high vs. low.) Encourage students to provide the reasoning behind their thoughts, e.g., “That playground is near the beach, so I think that is not safe if there is a tsunami.” Confirm the answers and have students check the box for either “High Ground” or “Low Ground.”

Answers: Low Ground – 1. the playground by the beach; **High Ground** – 2. the road with the evacuation sign

Say: During a tsunami, a grown-up may tell you that there is a tsunami warning, which we learned means a tsunami is coming. That’s when it’s time to take action and get to higher ground!

Draw students’ attention to **Part 2** of the activity sheet and read the directions. Students should draw an arrow pointing in the direction Pedro should go to “get to higher ground” (toward the hill on the left).

Conclude by reading the message at the bottom of the activity sheet, which encourages households to determine viable tsunami evacuation areas near them. As a reminder, **say:** Your grown-ups will be in charge of making evacuation plans. You’re the helper.

Grades 1-2

For **Part 1**, complete the same exercise as in the Grades K-1 activity. There are two additional images.

Answers: Low Ground: 1. the playground by the beach; 4. houses on the shore line; **High Ground:** 2. the road with the evacuation sign; 3. image of a hill

For **Part 2**, have students complete the tsunami safety message. Assist students with spelling as needed.

Answer: Get to higher ground! Go as *high* up as you can, as *quickly* as you can.

Take-Home Activity

Map Our Route

Objectives

- Empower students to teach their households about actions to take before, during and after a tsunami
- Engage students in a mapping activity to build spatial relation skills and directional awareness
- Encourage students to be preparedness advocates for their households

This activity begins with children sharing what they have learned about tsunamis with their households. Households then identify one or two viable tsunami evacuation sites in their area and create a household map showing their home, the evacuation locations and important landmarks in between. Children help create the map by adding labels and arrows from their home to their evacuation sites. Households are encouraged to practice their evacuation plan several times a year.

As a class, review Activities 1 and 2, discussing all the tips the students have learned. Have students take home the activity sheets so they can refer to them when sharing information with their households.

Distribute copies of the take-home activity and tell students that there is information for grown-ups to read on this sheet as well as an important activity to do together to prepare for tsunamis. Finally, congratulate students on a job well done learning about tsunami preparedness!



Resources

- American Red Cross: [redcross.org/tsunami](https://www.redcross.org/tsunami)
- Coping Skills: [redcross.org/youthresilience](https://www.redcross.org/youthresilience)
- Ready.gov: [ready.gov/tsunamis](https://www.ready.gov/tsunamis)
- Centers for Disease Control and Prevention: [cdc.gov/disasters/tsunamis/index.html](https://www.cdc.gov/disasters/tsunamis/index.html)

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