

4-LS1-1 From Molecules to Organisms: Structures and Processes

California Alternate Assessment for Science—Item Content Specifications

# 4-LS1-1 From Molecules to Organisms: Structures and Processes

| California Science Connector | Focal Knowledge, Skills, and Abilities | Essential Understanding |
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| Match internal and external structures of plants and animals (e.g., thorns, stems, roots, heart, stomach, lung, brain) to functions that support growth, survival, behavior, and reproduction of organisms. | 1. Ability to match external structures of a plant to functions that support growth, reproduction or survival of organisms. 2. Ability to match internal structures of an animal to functions that support growth, survival or behavior of organisms. 3. Ability to match external structures of an animal to functions that support growth, survival or behavior of organisms. | Match an external structure of an animal to its primary function (body parts; fingers to grasp, nose to smell/breathe). |

## CA NGSS Performance Expectation

Students who demonstrate understanding can:

**Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.** [Clarification Statement: Examples of structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, and skin.] *[Assessment Boundary*: *Assessment is limited to macroscopic structures within plant and animal systems.]*

## Mastery Statements

Students will be able to:

* Match a common external animal structure to its primary function
* Match an internal structure of an animal to its primary function in survival, growth, or behavior
* Match an external structure of an animal to its primary function in survival, growth, or behavior
* Identify how the function of an external structure of an animal supports survival, growth, or behavior
* Match an external structure of a plant to its primary function in survival, growth, or reproduction
* Identify how the function of an external structure of a plant supports survival, growth, or reproduction

## Environmental Principles and Concepts

Principle 2—The long-term functioning and health of terrestrial, freshwater, coastal, and marine ecosystems are influenced by their relationships with human societies.

## Possible Phenomena or Contexts

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

**Possible contexts include the following:**

* Plant structures including roots to absorb water, stems to support plants, leaves to make food, thorns and spines for protections, and flowers for reproduction
* External animal structures including webbed feet for swimming, thick fur for warmth, camouflage for protection, shape for running or swimming fast, large ears for hearing, etc.
* Internal animal structures including heart, stomach, lungs, and brain

## Additional Assessment Boundaries

* Internal organs are limited to the heart, stomach, lungs, and brain.

## Additional References

California Science Test Item Specification for 4-LS1-1

<https://www.cde.ca.gov/ta/tg/ca/documents/itemspecs-4-ls1-1.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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