Water, Storms, Choices

Use evidence to explain decisions in a coastal community

EN.ESS3.1 "Construct an explanation based on evidence for how the availability of natural resources, occurrences of natural hazards, and changes in climate affect human activity.*"

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline one detail about freshwater, one about cyclones, and one about rising sea level; circle a human action connected to each detail and give each matching pair the same number to show its cause-and-effect link.

Living with Water in Coastal Bangladesh

1 In southwestern Bangladesh, villages near the coast depend on water that does not contain too much salt. During the rainy season, rivers and rainfall can supply freshwater for drinking and growing rice. Farmers often plant rice where they can get this water, and families may store rainwater for drier months. Farther inland, fresh groundwater can also support crops, though pumping too much can lower underground supplies. When freshwater is scarce, a field that once grew rice may produce less food. A family's choice of crops and water storage therefore depends on which sources of freshwater are available.

2 The same coast faces cyclones, powerful storms that can push seawater onto land. In 2009, Cyclone Aila flooded parts of southwestern Bangladesh with salty water and damaged embankments, raised walls that hold water back. Salt left on fields made it difficult for some farmers to grow rice after the storm had passed. Flooded roads also interrupted trips to markets. To reduce harm from future cyclones, communities maintain embankments and use elevated cyclone shelters. These steps cannot stop a storm, but they can give people safer places to go and help protect farmland and travel routes.

3 A slower change adds pressure. As global temperatures rise, ocean water expands and land ice melts, raising average sea level. In low coastal areas, higher sea level allows saltwater to move farther into rivers and soil, especially during the dry season. Land sinking in parts of the delta can make local water levels rise even faster relative to fields, but sinking is not itself caused solely by climate change. Some farmers try salt-tolerant rice varieties or switch part of their land to crops that need less freshwater. These choices respond to changing conditions, yet keeping safe drinking water remains a challenge.

2 ANSWER WITH EVIDENCE

Use the passage

1. How does the availability of freshwater affect where farmers grow rice? Use evidence from the passage.

2. Explain how a cyclone can affect both farming and travel to markets. Use evidence from Cyclone Aila.

3. Why might rising sea level lead a farmer to change crops? Connect the change to evidence in the passage.

4. Why would protecting a rice field from one cyclone not remove the need to plan for saltier soil? Use evidence about both hazards and climate change.

3 YOUR TURN

Your own words

Imagine your community in this region is planning a new school with a garden. In four to five sentences, recommend a location and a water plan that account for freshwater availability, cyclones, and rising sea level; use at least two details from the passage to explain your choices.

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PART 1 · READ AND MARK

Underline one detail about freshwater, one about cyclones, and one about rising sea level; circle a human action connected to each detail and give each matching pair the same number to show its cause-and-effect link. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How does the availability of freshwater affect where farmers grow rice? Use evidence from the passage.	**Farmers often plant rice where rivers, rainfall, or groundwater provide freshwater because rice fields may produce less food when freshwater is scarce.**
2	Explain how a cyclone can affect both farming and travel to markets. Use evidence from Cyclone Aila.	**Cyclone Aila pushed salty water onto fields, making rice difficult to grow after the storm. Flooded roads also interrupted trips to markets.**
3	Why might rising sea level lead a farmer to change crops? Connect the change to evidence in the passage.	**Higher sea level lets saltwater move farther into rivers and soil. Farmers may plant salt-tolerant rice or crops that need less freshwater as growing conditions change.**
4	Why would protecting a rice field from one cyclone not remove the need to plan for saltier soil? Use evidence about both hazards and climate change.	**Cyclones can flood fields with salty water during a storm, but rising sea level can also move saltwater farther inland over time. Protection from one storm would not stop that slower change.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would build the school and garden on higher ground, away from low fields that cyclones can flood. This location could also reduce exposure to saltwater that moves inland as sea level rises. I would install tanks to collect rainwater for drinking and the garden because the passage says rainfall supplies freshwater. Stored water could help during drier months, when freshwater is harder to find.

Accept other supported cause-and-effect explanations. For the open task, look for a location and water plan justified with passage evidence and connected to all three conditions.