

How Do You Describe Objects and Materials?



Focus: Students investigate the properties of objects and materials at science activity centres.

Specific Curriculum Outcomes

Students will be expected to:

- 26.0 observe objects and describe their similarities and differences [GCO 1/3]
- 27.0 compare and describe properties of objects and materials [GCO 1/3]

Performance Indicators

Students who achieve these outcomes will be able to:

- describe the properties of objects and materials using at least three descriptive terms
- select the most appropriate object or material for a task based on its properties (e.g., plastic is the best material for drinking cups because it is waterproof, light, and strong)

NOTES:

Attitude Outcome Statements

Encourage students to:

- recognize the role and contribution of science in their understanding of the world [GCO 4]
- work with others in exploring and investigating [GCO 4]

Cross-Curricular Connections

Math

It is expected that students will:

- demonstrate an understanding of measurement as a process of comparing (ordering objects) [1SS1]

English Language Arts

Students will be expected to:

- speak and listen to explore, extend, clarify, and reflect on their thoughts, ideas, feelings, and experiences [GCO 1]
- communicate information and ideas effectively and clearly, and to respond personally and critically [GCO 2]
- interpret, select, and combine information using a variety of strategies, resources, and technologies [GCO 5]

Getting Organized

Components	Materials	Before You Begin	Vocabulary
• Science Card 5 • BLM <i>How Does It Feel?</i> • BLM <i>What Does It Look Like?</i> • IWB Activity 5 Literacy Place: <i>What Can Float?</i> (Guided Reading, Level B)	• variety of objects and materials (e.g., stuffed animals, dolls, blocks, seashells, hard and soft balls, modelling clay, feathers, straw hat, wool hat, soft and hard cover books, aluminum foil, mirror, cellophane wrap) • flashlight • pan balance • a collection of crayons of varying sizes • digital camera (optional) • students' Science Journals		• dull • lustre • shape • shiny • texture

Science Background

- Properties are attributes that can be observed with the senses.
- The term property is used when talking about an attribute exhibited generally by objects and materials (e.g., a shiny lustre is a property of all metals).
- The term characteristic is used when talking about an attribute exhibited by a specific object or material (e.g., a shiny lustre is a characteristic of stainless steel cutlery).

- We compare and describe objects and materials based on their properties, such as colour, lustre (the way it looks), shape, size, texture (the way it feels), and weight.
- Other useful properties include: absorbency, flexibility, insulating ability, magnetism, strength, transparency, water resistance, etc.

Possible Misconceptions

- Students at this age will likely have knowledge of simple words with little descriptive value, such as nice and colourful. Explain that in this lesson, they will focus on learning richer descriptive words (e.g., heavy, smooth, dull, triangular, wide, narrow, bumpy).

ACTIVATE



Describing Objects and Materials

Ask students to examine the images on Science Card 5. Point out and read aloud the title question: *What is it like?* Point to the photos and ask students to look at each image closely. Ask:

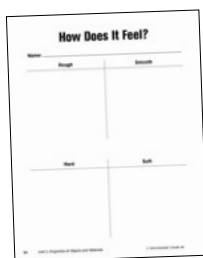
- **How would you describe the objects and materials you see?**

Explain to students that by answering this question, they are describing the properties of objects and materials. To help students come up with answers, explain that properties of objects and materials can be observed with our senses. Then focus students' attention on the supplemental questions on the card. Read each question aloud: *What does it look like? How does it feel? What shape is it?*

As a class, have the students answer each of these questions for each image on the card. Add any new descriptive words to the Word Wall.

Note: Students may need more prompting with “How does it feel?” at this point since they have only the photos as reference. Explain to them that they will be exploring this question in greater detail at centres.

CONNECT



Testing and Observing

Provide a variety of materials (see the Getting Organized chart on page 30 for suggestions) at four separate mini centres. Invite students to rotate through the centres to test and observe various properties of objects and materials.

Rough or Smooth and Hard or Soft – Using the various objects and materials provided, ask students to test and observe how each one feels. Students are to record their findings for each using BLM *How Does It Feel?* by sorting the objects into a T-chart using the two different sets of descriptors—Rough or Smooth and Hard or Soft.

Shortest to Longest – Provide a variety of objects such as a collection of crayons of varying sizes and ask students to sequence them from shortest to longest.

Shiny or Dull – Using the various objects and materials provided, ask students to test and sort objects and materials as shiny or dull. You may want to review the definition of these terms before students begin this activity.

shiny: you can see your reflection in it, and it is bright when light shines on it

dull: you don't get any reflection, and it is not shiny even when light shines on it

Students are to record their findings using BLM *What Does It Look Like?*

Heavy or Light? – Using the various objects provided, ask students to weigh each in a pan balance and sequence them from lightest to heaviest. Encourage students to share the procedure they followed and record their findings by taking a digital photograph of their end results.



Literacy Place Connection:

What Can Float? (Guided Reading, Level B) shows different objects that can either sink or float. Discuss with the students the different objects in the book and what materials were used to make them. Ask:

- Why do you think some of the objects can float and others cannot?

CONSOLIDATE

IWB Activity:

- Have students guess objects from their descriptions using
- Activity 5: *What am I?* (see the Teacher's Website). Then pairs or small groups of
- students can play a game of "What am I?" with objects from the classroom or ones they bring in.



"I Spy"

Play "I Spy" with students using riddles that describe multiple properties of a classroom object [e.g., I spy something that is round, hard, and black and white (clock); I spy something that is blue, short, and square (recycling bin); I spy something that is square, pink, and smooth (eraser)]. Once students become familiar and comfortable with the riddles, they can create their own. Encourage them to work with a partner to solve one another's riddles.

Asking Questions

Invite a student to come to the front of the class. Attach a picture of an object to his or her back with a piece of tape so that all of the students can see it. Challenge the student to ask yes-no questions to try to determine what the object is.

EXPLORE MORE

Property Hunt

Have students to go on a “Property Hunt” at school or at home in search of objects which possess three properties of their choice (e.g., round, soft, blue). Have students share with the class the objects they found which have these three particular properties.

Research the Source of Materials

Students might be interested in doing research to find out the source of various materials and identifying objects made from these materials. Brainstorm research questions with the students, for example:

- **Where does wood come from? What is made from wood?**
- **Where does glass come from? What is made from glass?**

Students can draw a diagram of their findings in their Science Journals. The source materials, e.g., wood from trees can be drawn in the centre. Objects made from wood could be drawn around it. Lines can be drawn to connect the tree to the objects.



How Does It Feel?

Name: _____

Rough

Smooth

Hard

Soft

What Does It Look Like?

Name: _____

Object/Material	Shiny	Dull
aluminum foil	✓	