

# Light Meets Matter

Trace how materials change where light travels.

**5.6.c** “matter influences the path of light; and”

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## 1 READ AND MARK \_\_\_\_\_ Read it twice

**YOUR JOB** Underline each material and circle the words that tell what it does to light. Number each place that shows light passing through, bending, scattering, being blocked, or bouncing.

### Maya's Flashlight Test

- ① At the school greenhouse, Maya aimed a flashlight at a clear glass window. Most of the light passed through the glass, so a bright spot appeared on the floor inside. The light changed direction a little as it entered and left the glass because light travels at different speeds in air and glass. This bending is called refraction.
- ② Next, Maya shone the beam through a wax-paper panel. Wax paper is translucent, so it lets some light through but scatters the light in many directions. On the other side, Maya saw a dim, fuzzy patch instead of a sharp spot. The paper influenced the light's path by spreading it out. That is why details behind wax paper are hard to see.
- ③ Finally, Maya aimed the flashlight at a brick wall. Brick is opaque, which means light cannot pass through it. The wall blocked the beam, creating a dark shadow behind the wall. Some light also bounced from the wall in new directions. When matter blocks, bends, scatters, or reflects light, it influences where the light can travel.

**2 ANSWER WITH EVIDENCE** \_\_\_\_\_ Use the passage

**1** What did the clear glass do to most of Maya's flashlight beam, and what did Maya see?

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**2** Why did the wax paper make a dim, fuzzy patch instead of a sharp spot?

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**3** How did the brick wall affect the flashlight beam? Give two effects.

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**4** Which material bent the light, and why did the light bend?

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**3 YOUR TURN** \_\_\_\_\_ Your own words

Choose two materials that were not named in the reading. For each material, state whether it is transparent, translucent, or opaque and predict what will happen to a flashlight beam. Explain one difference between the two light paths.

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**PART 1 • READ AND MARK**

Underline each material and circle the words that tell what it does to light. Number each place that shows light passing through, bending, scattering, being blocked, or bouncing. Accept any marking that follows this job and points at the right text.

**PART 2 • ANSWERS**

| # | QUESTION                                                                              | ANSWER                                                                                                                      |
|---|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 1 | What did the clear glass do to most of Maya's flashlight beam, and what did Maya see? | <b>Most light passed through the glass, and Maya saw a bright spot on the floor inside.</b>                                 |
| 2 | Why did the wax paper make a dim, fuzzy patch instead of a sharp spot?                | <b>Wax paper is translucent and scatters light in many directions.</b>                                                      |
| 3 | How did the brick wall affect the flashlight beam? Give two effects.                  | <b>It blocked the beam and made a dark shadow behind the wall. Some light also bounced from the wall in new directions.</b> |
| 4 | Which material bent the light, and why did the light bend?                            | <b>The clear glass bent the light because light travels at different speeds in air and glass.</b>                           |

**PART 3 • YOUR TURN (SAMPLE ANSWER)**

Plastic wrap is transparent, so most flashlight light passes through it, although it may bend slightly. A tissue is translucent, so some light passes through but scatters. Plastic wrap makes a clearer light path than a tissue.

Accept equivalent descriptions of light passing through, bending, scattering, blocking, or reflecting when they match the passage. For the open task, accept accurate classifications and predictions for other reasonable materials.