

# [97] Reflection and Absorption

name \_\_\_\_\_ per \_\_\_\_\_

Issues and Physical Science p. F-42 → F45

**DUE Tuesday 2/18**

**Transmission** - the movement through something

**Absorption** - When something takes in light and turns it into another kind of energy like heat

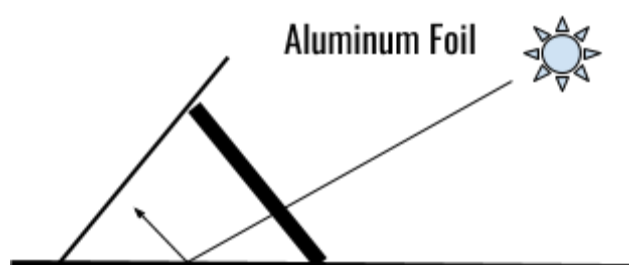
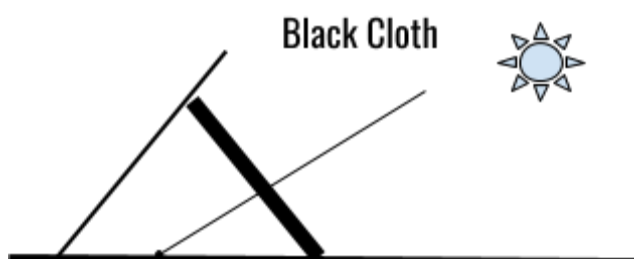
**Reflection** - the return or bouncing off of light waves from an object

**Other properties of waves** - frequency, wavelength, speed, amplitude

*Essential Question: How do different materials absorb and reflect light?*

## Part A: Reflection (Ultraviolet Light)

Draw 2 side views sketches of the UV card assembly. Draw the waves hitting the foil in one model and hitting the black cloth in the other.



## Part B: Absorption (Infrared light)

Check out the class data. If your data shows the same pattern, use it. Otherwise use the data provided.

Material	Initial Temp. (°C)	Final Temp (°C)	Temp change (°C)
Black Cloth	-----	-----	7°C
Aluminum Foil	-----	-----	3°C
Control	-----	-----	5°C

Answer the questions using evidence from the lab and your knowledge of the properties of waves.

1. Which surface - the black cloth or the aluminum foil - **reflected** more light? Use evidence from this lab to support your answer.

2. Thinking Question (TQ) In this activity, the black cloth models the dark ground. What could...
- ...the aluminum foil model?
  - ...the UV card model?
3. The roof on a house can be made of different materials. Explain the effect both a black roof and a reflective roof would have on a house? Use evidence from the lab and wave vocabulary in your answer.
4. Our eyes are sensitive to and can be damaged by blue/violet light and UV light. Explain why it would be important to wear sunglasses at the beach and in the snow. Use evidence from the lab your knowledge of the properties of waves and vocabulary in your answer.

**Waves: I can show understanding of the characteristics and properties of waves**

<b>4</b> Highly Proficient	<b>3</b> Proficient	<b>2</b> Close to Proficient	<b>1</b> Developing
<input type="checkbox"/> I can apply my knowledge of light and wave behavior to make a <u>supported</u> explanation about the need for sunglasses in certain environments.	<input type="checkbox"/> The lab is complete and most of the answers are correct. <input type="checkbox"/> My answers include evidence and detail. <input type="checkbox"/> I can apply my knowledge of waves and evidence from the lab to discuss roof differences.	<input type="checkbox"/> I can complete most of the lab. <input type="checkbox"/> My answers need more detail for a higher level. <input type="checkbox"/> Some of my information may be <u>incorrect</u> . <input type="checkbox"/> My work is <u>incomplete</u> .	<input type="checkbox"/> Not attempted or mostly incomplete.