

## What's the Matter?

---

<b>Strand</b>	Matter
<b>Topic</b>	Physical properties
<b>Primary SOL</b>	3.3 The student will investigate and understand that objects are made of materials that can be described by their physical properties. Key concepts include a. objects are made of one or more materials.
<b>Related SOL</b>	3.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which a) observations are made and are repeated to ensure accuracy; c) objects with similar characteristics or properties are classified into at least two sets and two subsets; h) data are gathered, charted, graphed, and analyzed.

### Background Information

All objects are made of materials that have observable physical properties such as color, shape, and size. Objects can be made up of one or more materials (i.e., wire can be made out of only copper, and steel is made out of a combination of different metals).

### Materials

- Small objects brought from home by students

### Vocabulary

*physical properties*

### Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

#### *Introduction*

1. Have students bring a small object from home to share. Explain to them that they will be discussing the different physical properties about the object they bring.

#### *Procedure*

1. Divide the students into groups of five-six students.
2. Have the students discuss the materials that their objects are made of.
3. In their groups, have them sort their objects based on one physical property (e.g., color, shape, size, etc.). Have them create a chart showing how they sorted the objects.
4. Once all the groups have completed their chart, have the groups walk around the room to each table to observe how other students grouped their objects.
5. Have the students return to their original group and discuss what they observed at other tables .

6. Tell the groups that they will now re-sort their objects in a new way and record the new way on a new chart.
7. Have each group select a spokesperson to share with the class the two ways that their group sorted the objects.
8. Ask each group how and why groups sorted their objects the way they did.
9. Lead a class discussion about how physical properties were used to sort. Ask “What other physical properties might they use to sort their objects?”

### **Assessment**

- **Questions**
  - How are all the objects we brought today alike?
  - Is there one way the objects are all different?
- **Journal/writing prompts**
  - How is sorting objects by their physical properties like a grocery store?
  - How are physical properties used in your everyday life?
- **Other**
  - Give the students a variety of objects and ask them to describe how the objects are alike and different. Have the students sort the objects by their choice of physical properties.

### **Extensions and Connections (for all students)**

- Set up a magnet sort for cans to decide if each can is aluminum or steel.

### **Strategies for Differentiation**

- The days/weeks before teaching about the physical properties of objects, introduce the concepts of alike and different by posting labels around the room on items that are alike and different. Teach the words for types of material such as plastic, metal, paper, etc.
- Do a picture sort and a chart according to the materials that the objects are composed of, e.g., paper, plastic, metal, wood, or mixed.