

# Safer Town Plans

Compare ways communities reduce harm from Earth processes.

**4-ESS3-2** "Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans. Clarification Statement: Examples of solutions could include designing an earthquake resistant building and improving monitoring of..."

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## 1 READ AND MARK \_\_\_\_\_ Read it twice

**YOUR JOB** Underline each solution. Circle details that tell how a solution lowers harm or what trade-off it has, so you can compare the plans.

### Riverbend Makes Plans

- ① Riverbend sits beside a river that can rise after days of heavy rain. Floodwater can enter homes, cover roads, and make it hard for rescue workers to travel. The town studied two ways to lower these impacts. One plan is to build a raised floodwall along the river. Another plan is to restore a nearby wetland, where plants and soil can hold some extra water.
- ② Leaders compared the plans before choosing. A floodwall can block water from a small area, but it costs a lot to build and must be kept in good repair. A wetland may need more land and time to grow, but it can also provide habitat for animals. Riverbend could use both plans, because each one reduces flood impacts in a different way.
- ③ Riverbend also has earthquakes. Shaking can crack walls, break bridges, and cause injuries when objects fall. For a new library, engineers can use flexible supports and strong connections that help the building move without collapsing. The town can also practice evacuation drills. Building changes protect people inside, while drills help people respond safely when shaking stops.

## 2 ANSWER WITH EVIDENCE Use the passage

1 Which two solutions did Riverbend study to reduce flood impacts?

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2 Compare the floodwall and wetland plans. Give one benefit or challenge for each plan.

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3 Why might Riverbend choose to use both flood plans instead of only one?

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4 How do the library building changes and evacuation drills reduce earthquake impacts differently?

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## 3 YOUR TURN Your own words

A town near an active volcano wants to reduce harm from an eruption. Describe two different solutions, compare one advantage and one challenge for each, and recommend whether the town should use one solution or both.

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**PART 1 • READ AND MARK**

Underline each solution. Circle details that tell how a solution lowers harm or what trade-off it has, so you can compare the plans. Accept any marking that follows this job and points at the right text.

**PART 2 • ANSWERS**

| # | QUESTION                                                                                         | ANSWER                                                                                                                                                                                     |
|---|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Which two solutions did Riverbend study to reduce flood impacts?                                 | <b>Build a raised floodwall and restore a nearby wetland.</b>                                                                                                                              |
| 2 | Compare the floodwall and wetland plans. Give one benefit or challenge for each plan.            | <b>A floodwall can block water from a small area, but it is expensive and needs repair. A wetland can hold extra water and provide animal habitat, but it needs land and time to grow.</b> |
| 3 | Why might Riverbend choose to use both flood plans instead of only one?                          | <b>Each plan reduces flood impacts in a different way.</b>                                                                                                                                 |
| 4 | How do the library building changes and evacuation drills reduce earthquake impacts differently? | <b>Building changes help protect people inside by keeping the building from collapsing. Drills help people respond safely after shaking stops.</b>                                         |

**PART 3 • YOUR TURN (SAMPLE ANSWER)**

Install ground-shaking and gas sensors to help scientists notice changes and warn people before an eruption. Mark evacuation routes and prepare shelters so people can move away from ash and other dangers. Monitoring gives early information but needs trained workers and equipment, while routes and shelters can protect people but require planning and space. I would use both, because a warning is most useful when people know where to go.

Accept any two accurate, distinct volcanic eruption solutions that reduce harm to people. The response should compare an advantage and challenge for each solution and give a supported recommendation.