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| **Science 8**  **How does light interact?** | **Name: Date: Block:** |

Line up your ray box and each of your given materials with the diagram below.

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| Ray Box | Material |

1. Identify each of your materials.
2. How does each object interact with the light? Record some ***QUALITATIVE*** observations below:

**Note**: a qualitative observation is an observation with NO numbers.

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| Material #1 is… | Material #2 is… | Material #3 is… |
| An object that does not let any light pass through is called **OPAQUE**.   * Which of your materials is opaque? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   An object that allows some light to pass through is called **TRANSLUCENT**.   * Which of your materials is translucent? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   An object that allows all light to pass through is called **TRANSPARENT**.   * Which of your materials is transparent? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Can you think of other materials that are opaque, translucent and transparent?

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| Opaque | Translucent | Transparent |

**The Ray Model of Light:**

* **Light is represented as a straight line, or ray that shows the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the light wave is travelling.**
* You can use this model to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Three** things can happen when light strikes a material!

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| **Light may be…** | **Material** | **Examples:** |
|  |  | 1.  2. |
|  |  | 1.  2. |
|  |  | 1.  2. |

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| **Shadows**  The ray model of light helps us **predict**:  1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ shadows will form.  2. How \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ they will be. |  |

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|  | * A ray diagram can be used to show how the ***size of shadows*** is related to the ***distance of the object from the light source***. * The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the object… * The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the shadow. |