

MS-ESS3-5 Earth and Human Activity

California Alternate Assessment for Science—Item Content Specifications

# MS-ESS3-5 Earth and Human Activity

| California Science Connector | Focal Knowledge, Skills, and Abilities | Essential Understanding |
| --- | --- | --- |
| Find evidence of the effects of human activities on changes in global temperatures over the past century by using a variety of resources (e.g., tables, graphs, maps of global and regional temperatures, data on atmospheric levels of gases [such as carbon dioxide and methane], data on rates of human activities. | 1. Ability to find evidence of the effects of human activities on changes in global temperatures over the past century by using a variety of resources. | Identify ways that human activities affect the environment (e.g., agriculture, pollution, recycling, city growth). |

## **CA NGSS Performance Expectation**

Students who demonstrate understanding can:

**Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.** [Clarification Statement: Examples of factors include human activities (such as fossil fuel combustion, cement production, and agricultural activity) and natural processes (such as changes in incoming solar radiation or volcanic activity). Examples of evidence can include tables, graphs, and maps of global and regional temperatures, atmospheric levels of gases such as carbon dioxide and methane, and the rates of human activities. Emphasis is on the major role that human activities play in causing the rise in global temperatures.]

## Mastery Statements

Students will be able to:

* Identify one example of a human activity that helps the environment
* Identify one example of a human activity that is harmful to the environment
* Use information to recognize that the temperature of Earth has been increasing over the last century
* Identify two pieces of evidence that support the assertion that the temperature of Earth has been increasing over the last century

## Possible Phenomena or Contexts

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

**Possible contexts include the following:**

* The relative impacts of human activities such as recycling, conserving water, and reducing automobile travel.
* Human activities that harm or help the environment such as littering, clearing forests, using less-polluting forms of transportation, or turning off lights when not in use.
* Patterns and relationships in climate change data, such as the relationship between the increase in greenhouse gases and increasing temperatures.

## Additional Assessment Boundaries

* None listed at this time

## Additional References

California Science Test Item Specification for MS-ESS3-5

<https://www.cde.ca.gov/ta/tg/ca/documents/itemspecs-ms-ess3-5.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>

Posted by the California Department of Education, July 2025