



# HSA-Alt Teacher Resource Guide—Grade 5 Science Classroom Embedded Assessment

The HSA-Alt Classroom Embedded Assessment (CEA) is a non-mandatory assessment option available to HSA-Alt-identified students. The CEA is designed for students who have an established communication system. Although non-responsive students are allowed to take the assessment, the assessment is ideally suited for students who are able to attend to stimuli, engage in activities, and demonstrate understanding through actions, gestures, symbols, signs/signing, a communication device, or speech.

The CEA offers a model of standards-based instruction and supports, leading to progress toward year-end targets for learning found in the [HSA-Alt Range PLDs](#). Each CEA testlet is aligned to a single standard and features scripted instructional activities and assessment items at five performance levels in prerequisite, well-below, approaching, meets, and exceeds level of performance for students.

CEA testlets include teaching activities and performance tasks, which are available to download in the General Resources section in TIDE. It is recommended that teachers download the testlets and read them with the accompanying Teacher Resource Guides.

As a classroom assessment, the CEA offers greater flexibility than a summative assessment. The CEA may be individualized in the following ways to meet student needs:

- Teachers may select the most appropriate performance level for administration of each CEA for each student. Teachers can administer one or more levels for each session based on the student’s instructional level.
- Teachers have up to five opportunities to administer each subject area CEA during the testing window (October 3, 2022–July 21, 2023). The complexity level of each administration may be the same or higher than the previous administration.
- It is recommended that teachers provide the same accommodations on the CEA as are utilized during classroom instruction. The scripted language and materials in the CEA may be modified to support student comprehension.
- For some students, an individually administered assessment may not be necessary. Teachers may administer the CEA to these students in small groups using PDF testlets, which include teaching activities and performance task items. PDF testlets are available at [www.hitide.org](http://www.hitide.org).

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## Targeted Hawaii Next Generation Science Standards and CEA Targets

Next Generation Science Standards (NGSS)				
<b>5-PS1-3:</b> Make observations and measurements to identify materials based on their properties.				
<b>Essence Statement:</b> Identify properties of substances and differentiate between various materials based on their properties <sup>1</sup> using observations or data.				
Science and Engineering Practices (SEP)		Disciplinary Core Ideas (DCI)		Crosscutting Concepts (CCC)
<b>Planning and Carrying Out Investigations</b> Make observations and measurements to produce data as the basis for an explanation of a phenomenon.		<b>Structure and Properties of Matter</b> Measurements of a variety of properties can be used to identify materials.		<b>Scale, Proportion, and Quantity</b> Standard units are used to measure and describe physical quantities such as weight, time, temperature, and volume
Skill Levels				
Prerequisite Skill	Well Below PLD <sup>2</sup>	Approaching PLD	Meets PLD	Exceeds PLD
Notice that two materials are alike and different.	Recognize a property of a substance.	Identify which substances possess a specified property.	Differentiate substances that have different physical/chemical properties.	Use data from observations to identify a substance based on its properties.

1. Properties include: color, hardness, texture, luster, melting point, boiling point, response to magnetic forces, conductivity, and solubility.

2. Performance Level Descriptor

## Performance Level Materials and Supports

### *Prerequisite Level: Materials List*

Materials List:

- Two black crayons and one white crayon (same length, diameter, without paper wrappers).
- OR three identical objects; two of the same color and one of a different color.

### *Well Below Level: Materials List*

Materials List:

- One wooden block and one tennis ball.
- OR two objects of the same approximate size but different texture.

### *Approaches Level: Materials List*

Materials List:

- One soft block and one hard block (same color, same size).
- OR two objects with different hardness but the same color and same size.

### *Meets Level: Materials List and Graphics*

Materials List:

- Magnet
- Iron nail or paper clip (any object that a magnet attracts)
- Wooden object (e.g., chopstick, toothpick, or block)
- Plastic object (e.g., straw, pattern block, or marker)

Graphics:

Prepare a poster showing a three-column table with the below title and labels. You may create the poster yourself using paper and marker, or you may download a PDF of the poster from the Hawaii TIDE site (<https://www.hitide.org>) in the General Resources > Download Forms section.

### Properties of Objects

Objects	Sticks to a Magnet	Does Not Stick to a Magnet

*Exceeds Level: Materials List and Graphics*

Materials List:

- Magnet
- Wooden cube
- Foam/rubber ball
- Glass/plastic marble
- Metal ball (ball bearing)

Graphics:

Prepare a poster showing a three-column table with the below title and labels. You may create the poster yourself using paper and marker, or you may download a PDF of the poster from the Hawaii TIDE site (<https://www.hitide.org>) in the General Resources > Download Forms section.

### Properties of Objects

Objects	Color	Hardness	Texture	Sticks to a Magnet

### Academic Vocabulary Used in This Testlet

**column.** Vertical divisions of a table or spreadsheet

**cube.** A prism with six equal faces (all faces are squares)

**face.** The flat surface of a geometric solid

**hardness.** How hard something is

**heading.** Label for a row or column found in a table

**magnet.** A piece of iron with arranged atoms that acts to pull other metals toward it

**magnetic.** Capable of being attracted to a magnet or acquiring properties of a magnet

**magnetism.** A physical phenomenon produced by the movement of electric charge in aligned metal atoms that causes other metals to be attracted or repulsed depending upon the orientation of the atoms within each

**matter.** A physical substance that occupies space and has mass (weight)

**meta.** A solid that is typically shiny, malleable, ductile, and magnetic

**observe.** To see, notice, perceive

**property (properties).** A characteristic of an object or matter found through observation and measurement and used to describe, compare, and categorize objects

**sphere.** A round solid figure with every point on its surface equidistant from its center

**substance.** A particular kind of matter with uniform properties

**texture.** How rough or smooth something is

**title.** Describes what a table or graph is about

### Standard Core Concept

Observing and measuring the properties, characteristics, and features of objects helps us to distinguish them from other objects, find and compare similarities and differences, and categorize them based on their properties.

### Associated Below Grade-Level Standard

**NGSS 3-PS2-3** Recognize that, as well as many metal objects, magnets can pull other magnets toward them and can also push other magnets away (when magnets have similar poles facing each other) without touching them.

### Accommodating Individual Student Needs on the CEA

**It is highly recommended that students receive the same accommodations on the CEA as they receive during classroom instruction.**

### Manipulatives

Manipulatives may aid student understanding, engagement, and ability to focus on the concepts in this testlet. Objects representing graphics (e.g., rock, feather, wooden block, ball, tape, foam block,

paperclip, straw, wooden chopstick) may be used in addition to objects included on the Materials List to demonstrate this standard.

### **Physical Action**

Encourage the student to interact with instruction and make choices using a preferred mode of communication. If the student is not able to interact with the instruction verbally or physically (e.g., manipulating or pointing to objects or graphics), consider other ways that the student could indicate a choice. Always make sure to provide enough wait time for the student to respond.

### **Picture Symbols, Sign Language, Augmentative and Alternative Communication (AAC) Devices**

Ensure that the student is able to use a preferred mode of communication (verbalizing, pointing, gesturing, selecting picture symbols, using sign language or an AAC device) when interacting with the testlet. Pre-teach key vocabulary using the following strategies:

1. Introduce key vocabulary with associated graphics (illustrations or picture symbols).
2. Post the graphics in a place that is convenient for student viewing.
3. Repeat the vocabulary on a regular basis, using verbal cues.
4. Provide the student with opportunities to practice using the vocabulary.

### **Tactile Materials, Including Tactile Graphics and Tactilely Enhanced Objects**

Tactile materials can be used to represent visual concepts to a student with a visual impairment or a student who learns best through touch.

For the instructional activity at the prerequisite level, select two objects that have different textures (rough/smooth); e.g., polished river stone vs. a rough rock (both about the same size and shape) or the surface of a whiteboard vs. the surface of a brick wall; ask the student to use touch to complete the task.

For students with tactile sensitivities, select objects with different qualities to replace sticky/rough and hard/soft, or ask the student to use vision or hearing to complete the tasks.

## Resources

Hawaii TIDE site: <https://www.hitide.org>

HSA-Alt CEA resources are available in General Resources > Download Forms at the bottom of the page.

HSA-Alt Participation Guidelines: <https://hsa-alt.alohahsap.org/resources/resources-2022-2023/hsa-alt-participation-guidelines-2022-2023>

Burnes, J. J., & Clark, A. K. (2021). Characteristics of students who take Dynamic Learning Maps® alternate assessments: 2018–2019 (Technical Report No. 20-01). University of Kansas, Accessible Teaching, Learning, and Assessment Systems (ATLAS).

[https://dynamiclearningmaps.org/sites/default/files/documents/publication/Characteristics\\_of\\_Students\\_Who\\_Take\\_DLM\\_AAs.pdf](https://dynamiclearningmaps.org/sites/default/files/documents/publication/Characteristics_of_Students_Who_Take_DLM_AAs.pdf)

Universal design for Learning Instructional Units, NCSC's ELA and mathematics instructional units for students with significant cognitive disabilities.

[https://wiki.ncscpartners.org/index.php/UDL\\_Instructional\\_Units](https://wiki.ncscpartners.org/index.php/UDL_Instructional_Units)