Light Blockage

Translucent Transparent Opaque

Read the short story and answer each question.

How Shadows Work

Shadows are made when something blocks light. If you stand outside on a sunny day, your body blocks the sunlight and creates a dark shape on the ground. That shape is your shadow.

Shadows happen because light travels in a straight line. When an object is in the way, the light can't go through it, so it forms a shadow behind the object. This is called **light blockage**.

The size of a shadow can change depending on the angle of the light. When the sun is low in the sky, like early morning or late afternoon, your shadow is longer. When the sun is high overhead at noon, your shadow is shorter.

Some materials don't block all the light. These are called **translucent** materials. They let some light through but not all of it. You can see a fuzzy shadow through a curtain or frosted glass because they are translucent. Materials that let all the light through are called **transparent**, like windows. Materials that block all light, like wood or metal, are called **opaque**.

Understanding how light behaves helps scientists create better lighting, screens, and even solar panels.



# How Shadows Work

- 1. What does the word opaque mean in this passage?
- A. A material that blocks all light from passing through
- B. A material that glows in the dark
- C. A material that reflects water
- D. A material that changes color

- 2. What causes a shadow to form?
- A. Light being blocked by an object
- B. The moon moving across the sky
- C. Heat rising from the ground
- D. The reflection of the sun on metal

3. Fill in the blank:

means?

Materials that let some light through but not all are called \_\_\_\_\_.

4. What clues in the passage help you understand what translucent

5. How do the words opaque, transparent, and translucent help explain how shadows are formed?

# Parent and Teacher Guide

Guide Reading Level: O Lexile Level: 590L-740L

**Grade Level:** 3rd Grade, Middle of the Year **Genre**: Informational / Physical Science

# Introducing the Text

"Today we're reading about how shadows are made. We'll pay special attention to tricky science words like *opaque*, *translucent*, and *transparent*, and we'll use clues in the text to figure out what they mean."

Vocabulary: light blockage, translucent, opaque, transparent, angle

## **Before Reading Discussion Questions**

- 1. What do you know about how shadows are made?
- 2. Have you ever noticed how your shadow changes during the day?
- 3. What kinds of materials do you think light can or cannot pass through?

## **During Reading Discussion Questions**

- 1. What does light blockage mean?
- 2. How do translucent materials affect shadows?
- 3. What's the difference between transparent and opaque?

#### After Reading Discussion Questions

- 1. What clues helped you understand the science words in this passage?
- 2. Why is it helpful to learn the meaning of words like *opaque* or *translucent* in a science text?
- 3. How could this information help someone design a building or window?

### **Activity Idea**

Have students gather and test different materials (e.g., wax paper, plastic wrap, cardboard, glass) by shining a flashlight on them. They will record whether each material is transparent, translucent, or opaque, and then write one sentence explaining why, using key vocabulary from the passage.

