Lesson Plan

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Flashlight Investigation

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Science
Grades K–2

Introduction

What happens when various objects come in contact with a beam of light? Why do some objects block light? What does it mean to be transparent, translucent, opaque, and reflective? This lesson gives students a basic introduction into those key vocabulary words through an investigation with light.

Learning Objectives

1-PS4-3. Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.

Materials Needed

- *Flashlight* by Lizi Boyd
- Flashlights
- Clear plastic, wax paper, cardboard, and a mirror

Procedure

The teacher will read the story *Flashlight* by Lizi Boyd as a way to get students thinking about flashlights. The teacher will then hold up a flashlight and ask students questions such as, “Who has a flashlight at home? What do we use flashlights for? What happens when an object comes in the way of a flashlight (here, the teacher can place their hand over the flashlight)?” Ask the students what would happen if various other objects in the classroom were to get in front of the flashlight (their pencil case lid, a whiteboard, the window, etc.).

1. Tell students that today they are going to investigate what happens when they place various objects in front of the flashlight’s light.
2. Group students into small groups, depending on how many available flashlights there are (possible extension to explore: try using a variety of flashlights, such as the traditional flashlight and the iPad flashlight feature). Distribute to each group a flashlight, a piece of clear plastic, some wax paper, a piece of cardboard, and a mirror.
3. Have students explore what happens when each of their objects is placed in front of the light. Give students 10 minutes to experiment, then return as a whole class to the carpet.

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4. Ask the students what they saw. Guide them in their thinking, steering them towards the defining of the vocab words transparent, translucent, opaque, and reflective. “So you were saying that the clear plastic didn’t stop the light. That’s because clear plastic is transparent, or something that allows light to pass through.” Make a poster using chart paper defining these words together as a whole class.

Extensions:

- Have students brainstorm other objects that would be transparent, translucent, opaque, and reflective.
- Have students explore what happens when other objects around the room block the light beam. Give students time to walk around and experiment with various objects.

Evaluation

- Evaluation will be participation in the group activity as well as participation in the whole class reflection. Additionally, teachers can have students record their own summary of their findings using Flipgrid, ChatterPix, or Vocaroo.
- The teacher could also have students draw examples of the vocabulary words they defined as a class.