

Light's Travel Path

Model how reflected light helps you see objects.

4-PS4-2 "Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen. Assessment Boundary: Assessment does not include knowledge of specific colors reflected and seen..."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each phrase that tells where light travels. Number the parts of each light path: write 1 by the light source, 2 by the object, and 3 by the eyes.

Seeing a Ball and a Lunchbox

- ① During a power outage, Maya holds a flashlight near a soccer ball. The flashlight sends light toward the ball. Some light bounces off the ball in many directions. A small amount of that reflected light travels into Maya's eyes. Because light from the ball enters her eyes, Maya can see its shape and where it is on the floor.
- ② Now Maya covers the flashlight with a thick box so no light reaches the ball. The room is dark, and she cannot see the ball. The ball is still there, but no light reflects from it into her eyes. This shows that seeing an object needs a path: light source, object, then eyes. A model can use arrows to show this path.
- ③ At recess, Maya notices a metal lunchbox near a bench. Sunlight reaches the lunchbox and then bounces toward her eyes. When a friend stands between the sun and lunchbox, the lunchbox becomes hard to see in the shadow. Less light reaches it, so less light reflects into Maya's eyes. In a drawing model, Maya can draw the sun, lunchbox, and eyes. She can add arrows from the sun to lunchbox and from lunchbox to eyes.

2 ANSWER WITH EVIDENCE Use the passage

1 Use the soccer ball example. What is the light path that lets Maya see the ball?

2 Why can Maya not see the soccer ball after she covers the flashlight with a thick box?

3 What three things should a model include to show how Maya sees an object?

4 When Maya's friend blocks the sun, what changes, and how does that affect seeing the lunchbox?

3 YOUR TURN Your own words

Draw a model for an object you choose, such as a backpack or pencil. Label a light source, the object, and eyes, and draw arrows to show the light path. Then write exactly two sentences explaining the path and what happens if the light source is blocked.

PART 1 • READ AND MARK

Underline each phrase that tells where light travels. Number the parts of each light path: write 1 by the light source, 2 by the object, and 3 by the eyes. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Use the soccer ball example. What is the light path that lets Maya see the ball?	Light travels from the flashlight to the soccer ball, then reflected light travels from the ball into Maya's eyes.
2	Why can Maya not see the soccer ball after she covers the flashlight with a thick box?	No light reaches the ball, so no light reflects from the ball into her eyes.
3	What three things should a model include to show how Maya sees an object?	A light source, an object, and eyes.
4	When Maya's friend blocks the sun, what changes, and how does that affect seeing the lunchbox?	Less sunlight reaches the lunchbox, so less light reflects into Maya's eyes and the lunchbox is harder to see.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Model labels and arrows: lamp → backpack → eyes. A lamp sends light to the backpack, and light reflecting from the backpack enters my eyes. If a box blocks the lamp, less light reaches the backpack, so it is hard to see.

Accept any accurate model that shows arrows from a light source to an object and from the object to eyes. The explanation should state that blocking light before it reaches the object reduces reflected light entering the eyes.