

Unit 6.1

Light & Matter

**Why do we sometimes see different things
when looking at the same object?**

STUDENT WORKBOOK

SAMPLE



SAMPLE

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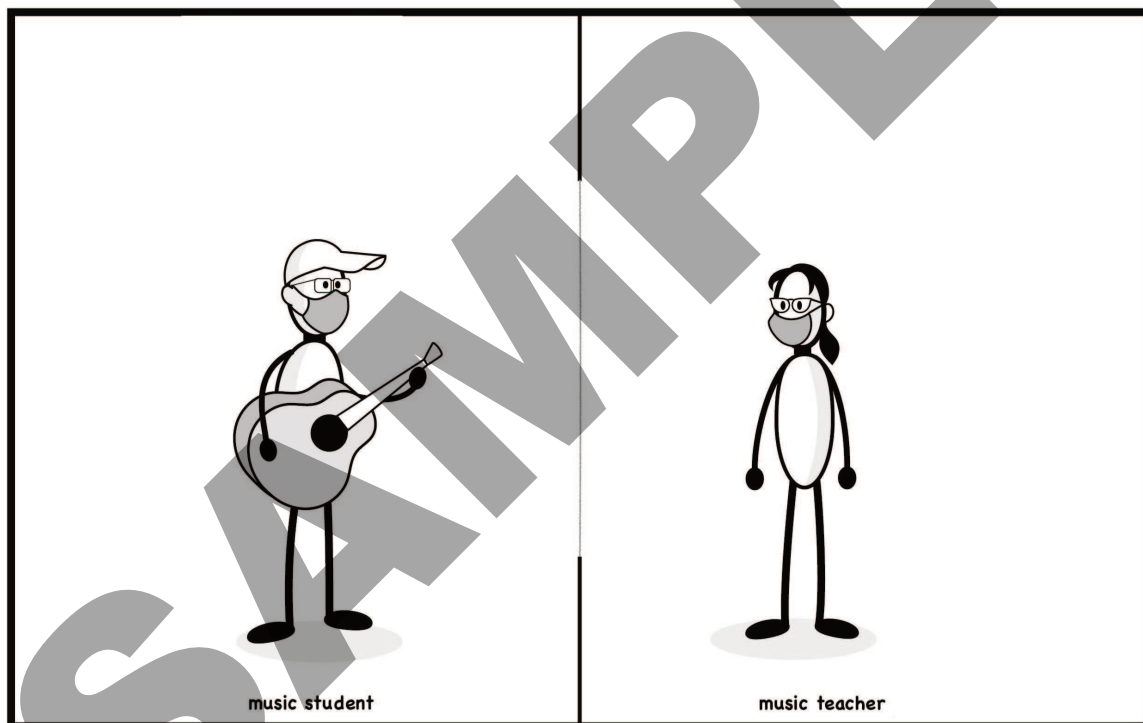
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Initial diagram to explain the phenomenon

Create a diagram to explain as much as you know about the following two questions:

- Why does the music teacher see the music student?
- Why does the music student see himself and not the teacher?
 - Include all the important parts we agreed on and label them.
 - Use pictures, symbols, and words to explain **how the parts interact** to cause the phenomenon.
 - Record questions that you have if you become stuck.



Transcript: Box Model Investigation

- 00:06 Here we have our light box model. On the left side, we have room A, which has a flashlight. On the right side, we have room B, with no flashlight. I'm going to turn on the flashlight and close up the box model, and then we'll look inside each room.
- 00:42 First, we'll look inside room A.
- 01:19 Now we'll close up the little flap on room A. We will leave the flashlight on and take a look inside room B.
- 02:22 Now we'll turn off the flashlight and keep looking inside room B.

SAMPLE

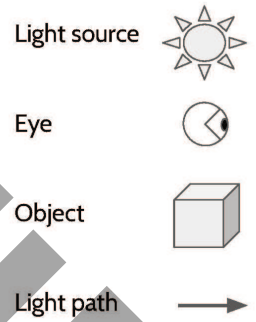
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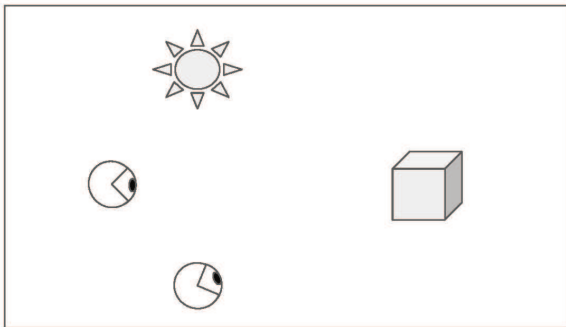
Representing the Path of Light in Different Scenarios

Use arrows to draw the path that light travels.

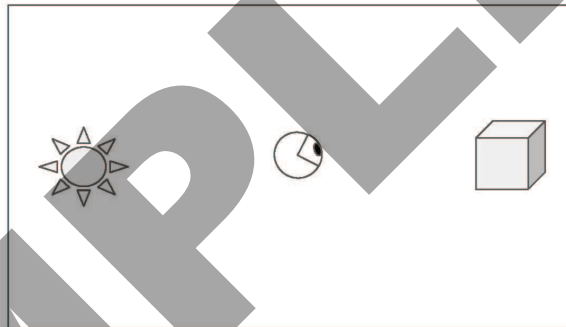
Then below, describe what the person or people in each scenario see.



Scenario 1



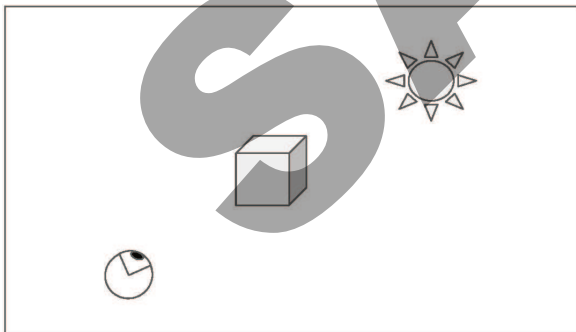
Scenario 2



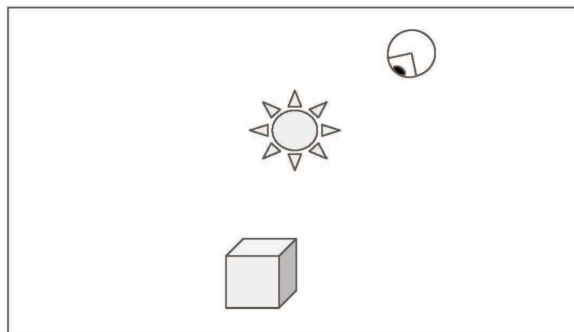
What do these people see and why?

What does this person see and why?

Scenario 3



Scenario 4



What does this person see and why?

What does this person see and why?

Name: _____

Date: _____

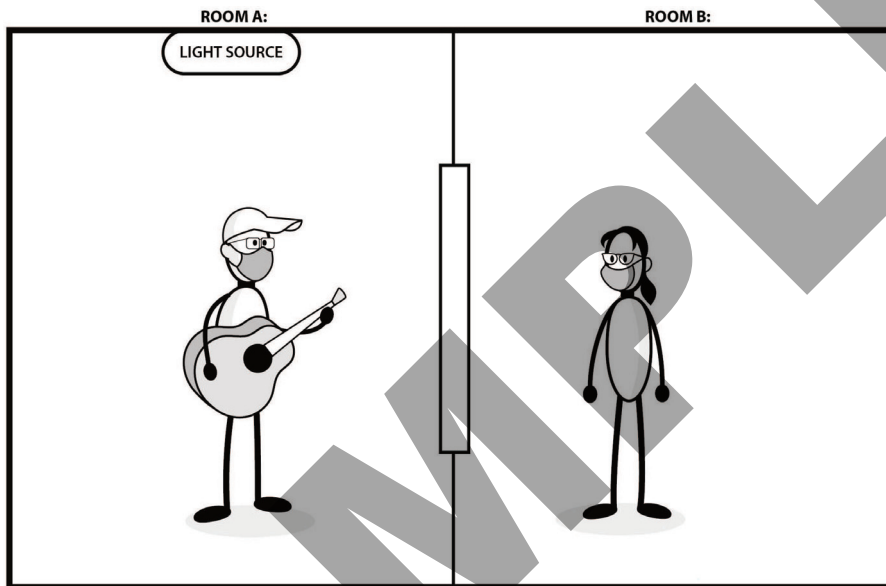
Part A: What happens if we change the light in the box model?

The diagram below shows the original Music Lesson setup.

1. Highlight and record what you're changing from the original setup in the diagram below.
2. What do you predict you will observe when you make that change? Why?
3. Record your observations from both sides of the box model on the diagram below.

Observations
from Room A

Observations
from Room B



Part B: Sensemaking questions

1. Why does changing the light affect what we see?
 - a. Draw on the diagram what you think is happening.
 - b. Record your ideas in words below.