

MS-LS1-7 From Molecules to Organisms: Structures and Processes

California Alternate Assessment for Science—Item Content Specifications

# MS-LS1-7 From Molecules to Organisms: Structures and Processes

| California Science Connector | Focal Knowledge, Skills, and Abilities | Essential Understanding |
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| Identify the outcome of the process of breaking down food molecules (e.g., sugar) as the release of energy, which can be used to support other processes within the organism. | 1. Ability to identify the outcome of the process of breaking down food molecules (e.g., sugar) as the release of energy
2. Identify ways in which energy from food can be used to support other processes within the organism.
 | Recognize that food taken in by an organism is broken down and used by an organism for growth. |

## **CA NGSS Performance Expectation**

Students who demonstrate understanding can:

**Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.** [Clarification Statement: Emphasis is on describing that molecules are broken apart and put back together and that in this process, energy is released.] *[Assessment Boundary*: *Assessment does not include details of the chemical reactions for photosynthesis or respiration.]*

## Mastery Statements

Students will be able to:

* Recognize an example that shows that humans and animals need food to grow
* Recognize that humans and animals need food for energy
* Identify examples of life processes that require energy from food
* Recognize that energy from food is used for life processes such as circulation and respiration
* Identify a simple example of the process by which food is broken down and then energy is distributed throughout the body
* Identify two life processes that require energy from food

## Possible Phenomena or Contexts

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

**Possible contexts include the following:**

* Growth of people and animals from infancy to adulthood
* Simple process of consumption, digestion, and energy production

## Additional Assessment Boundaries

* None listed at this time

## Additional References

California Science Test Item Specification for MS-LS1-7

<https://www.cde.ca.gov/ta/tg/ca/documents/itemspecs-ms-ls1-7.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>

*Posted by the California Department of Education, August 2020*