

Teacher Guide



Context and Background:

Task/Assessment Name (if applicable): CLASSIFY IT!

Unit or Course: Matter /grade 1

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Purpose: Summative Assessment for classifying solids using properties of matter.

Vermont Framework Standards: Standard 7.1

Scientific Method

Students use scientific methods to describe, investigate, explain phenomena, and raise questions in order to:

- Generate alternative explanations — hypotheses — based on observations and prior knowledge;
- Design inquiry that allows these explanations to be tested;
- Deduce the expected results;
- Gather and analyze data to compare the actual results to the expected outcomes; and
- Make and communicate conclusions, generating new questions raised by observations and readings.

This is evident when students:

- a. Ask questions about objects in the world around them;
- b. Use reliable information obtained from scientific knowledge, observation, and exploration;
- e. Explain a variety of observations and phenomena using concepts that have been learned;
- i. Work individually to collect information and ideas.

Standard 7.12 Matter, Motion, Forces, and Energy

Students understand forces and motion, the properties and composition of matter, and energy sources and transformations. This is evident when students:

- a. Sort objects and materials according to observations of similarities and differences of properties (e.g., size, weight, color, shape, temperature);

Vermont Grade Expectations or Local Learning Goals:

GE S1-2: 9 Identifying, recording, and comparing characteristics of objects made of similar and different properties.

GE S1-2:6 Students demonstrate their ability to analyze data by sorting and classifying objects based upon observations, prior knowledge, or experience and justifying groupings.

GE S1-2:4 Students demonstrate their ability to conduct experiments by

- Describing observations using senses rather than feelings
- Recording observations of similarities and differences

Teacher Materials and Administration Notes:

Materials:

- Make sets of objects in quart size Zip-lock plastic bags for use by individual students: wooden block, 6" plastic ruler, plastic bottle cap, paper clip, key, button, marker, coin, bean, Popsicle stick, index card, eraser, chalk, wooden bead.
- Copies of Response Sheet for Task #1, My Classification Chart for Task #2 , My Classification Chart for Task #3, Response Sheet for Task #4. Copy of checklist for teacher observations.
- One pair of plastic handled metal scissors (or other object with multiple properties from this activity concerning materials.) for each child for task #4.

Teacher Tips:

This assessment is set up to be given to a whole class with each student having his or her own bag of objects and record sheets. For tasks #1 and #4 in particular (or any tasks as needed), teachers may scribe students' responses.

Teacher may need to probe by asking for clarification for any incomplete or unclear response.

In order for students to be prepared for task #3, students will need experience sorting into two groups using the technique from a dichotomous key. For example: round and not round, green or not green, metal and not metal.

Accommodation: pictures of objects instead of drawing objects

Question/Task Development Guide:

Teachers should read scenario to first grade students.

"Mother is cleaning out a drawer. She asks you for help. She asks you to sort the objects so she can find things easily."

How will you sort them?

Question/Task #1:

Before you sort the objects, choose an object from the plastic bag and draw it on the Response Sheet.

Name the object and describe three of its properties.

Response Sheet #1	
Name _____	Date _____
Object _____	Make a box here. Label it "Drawing of Object"
1. _____	
2. _____	
3. _____	

1. Depth of Knowledge (highlighted): Webb Level 1 **Webb Level 2** Webb Level 3

2. Part of the Grade Expectation(s) **most strongly elicited** by the question.
S1-2:9

3. Prerequisite skills and knowledge students need to be successful:
Know the meaning of the word "properties."
Be familiar with examples of properties.

4. Expected (correct) student response: (Describe what you would expect to see in the student work if the student were successful in this task.)

Student identifies an object in the bag and describes 3 properties of the object.
Possible answers: specifics related to color, size, shape, weight, material (wood, plastic, metal, paper), or any other appropriate property.

5. Score Guide:

- | | |
|---------|---------------------------------------------------------------|
| Points: | Key Elements: |
| ___1___ | Student identifies object and tells 1 property of the object. |
| ___1___ | Student identifies a second property. |
| ___1___ | Student identifies a third property. |
| ___0___ | Picks up object or just identifies object. |

Task #2:

Sort all of the objects from the bag into groups in the chart below.
Draw 2 objects for each property in the boxes below.

(Teachers of grade 1 may need to read categories to students.)

plastic	metal
wood	other

1. Depth of Knowledge (highlighted): Webb Level 1 **Webb Level 2** Webb Level 3

2. Part of the Grade Expectation(s) **most strongly elicited** by the question.
S1-2:9 S1-2:6 S1-2:4

3. Prerequisite skills and knowledge students need to be successful:
Know the meaning "properties."
Be familiar with vocabulary pertaining to physical properties.
Be able to sort objects using similar characteristics.

4. Expected (correct) student response:

Students will sort objects into the 4 groups labeled on the template. Each group will have two objects.

5. Score Guide:

Points:	Key Elements:
__2__	Student will correctly sort objects into 4 identified groups, two in each group.
__1__	Sorts with only one or two errors.
__0__	Sorts with two or more errors.

Question/Task #3

My Classification Sheet for Task #3

Now, sort these objects into two groups. Label the boxes with the words that tell how you sorted.

(You may need to scribe for students or have a word bank of properties available.)

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1. Depth of Knowledge (highlighted): Webb Level 1 **Webb Level 2** Webb Level 3

2. Part of the Grade Expectation(s) **most strongly elicited** by the question.
S1-2:9 S1-2:4 S1-2:6

3. Prerequisite skills and knowledge students need to be successful:
Be familiar with vocabulary pertaining to physical properties.
Be able to sort objects using similar characteristics.
Sort according to specific characteristics as well as according to a certain property and non-existing properties (ex: round and not round, as used in a dichotomous key).
Be able to label groups (written or scribed.)

4. Expected (correct) student response:
Student sorts objects into two groups.

Student labels the groups using vocabulary pertaining to physical properties like shape, use, or color.

5. Score Guide:

Points:	Key Elements:
___1___	Student correctly sorts all objects into two justified groups.
___1___	Student labels groups using correct properties.
___0___	Sorts incorrectly or labels incorrectly.

Question/Task #4:

Response Sheet for Task #4

Mother found another object on the floor.

It is a pair of scissors. (This is where teacher puts out scissors with multiple properties as explained in the teacher guide.)

Draw the scissors where they belong.

Why do they belong in that box?

Why didn't you put them in another box?

plastic _____	metal _____
wood _____	other _____

1. Depth of Knowledge (highlighted): Webb Level 1 Webb Level 2 **Webb Level 3**

2. Part of the Grade Expectation(s) **most strongly elicited** by the question.

S1-2: 9 S1-2:4 S1-2:6

3. Prerequisite skills and knowledge students need to be successful:

Recognize that objects can have more than one property.

Be able to explain their thinking.

4. Expected (correct) student response.

Student makes a placement based on two accurate properties. Student explains why scissors are placed in one group and not another.

5. Score Guide:

Points:

Key Elements:

__1__

Student places scissors in **other** and describes that it is both metal and plastic.

__1__

Makes a placement between metal and plastic and identifies that scissors have both properties.

__1__

Tells why the scissors are not in another group.

__0__

Identifies wrong property or no answer.

