

HS-PS2-6 Motion and Stability: Forces and Interactions

California Alternate Assessment for Science—Item Content Specifications

# HS-PS2-6 Motion and Stability: Forces and Interactions

| California Science Connector | Focal Knowledge, Skills, and Abilities | Essential Understanding |
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| Recognize that different materials have different molecular structures and properties that determine different functioning (e.g., flexible, but durable) of the material. | 1. Ability to recognize that different materials have different properties that determine different functioning (e.g., flexible, but durable) of the material. | Identify that different materials have different properties. |

## **CA NGSS Performance Expectation**

Students who demonstrate understanding can:

**Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.** [Clarification Statement: Emphasis is on the attractive and repulsive forces that determine the functioning of the material. Examples could include why electrically conductive materials are often made of metal, flexible but durable materials are made up of long chained molecules, and pharmaceuticals are designed to interact with specific receptors.] *[Assessment Boundary: Assessment is limited to provided molecular structures of specific designed materials.]*

## Mastery Statements

Students will be able to:

* Recognize properties of materials
* Recognize that different materials have different properties
* Identify a material with different properties than other materials in a group
* Recognize that materials with common properties can be used to perform the same function
* Recognize that materials with different properties would not be used to perform the same function
* Recognize how the property of a material supports its purpose

## Possible Phenomena or Contexts

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

**Possible contexts include the following:**

* Classroom objects made of paper, wood, plastic, or other easily identifiable materials that share a common property
* Toys with easily observable properties including softness or flexibility
* Common household materials, such as materials that keep things warm
* Possible properties to test: surface texture (e.g., sticky, smooth, bumpy, silky, rough), density (e.g., sink/float), magnetism, reflectivity

## Additional References

California Science Test Item Specification for HS-PS2-6

<https://www.cde.ca.gov/ta/tg/ca/documents/itemspecs-hs-ps2-6.docx>

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>

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