

HS-LS4-6 Biological Evolution: Unity and Diversity

California Alternate Assessment for Science—Item Content Specifications

# HS-LS4-6 Biological Evolution: Unity and Diversity

| California Science Connector | Focal Knowledge, Skills, and Abilities | Essential Understanding |
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| Analyze data to determine a potential solution to mitigate adverse impacts of human activity on biodiversity. | 1. Ability to look at data and determine that there is a solution to mitigate adverse impacts of human activity on biodiversity.
 | Recognize that human activities can affect biodiversity. |

## **CA NGSS Performance Expectation**

Students who demonstrate understanding can:

**Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.** [Clarification Statement: Emphasis is on designing solutions for a proposed problem related to threatened or endangered species, or to genetic variation of organisms for multiple species.]

## Mastery Statements

Students will be able to:

* Recognize examples of human activities that support an increase in biodiversity
* Recognize examples in which a population of organisms is reduced as a result of human activity
* Identify data that support the claim that a human activity increased biodiversity

## Environmental Principles and Concepts

Principle 1—Direct and indirect changes to natural systems due to the growth of human populations and their consumption rates influence the geographic extent, composition, biological diversity, and viability of natural systems.

Principle 2—Methods used to extract, harvest, transport, and consume natural resources influence the geographic extent, composition, biological diversity, and viability of natural systems.

Principle 3—The expansion and operation of human communities influences the geographic extent, composition, biological diversity, and viability of natural systems.

Principle 4—The legal, economic, and political systems that govern the use and management of natural systems directly influence the geographic extent, composition, biological diversity, and viability of natural systems.

## Possible Phenomena or Contexts

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

**Possible contexts include the following:**

* Fishing practices that protect juvenile fish and non-fish species
* The use of certain polluting herbicides and pesticides
* The destruction of habitat for development
* The degree of global climate change
* Human population growth

## Additional Assessment Boundaries

* None listed at this time

## Additional References

California Science Test Item Specification for HS-LS4-6

<https://www.cde.ca.gov/ta/tg/ca/documents/itemspecs-hs-ls4-6.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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