

MS-ESS3-4 Earth and Human Activity

California Alternate Assessment for Science—Item Content Specifications

# MS-ESS3-4 Earth and Human Activity

| California Science Connector | Focal Knowledge, Skills, and Abilities | Essential Understanding |
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| Using a variety of resources (e.g., tables, graphs, maps), identify whether changes made by humans to Earth’s natural resources have impacted natural systems. | 1. Ability to identify if changes that humans have made to Earth’s natural systems have positive impacts, negative impacts, or some combination of positive and negative impacts using a variety of resources.
 | Recognize the relationship between an increase in human population and an increase in the consumption of food and natural resources. |

## **CA NGSS Performance Expectation**

Students who demonstrate understanding can:

**Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth’s systems.**

[Clarification Statement: Examples of evidence include grade-appropriate databases on human populations and the rates of consumption of food and natural resources (such as freshwater, mineral, and energy). Examples of impacts can include changes to the appearance, composition, and structure of Earth’s systems as well as the rates at which they change. The consequences of increases in human populations and consumption of natural resources are described by science, but science does not make the decisions for the actions society takes.]

## Mastery Statements

Students will be able to:

* Recognize the relationship between more people and the use of more resources
* Identify a positive impact that is a result of a human-caused change to a natural system
* Identify a negative impact that is a result of a human-caused change to a natural system

## Environmental Principles and Concepts

Principle 1—The continuation and health of individual human lives and of human communities and societies depend on the health of the natural systems that provide essential goods and ecosystem services.

Principle 2—The long-term functioning and health of terrestrial, freshwater, coastal, and marine ecosystems are influenced by their relationships with human societies.

## Possible Phenomena or Contexts

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

**Possible contexts include the following:**

* Scenarios showing the relationship between increases in human population and the increased use of a resource
* Impact of farming practices
* Impact of efforts to improve the environment such as recycling, green building, use of renewable resources, etc.
* Impact of development
* Impact of water use practices

## Additional Assessment Boundaries

* None listed at this time

## Additional References

California Science Test Item Specification for MS-ESS3-4

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

Environmental Principles and Concepts <http://californiaeei.org/abouteei/epc/>

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>

Appendix 2: Connections to Environmental Principles and Concepts

<https://www.cde.ca.gov/ci/sc/cf/documents/scifwappendix2.pdf>

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