Earthquake Preparedness

Lesson Concept
Earthquake preparation includes understanding potential dangers and gathering supplies.

Link
6.11 developed different ways to construct buildings to limit damage from an earthquake. Lesson 6.12 focuses on preparing for a possible earthquake by being aware of hazards and gathering a survival kit. 6.13 begins investigating the link between earthquakes and volcanoes.

Time
50 minutes

Materials
Individual
H1a-b Preparing for Natural Hazards handout (Lesson 15)
H2a-b Three Day Survival Kits handout (Activity 15)
Highlighters (one per student)
Pencil
Pen
Index cards

Advance Preparation
1. Duplicate handouts. Copy them front to back and staple them together.
2. Arrange students in groups of 2.

Procedure:
Engage
(10 minutes) Earthquake preparation includes safety and supplies.

1. Distribute one index card to each pair of students. Ask students to write their name and their partner’s name on the card. Ask students to make a list of what they think are most important things to do in order to prepare for an earthquake (ask students to write in pencil).

2. Ask each set of partners to share their list with the class, one group at a time. Instruct students to put a check next to any item that another group already mentioned to avoid repetition.

Teacher Note: Keep an on-going list on the white board/poster paper as the students share their responses.
3. Ask students, “What causes the most damage during earthquakes?” Have students think-pair-share with their partner. Ask for student volunteers to share their answers with the class.

4. Ask students, “Did you know that Earthquakes don’t kill or injure people?” (Pause) Then tell students, “Buildings and falling objects do!”

**Explore/ Explain** (20 minutes) Earthquake preparation includes safety and supplies.

5. Have students read **H1a-b (Preparing for Natural Hazards)** in pairs. Challenge students to highlight what they think are the most important parts of the reading.

6. Once all groups have finished reading, ask each pair of students to share one highlighted section as you call on groups around the room.

**Extend** (15 minutes) Earthquake preparation includes safety and supplies.

7. Ask students, “What do you know now that can help you prepare for an earthquake?” Call on students for responses.

   **Teacher Note:** Add student responses to the on-going list on the white board/poster paper.

8. Tell students that they can be better prepared for an earthquake by making a Survival Kit. Read **(H2a-b) Three Day Survival Kits** as a class.

9. Challenge students to go home and prepare the kit according to the instructions on the handout.

**Evaluate** (5 minutes) Earthquake preparation includes safety and supplies.

10. Ask students to write three new things that they learned about preparing for earthquakes in pen on their index card.

11. Collect index cards as “Exit Slips”
Preparing for Natural Hazards

Lesson 15

People all over the world live where natural hazards can occur. People living in the southeast part of the United States must live with the threat of hurricanes. Other people must contend with blizzards, tornadoes, flash floods, extreme heat, volcanoes, and earthquakes. Emergency personnel living in areas where each of these natural hazards occurs ask people to be prepared for an emergency. This lesson is about how you can prepare for an emergency, especially earthquakes.

There is a saying about earthquakes that you need to remember. **Earthquakes don't kill people, buildings and other falling objects do.** It is important for you to practice how to be safe during an earthquake because earthquakes can occur anywhere in the world. You and your family need to plan where you will meet in case of an emergency. This place should be outside your home where it would be safe to gather.

Earthquake! Drop and Cover

Earthquake safety check list of things to do

If you are inside

- Stay inside.
- Take cover immediately under a table, desk, or counter.
- Place your hands over your neck and head to protect them.
- If there are not any desks or tables available for protection stand in a doorway.
- Stay clear of windows, bookcases, mirrors and fireplaces.
- If you are under a table hold onto one of the legs if it starts to move during the earthquake.
- Cover the back of your neck with your hands.
- Remain in a safe position until the shaking has stopped.
- Leave the building after the shaking stops and move to a safe area away from trees and power lines.

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If you are outside
- Stay outside and get into the open away from falling objects.
- Go to an open area away from hazards like buildings, trees, walls, or power lines.

If you are in a crowded public place
- If you are in a crowded public place like a market or mall, do not rush for the exits. Other people may have the same idea and you can be hurt as people rush out.
- Seek shelter away from falling objects under a counter or some place away from falling shelves loaded with merchandise.

If you are in a car or bus
- The driver of the car should stop immediately away from power lines, bridges, overpasses, and underpasses.
- You should remain in the car and hold onto the car because cars help absorb the shock of earthquake waves.

Things to do after the earthquake
- Try to get to a safe place and remain calm.
- Be prepared for aftershocks that may be almost as strong as the original earthquake.
- Go to a safe place where all the family members can gather.
- Help anyone who is injured.
- Turn on a radio and listen for emergency information.
- If you have pets tie them up or put them in a safe place out of danger.
- Cooking should be done outside until the danger has passed.
- Emergency personnel may not be able to help you for a while so this is time to use your 3-Day Survival Kit.

Lesson summary
- Be Prepared is a good motto to follow no matter where you live because there are natural hazards all over the world.
- Duck under cover at the first sign of an earthquake.
- Stay away from windows, bookshelves, and fireplaces when you seek shelter.
- Remain calm and after the earthquake ends, go outside into an open area in case there are aftershocks, which might cause further damage.
- Help anyone who might have been injured during the earthquake.
- Emergency personnel may not be able to help you for several days so it is a good idea to have a 3-Day Survival Kit that has sufficient food and water for three days for each member of your family.
Three Day Survival Kits

Activity 15

Introduction
You can prepare this simple kit before an emergency occurs. Most emergency agencies ask that you prepare for three days. This is the time that it might take before emergency services can come to your aid after a major disaster strikes. The storage barrel described below has been recommended by many disaster relief agencies. They suggest every family has one set up where it can be reached in case of an emergency with supplies for three days.

Storage Barrel

Bottom layer
+ A supply of food at the bottom of your garbage can.
  1. The food should be packaged, canned, and no-cook foods that are easy to prepare during a disaster.
  2. Leftover food from camping trips can be used.
  3. Date each of the cans you place in the container.
+ A non-electric can opener with the food.
+ Put paper plates, plastic utensils, and paper cups on top of the food.

Middle layer
+ A change of clothing for each family member in the middle layer.
+ Several pairs of heavy gloves to clean up debris.

Top layer
+ A flashlight, portable radio, and extra batteries of the clothes.
+ A First-Aid kit and extra medicine
Materials check list
- Get a large plastic garbage can with a lid.
- Non-perishable foods
- Collect empty milk jugs, juice containers etc. for water containers
- Flashlights with extra batteries
- Portable radio with extra batteries
- First-aid kit
- Matches, candles
- Bar soap and liquid detergent
- Extra pet food
- Non-electric can opener
- Change of clothing for each family member
- Paper plates, cups, and plastic utensils.
- Paper goods such as paper towels, napkins, and toilet paper
- Household bleach
- Money because the banks will be closed for several days

Old backpack can be used as an emergency pack for camping trips and vacations.

Other necessities
- Fill clean empty milk jugs or juice containers with fresh water. You should have three gallons per person. Refill the water every 6 months.
- Place a supply of bedding nearby if there is not enough room to store the bedding in the barrel.
- Extra money should be stored in a safe place because the banks will be closed.