

4-ESS3-2 Earth Processes and Human Activity

California Alternate Assessment for Science—Item Content Specifications

# 4-ESS3-2 Earth Processes and Human Activity

| California Science Connector | Focal Knowledge, Skills, and Abilities | Essential Understanding |
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| Identify and compare human solutions to reduce the impact of a natural Earth process (e.g., earthquake, flood, volcanic activity) on humans. | 1. Ability to identify a human solution to reduce the impact of a natural Earth process on humans. | Recognize that different types of hazards result from natural Earth processes (e.g., earthquakes, volcanic eruptions). |

## **CA NGSS Performance Expectation**

Students who demonstrate understanding can:

**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 volcanic activity.] *[Assessment Boundary*: *Assessment is limited to earthquakes, floods, tsunamis, and volcanic eruptions.]*

## Mastery Statements

Students will be able to:

* Identify natural hazards when shown pictures or videos of natural hazards
* Identify human solutions for minimizing the impact of natural hazards
* Identify human solutions that increase the safety of individuals during natural hazard events

## Possible Phenomena or Contexts

*Note that the list in this section is not exhaustive or prescriptive.*

**Possible contexts include the following:**

* Earthquakes, with where and how to position oneself during an earthquake
* Floods, with planning ahead to leave and listening to news to know the risk
* Volcanic eruptions, with planning ahead to leave and listening to news to know the risk
* Changes in building designs to reduce the impacts of natural events
* Preparations made by communities in anticipation of natural hazards
* Comparison of two possible solutions to protect people from a natural hazard

## Additional Assessment Boundaries

* Item scenarios should not depict extremely violent situations or injury to humans or animals.
* Item scenarios should not use the term tsunami. They may refer to flooding or ocean floods.

## Additional References

California Science Test Item Specification for 4-ESS3-2

<https://www.cde.ca.gov/ta/tg/ca/documents/itemspecs-4-ess3-2.docx>

The *2016 Science Framework for California Public Schools Kindergarten through Grade Twelve* <https://www.cde.ca.gov/ci/sc/cf/cascienceframework2016.asp>

Appendix 1: Progression of the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts in Kindergarten through Grade Twelve

<https://www.cde.ca.gov/ci/sc/cf/documents/scifwappendix1.pdf>

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