Name: _____ Period: _____ Date: _____

Shadow Inquiry Lab

In this lab we will investigate how the difference in size and distance from a light source affect shadows cast by objects by using a point source of light projected on our classroom wall and using two objects to simulate our Earth and Moon.

1. Start 0.5 meters away from light source, measure and record the size of the shadow and qualitatively describe the shadow created by our Earth and Moon objects.
    a. Earth:

    b. Moon:

2. Repeat this process from 0.75 meters away from our light source.
    a. Earth:

    b. Moon:

3. Repeat this process from 1.0 meters away from our light source.
    a. Earth:

    b. Moon:

4. Using the information you've collected from questions 1-3, how does distance affect what the shadow looks like?

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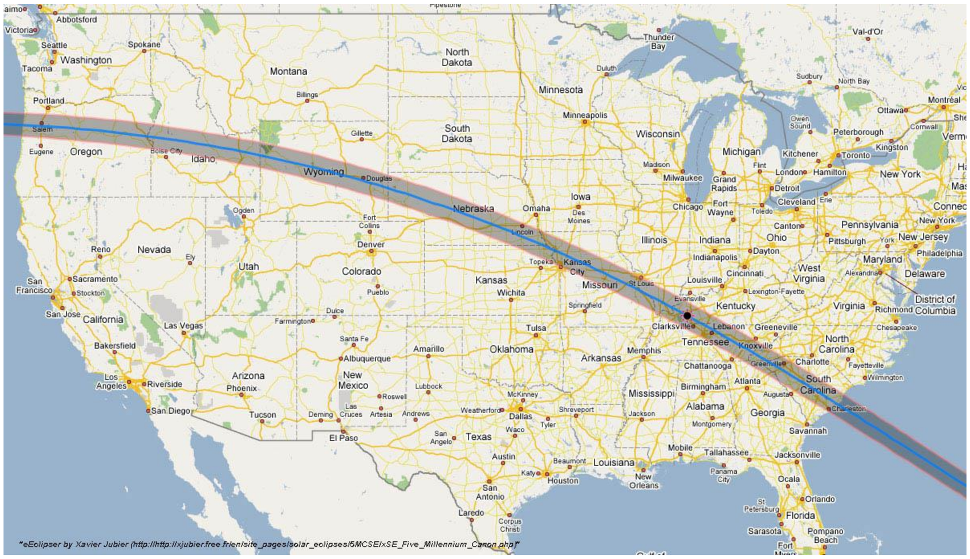
5. To simulate a solar eclipse, how must you align the objects? Write or draw what you observe when the objects are correctly aligned

2017 Solar Eclipse path of totality:



<u>Head Scratcher:</u> Everyday our sun travels across the sky rising in the East and setting in the West. Every night our Moon travels a similar path, also rising in the East and setting in the West. The apparent motion of both of these planetary bodies is due to the rotation of Earth which rotates East→West. However, during the total solar eclipse of 2017, the shadow of totality will travel across the continental US from Oregon to South Carolina in a West→East direction. How does this happen? Use the lab materials to help explore this idea.