

Name: _____ Date: _____

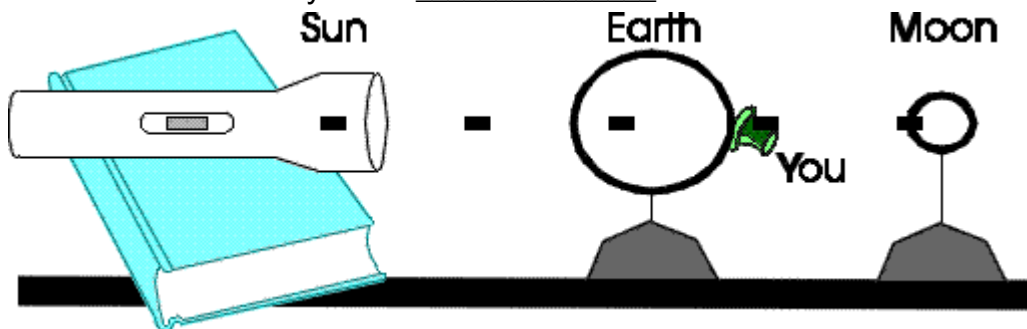
MOON SHADOWS

What You Need

1 flashlight	1 small ball
1 large ball	1 thick book
2 toothpicks	1 push pin
clay	

What You Do

1. The large ball will be the Earth, the small ball will be the Moon, and the flashlight will be the Sun. Remember, never look directly into the Sun! Stick a toothpick into the Earth and another into the Moon.
2. Put the other end of the toothpicks into two balls of clay. Flatten them so that the clay makes the Earth and the Moon stand up on their toothpicks.
3. The pushpin will be you. Stick yourself on the Earth somewhere near the equator.
4. Set the Sun up on top of a thick book or a few thin ones. The centre of the Sun must be the same height as the centre of the Earth and Moon.
5. Set up the Sun, Earth, and Moon in the order shown in the figure. Turn the Earth so you are on the side away from the Sun. Turn on the Sun. Is it day or night where the model of you is? _____



6. Now let the Earth rotate so that "you" are on the side by the Sun. Is it day or night for you? _____

7. Let the Earth rotate some more until you are half way between the Sun and the Moon. What time of day is it for you? _____

8. Now let's see how the Moon can change things. Turn the Earth so that it is daytime for you.

9. Start the Moon revolving around the earth slowly. Watch what happens to your daylight as the Moon comes between the Earth and the Sun. What did you see?

Think About It

In step 9, you created a solar eclipse. This can make it get dark in the middle of the day. What causes this darkness?
