

Name: \_\_\_\_\_

Date: \_\_\_\_\_

# Discovering the Layers of the Earth

1. Describe the Jell-O in front of you. Hypothesize what you think will happen when you shine the laser through the Jell-O:

**Description:**

Shape	Square, rectangular prism
Size	Small, can fit in the palm of my hand
Color	Orange
Smell	Like orange candy
Texture	Squishy, slimy, wet
Your choice	See-through

**Hypothesis:**

I think the laser will ... because ...

2. Place the laser on the table lined up with the thick line. Shine the laser through the Jell-O and look at the Jell-O from above. Write down your observations about what the laser does as it goes into the Jell-O, through it, and out of it.

The laser bent when it entered the Jell-O, then continued outside at the same angle as before it entered the Jell-O, but slightly shifted from the thick line.

3. Why do you think the laser behaves that way?

I think it bent because ...

4. Get one or two different minerals. What are they? Describe them:

Mineral Name	Biotite
Shape	Roughly oval
Size	Small, like the size of credit card
Color	Black
Smell	Nothing
Texture	Flaky
Your choice	It's kind of like a sunglass lens

Mineral Name	
Shape	
Size	
Color	
Smell	
Texture	
Your choice	

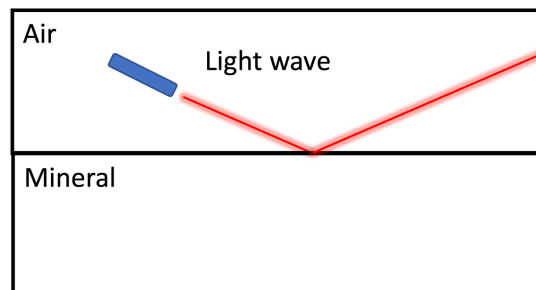
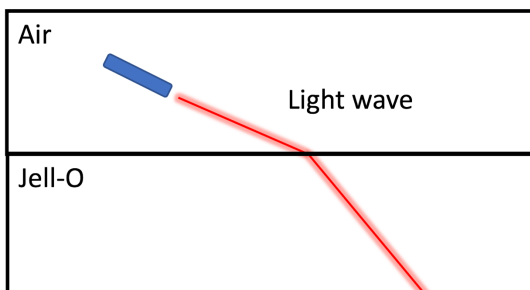
5. Shine the laser through the mineral(s) and write down your observations about what the laser does:

The did not shine through the biotite at all

6. How did the laser behave similarly and differently when shining through the different materials you had? Why do you think the behavior was similar and/or different?

The laser bent through the Jell-O but got absorbed by the biotite. I think this is because ...

7. We could say that the light from the laser slowed down as it entered the Jell-O. This looks like a bending, or "refracting" of the light. Some of the minerals may have scattered the light, or others may have completely absorbed it and didn't allow the light to bend or reflect.



Let's compare the light from the laser, which is a special type of wave, to a seismic wave. Seismic waves travel through the Earth, and behave similarly to light waves. If you were a seismologist and observed a seismic wave traveling in this pattern, would you draw any boundaries where the material changes? If so, where?

