

# HAZARDS AND HUMANS



TEACHER GUIDE

ACCELERATE



# PLANNING

Here's a suggested schedule for this kit! The activities should be completed in order, but you can choose when the lessons take place over time. Time required for each lesson may vary.

ACTIVITY INFORMATION	SECTION (S)	TIME REQUIRED	DAY/ LESSON
<b>ACTIVITY 1: REGIONAL RISK</b> Analyze maps to find out where people are safest from natural hazards.  <b>Time required: 45 min</b>	<input type="checkbox"/> Safest Place in the States	45 minutes	Day 1
<b>ACTIVITY 2: CLIMATE AND WEATHER</b> Learn how weather and climate are connected and how people reduce the impact of weather-related hazards.  <b>Time required: 2 h 30 min</b>	<input type="checkbox"/> Consider the Climate	45 minutes	Day 2
	<input type="checkbox"/> Weather W...		Day 3

SAMPLE

Full schedule available with purchase

# 1

## activity

# REGIONAL RISK

Do you think your student has ever thought about which natural disasters are the most and least likely to happen where they live? In this first activity, they will analyze maps to determine where people are safest from natural hazards.

### LEARNING GOALS:

- ✓ I can describe the differences between climates of world regions.
- ✓ I can evaluate a design solution for a problem related to reducing the impacts of a weather hazard.
- ✓ I can design and evaluate solutions for reducing the impact of natural events on humans.
- ✓ I can analyze data to predict natural hazards and explain how evidence is used to develop technologies to minimize their effects on humans.

## I

## SAFEST PLACE IN THE STATES

### CONTENT

- The major types of natural hazards are described.
- The vocabulary term natural hazard is defined.
- A map of the risk index for the continental United States is presented to the student.
  - Note that the map only includes risk data for the U.S. because it was developed by FEMA, a U.S. agency that only has access to data for the country in which it operates.
  - If you do not reside in the U.S., you could seek out data that applies to your location. Use search terms like “natural hazard risk,” “natural disaster preparation,” or “emergency services prepare.”



### THINK ABOUT IT!

#### ? Question 1: What is the risk level in your region?

**Answer:** Answers will vary based on the student’s location.

#### **How to Help:**

- *Help your student locate their county on the map and use the legend to find risk.*
- *You can also ask them if this is similar to what they already thought were the most likely hazards for their region and how at risk they thought their region was.*

#### ? Question 2: What is safety in your own words?

**Answer:** Answers will vary based on the student’s opinion and background.

#### **How to Help:**

- *Safety from certain hazards does not mean safety from all hazards.*
- *There may be other types of natural hazards common to a region, or they may be human-caused hazards such as crime.*

? **Question 3: Describe an experience you had in which you relied on a weather prediction that was incorrect.**

**Answer:** Answers will vary based on the student's experience.

**How to Help:** *You might offer your own experience to discuss, or you may have a memory of such a situation involving the student.*

? **Question 4: Describe an experience you had in which a weather prediction helped you.**

**Answer:** Answers will vary based on the student's experience.

**How to Help:** *Again, you might offer to discuss your own experiences.*

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## SAFE FROM THE FLOOD

### Preparing for Severe Weather

- This section focuses on how people prepare for severe weather or weather-related hazards.
- The vocabulary term design is defined.
- Most people have experienced some type of severe weather in their lifetime.
  - Your student may have experienced it and not realized it.
  - You could do an internet search together for each of the weather-related hazards in your region.
  - For instance, you could search for “tornadoes in Wisconsin” if that is your region.



### THINK ABOUT IT!

? **Question 1: Does your home have any design features that prevent damage from weather-related hazards? Explain.**

**Answer:** Answers will vary depending on the student's home and their knowledge of it.

**How to Help:**

- *Common features include:*
  - Shutters on windows
  - A lightning rod
  - A sloped roof
  - An underground shelter
  - A raised foundation

? **Question 2: We know that things can dry out if they have been wet. Why do you think people do not rely on this for flood protection? Think about what might happen if the lower level of your home was flooded. Would it dry out and be just like it was before?**

**Answer:**

- If objects or materials stay wet for too long, they can rot or grow mold.
- They could also stay wet for longer than people want.

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### PREPARATION AND SUPERVISION

■ In this activity, your student will compare three methods for protecting a building against damage from a flood (a wall, sandbags, and stilts).



**WARNING! Contains chemicals that may be harmful if misused.**

Do not eat or drink. Wash your hands after use.

■ When setting up the protection methods, be sure that they are doing what they are supposed to do and are the most effective they can be.

- For the modeling dough wall, try to make it touch the bottom of the container.



# SCIENCE UNLOCKED

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