

HS-LS1-6 From Molecules to Organisms: Structures and Processes

California Alternate Assessment for Science—Item Content Specifications

# HS-LS1-6 From Molecules to Organisms: Structures and Processes

| California Science Connector | Focal Knowledge, Skills, and Abilities | Essential Understanding |
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| Identify a model that demonstrates how organisms take in matter (allowing growth and maintenance) and rearrange the atoms to make new structures in chemical reactions. | 1. Identify a model which demonstrates how animals take in matter and rearrange molecules to grow 2. Identify a model which demonstrates how plants take in matter and rearrange molecules to grow. | Recognize that all organisms take in matter in order for growth to occur. |

## **CA NGSS Performance Expectation**

Students who demonstrate understanding can:

**Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.** [Clarification Statement: Emphasis is on using evidence from models and simulations to support explanations.] *[Assessment Boundary: Assessment does not include the details of the specific chemical reactions or identification of macromolecules.]*

## Mastery Statements

Students will be able to:

* Recognize that food is needed for animals to grow
* Recognize parts of the body used to process food
* Identify water, light, and air are needed for plants to grow
* Recognize that plants make their own food from other materials
* Identify examples of an animal growing due to the intake food
* Identify examples of a plant growing due to the intake of water, light, and air

## Possible Phenomena or Contexts

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

**Possible contexts include the following:**

* Plant growth
* People eat food to grow
* The digestive system in common animals as well as humans
* Animals eat food to grow

## Additional Assessment Boundaries

* Body systems should be those in common animals that are large enough to be clearly and simply shown.

## Additional References

California Science Test Item Specification for HS-LS1-6

<https://www.cde.ca.gov/ta/tg/ca/documents/itemspecs-hs-ls1-6.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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