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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.
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