



Where Are We Coing?

Your child will be able to:

- identify two or three ways mudslides can be prevented.
- organize observations from a science experiment to form conclusions about mudslides that occur around the world.
- compose a first-person story as an extension of his or her knowledge about mudslides.
- define the meaning of "disaster relief" as it relates to natural disasters.
- apply biblical principles of disaster relief and helping others.

Ready for the Journey

Supplies

- **♦** Bible
- Pencil and small notebook for scientific observations
- Copy of questions to be answered by observing the experiment
- Paper for writing and illustrating a story
- Colored pencils, crayons or washable markers
- Supplies for Activity Sheet 5-1
 - 2 cookie sheets
 - Potting soil



LESSON 5 PART 1 India

- A few small clumps of grass
- A handful of small rocks
- Pitcher filled with tap water

Preparation

- Assemble the materials above.
- Read Nehemiah 1-2:4 and 6:1-16 to learn the story of Nehemiah rebuilding the walls of Jerusalem after their destruction.
- Background information: India

India is a very diverse country! The climate ranges from tropical monsoons in the south to temperate and even chilly areas in the northern mountains. It is one of the most populated nations in the entire world with more than 1 billion people. Many of the children and families in India are very poor; in fact, 42 percent of the country has less than \$1.25 per day for survival. The average income for an Indian family is just a little over \$3,000 a year. [The average income of a family in the U.S. is about \$46,000 per year.]

Many religions are practiced in India, including Hindu, Muslim, Sikh and others. Hindu is the religion of more than 80 percent of the people. In the 1600s, the English East India Company established trading centers in India and eventually the British Empire expanded until it controlled most of present-day India, Pakistan and Bangladesh. The Indian leader, Gandhi, helped start a movement to campaign against the British colonial rule and the country became a republic in 1950. In modern times, India has become a center for technology and other industries. Food in India is quite diverse, just as the people are, but many people enjoy foods with Indian spices. The spices of India have always been desired around the world and were one of the main industries of colonial India during the British rule.

The Journey Begins

Discuss the following questions:

- Have you ever heard the words natural disaster on television or radio, or discussed by your family? What is a natural disaster? Can you name some kinds of natural disasters you have heard or learned about? (Unfortunately, examples have been frequent in the past five years: earthquakes in Haiti, New Zealand and Japan; tsunamis created by earthquakes in Hawaii and Japan; wild fires in Texas and California; deadly tornadoes all over the U.S.; hurricanes and more.) Do you know of anyone who has been affected or hurt by a natural disaster? (Discuss how Compassion children in Haiti were affected by the earthquake there).
- What is the difference between a man-made disaster and a natural disaster? Invite your child to think of some examples. Note: This is a difficult subject, but it is important for children not to be afraid of possible disasters and to learn that God cares about people affected by disasters of all kinds.



LESSON 5 PART 1 India

■ Transition to the science experiment (Activity Sheet 5-1) by indicating that some natural disasters can possibly be avoided, such as mudslides prevented by good erosion control. Discuss with your child how she can be part of helping to prevent some disasters by learning about mudslides and why they occur.

Enjoy the Journey

Discuss how, in some places in India, there are mudslides that occur during the monsoon season. Discover how monsoons are regular rainy seasons in India, and explore reasons why monsoons contribute to mudslides.

Possible reasons: few plants and trees are planted on the hillsides; homes that are built on the hills are not built to withstand possible slides because the people have so few resources. Often, mudslides occur after there has been a drought and a sudden heavy rain falls. The earth becomes saturated with water and then starts to pick up debris as it runs off the hillside. Here are some places mudslides might occur:

- areas where wildfires or construction have destroyed vegetation;
- areas where landslides have occurred before;
- steep slopes and areas at the bottom of slopes or canyons;
- slopes that have been altered for construction of buildings and roads;
- channels along a stream or river; or
- areas where surface runoff is directed.
- With the materials in hand, go outside and help your child create the mudslide experiment in Activity Sheet 5-1. Follow the directions of the experiment and invite your child to write his observations and conclusions on the worksheet after each step. Why are mudslides dangerous to people and their homes?
 - What happens to the soil when you pour the water lightly?
 - What happens if you make it "rain" harder?
 - How do the clumps of grass and the small rocks change the erosion process?
 - Draw the results of the erosion on the worksheet.
 - Experiment with ways to slow the erosion. For example, place other obstacles in the path of the water.
 - Write your other ideas of how you could slow a mudslide.
- Invite your child to think about mudslides in a more positive way through a language arts activity: Challenge her to write a story from the perspective of a friendly earthworm caught in a mudslide! Help your child design a good short story. Key elements of a good story include:
 - character development (earthworm in a mudslide)
 - setting (where for the earthworm)
 - actions or plot (what the earthworm does, or the how)



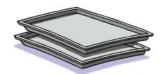
- struggles (problem, conflict, something important for the earthworm)
- details, theme (ideas that help fit the story all together)

God's Global Family

ACTIVITY SHEET 5-1



Supplies



2 cookie sheets



Soil



A few small clumps of grass





Pitcher filled with tap water

Instructions

Have you ever played in the mud? Or made mud pies out of dirt and water? It rains a lot in Asia and families there make mud into bricks and cooking pots.

Sometimes mud can be dangerous when a lot of it slides down hills and into homes. Mudslides can damage or even destroy homes that are made out of scraps of cardboard, straw and trash. Try this experiment outside to learn more!

- 1 Lay the cookie sheets on the ground near each other and ask a friend to help you prop up one end of each sheet about 2 inches. Or find some small boards and prop them up.
- 2 Cover each sheet with 1 inch of soil.
- 3 Place the rocks and grass in the soil of one sheet.
- 4 Hold your pitcher about 5 inches from the top of the first sheet; pour water slowly so that it runs downhill onto the soil. Watch what happens, and repeat for the other sheet.

Which sheet had more of a mudslide? Why? Do you think planting trees and plants can help prevent mud from sliding too much? Do you think families with sturdier homes are safer during mudslides?