

HS-ESS3-3 Earth and Human Activity

California Alternate Assessment for Science—Item Content Specifications

# HS-ESS3-3 Earth and Human Activity

| California Science Connector | Focal Knowledge, Skills, and Abilities | Essential Understanding |
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| Compare models to determine the effects of a conservation strategy to manage natural resources and to sustain human society and plant and animal life. | 1. Ability to identify effects of a conservation strategy to manage natural resources and to sustain human society and plant and animal life.
 | Identify human activities that result in positive or negative impacts on land, ocean, atmosphere, or biosphere resources. |

## **CA NGSS Performance Expectation**

Students who demonstrate understanding can:

**Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.** [Clarification Statement: Examples of factors that affect the management of natural resources include costs of resource extraction and waste management, per-capita consumption, and the development of new technologies. Examples of factors that affect human sustainability include agricultural efficiency, levels of conservation, and urban planning*.] [Assessment Boundary: Assessment for computational simulations is limited to using provided multi-parameter programs or constructing simplified spreadsheet calculations.]*

## Mastery Statements

Students will be able to:

* Identify positive environmental impacts due to human activities
* Identify negative environmental impacts due to human activities
* Recognize the effects of conservation strategies
* Identify appropriate conservation strategies for environmental challenges

## 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.

Principle 3—Natural systems proceed through cycles that humans depend upon, benefit from, and can alter.

Principle 4—The exchange of matter between natural systems and human societies affects the long-term functioning of both.

Principle 5—Decisions affecting resources and natural systems are based on a wide range of considerations and decision-making processes.

## Possible Phenomena or Contexts

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

**Possible contexts include the following:**

* Human population growth and impact on natural systems
* Changes in biodiversity due to human impact
* Farming practices
* Urban development practices
* Strategies to save water
* Strategies to increase the use of clean energy

## Additional Assessment Boundaries

* None listed at this time

## Additional References

California Science Test Item Specification for HS-ESS3-3

<https://www.cde.ca.gov/ta/tg/ca/documents/itemspecs-hs-ess3-3.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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