

HS-LS3-2 Heredity: Inheritance and Variation of Traits

California Alternate Assessment for Science—Item Content Specifications

# HS-LS3-2 Heredity: Inheritance and Variation of Traits

| California Science Connector | Focal Knowledge, Skills, and Abilities | Essential Understanding |
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| Identify a model showing evidence that parents and offspring may have different traits. | 1. Identify examples of offspring who have different combinations of traits inherited from their parents.
 | Identify traits in offspring that are different from those of the parents. |

## **CA NGSS Performance Expectation**

Students who demonstrate understanding can:

**Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.** [Clarification Statement: Emphasis is on using data to support arguments for the way variation occurs.] *[Assessment Boundary: Assessment does not include the phases of meiosis or the biochemical mechanism of specific steps in the process.]*

## Mastery Statements

Students will be able to:

* Identify offspring with traits different from those of their parents
* Identify offspring with combinations of traits different from those of their parents

## Environmental Principles and Concepts

Principle 1—Natural systems proceed through cycles that humans depend upon, benefit from, and can alter.

Principle 2—The exchange of matter between natural systems and human societies affects the long-term functioning of both.

## Possible Phenomena or Contexts

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

**Possible contexts include the following:**

* Plants or animals and their offspring
* Traits may include coat color and texture or length, tail shape, shape of head or ears, flower color, hair color or eye color

## Additional Assessment Boundaries

* No reference should be made to meiosis.

## Additional References

California Science Test Item Specification for HS-LS3-2

<https://www.cde.ca.gov/ta/tg/ca/documents/itemspecs-hs-ls3-2.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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