When Hazards Meet

How disasters change places and people's lives

6-9.WG.2.13 "Give examples of how both natural and technological hazards have impacted the physical environment and human populations in regions throughout the world."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline changes to land, air, or water, circle effects on people, and number each hazard as natural or technological. Use your marks to see how each kind of hazard affects both a place and its population.

Three Places, Different Hazards

1. On January 12, 2010, a powerful earthquake shook Haiti, especially around its capital, Port-au-Prince. The shaking cracked roads and sent buildings crashing into piles of concrete. It also triggered landslides on steep slopes, changing parts of the land itself. Many residents were killed or injured, and large numbers had to leave damaged homes. Blocked roads slowed the arrival of food, water, and medical help. This natural hazard affected more than buildings: it changed the ground and disrupted daily life for people across the region.

2. In 1984, a pesticide factory in Bhopal, India, released a cloud of toxic gas during the night. Wind carried the gas into nearby neighborhoods. The factory accident was a technological hazard, caused by a failure at a human-built site rather than by a natural event. The gas polluted the air people breathed, and thousands died. Many survivors suffered lasting health problems. Unlike an earthquake, this disaster did not need to shake the ground to harm a place. A change in the air was enough to put a large population at risk.

3. In 2011, an earthquake off Japan's coast sent a tsunami onto shore. Seawater flooded coastal land, damaged homes, and left some farmland salty. The waves also knocked out power at the Fukushima Daiichi nuclear plant. Without enough cooling, reactors were damaged and radioactive material escaped. Authorities evacuated nearby residents, and some land required cleanup before people could safely return. Here, one natural hazard helped cause a technological hazard. The two hazards changed the physical environment in different ways, while both forced people to change where and how they lived.

2 ANSWER WITH EVIDENCE

Use the passage

1. How did the earthquake in Haiti change the land, and how did it affect residents?

2. How did the factory accident in Bhopal change the physical environment and affect people?

3. How did Japan's tsunami lead to a technological hazard, and what happened to nearby land and residents afterward?

4. How were the effects on the physical environment and people different in Haiti and Bhopal?

3 YOUR TURN

Your own words

Imagine a coastal town in Chile with homes, farms, and a chemical storage site. In 4 to 5 sentences, predict how a tsunami and a spill from the site could each change the physical environment and affect people, and explain how the tsunami could cause the spill.

ANSWER KEY

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GRADES 6-9 · 6-9.WG.2.13

PART 1 · READ AND MARK

Underline changes to land, air, or water, circle effects on people, and number each hazard as natural or technological. Use your marks to see how each kind of hazard affects both a place and its population. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How did the earthquake in Haiti change the land, and how did it affect residents?	**It triggered landslides and cracked roads. Residents were killed or injured, and many had to leave damaged homes.**
2	How did the factory accident in Bhopal change the physical environment and affect people?	**Toxic gas polluted the air. Thousands of people died, and many survivors had lasting health problems.**
3	How did Japan's tsunami lead to a technological hazard, and what happened to nearby land and residents afterward?	**The tsunami knocked out power at the nuclear plant. Reactors were damaged and radioactive material escaped; some land required cleanup, and nearby residents were evacuated.**
4	How were the effects on the physical environment and people different in Haiti and Bhopal?	**In Haiti, an earthquake cracked roads and triggered landslides, while residents were hurt or left damaged homes. In Bhopal, a factory accident polluted the air, killing thousands and causing lasting health problems for survivors.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

A tsunami could flood the town, wash away soil, and damage homes, forcing families to move. Its waves could break tanks at the chemical storage site. Leaking chemicals could pollute nearby soil and water, making farmland unsafe to use. Residents could lose crops and need clean drinking water while workers remove the pollution.

Accept other passage-supported examples of changes to the physical environment and effects on people. For the open task, accept plausible predictions that distinguish the natural hazard from the technological hazard and explain a connection between them.