

Name _____
Mrs. Krieger

Date _____

Lunar Lollipops

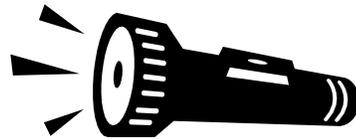
Introduction:

Every month, the Moon goes through a predictable cycle of changes in its shape which we call phases. Many people cannot accurately explain why the Moon's shape appears to change. Some people believe that Earth's shadow falls on the Moon and blocks our view of part of it, but this is incorrect.

The physical shape of the Moon never changes; it is always a sphere. What changes is the portion of the Moon that can be seen from Earth. Half the moon is always illuminated by the Sun. Sometimes, the entire illuminated part of the Moon can be seen from Earth; this called a full Moon. Other times, none of the illuminated part can be seen – a new Moon. These changes are the result of the Moon orbiting the Earth. In the following activity, you will observe how the Moon's orbit causes the Moon phases.

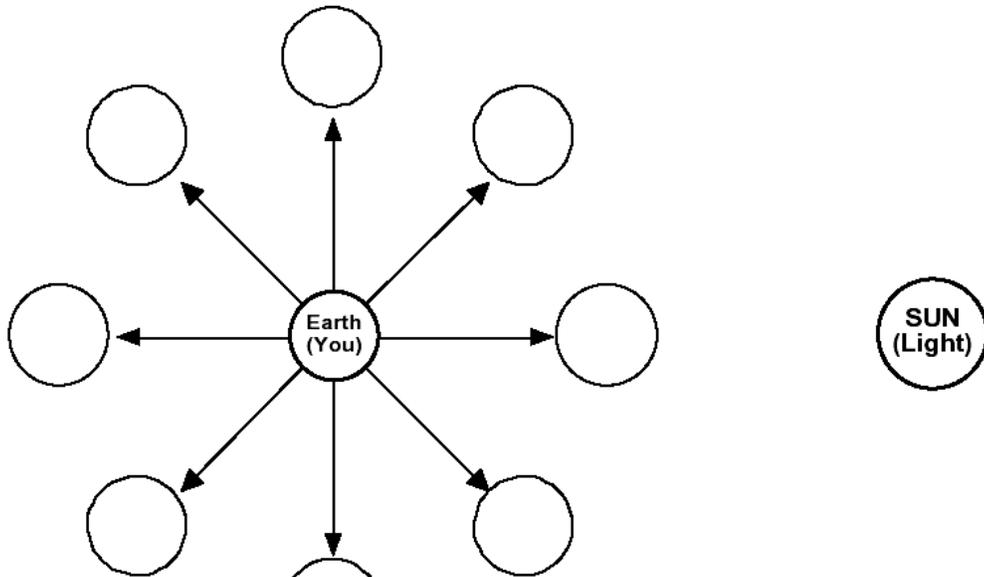
Materials:

Moon Pop
Flashlight



Procedure:

1. Hold the Moon Pop at arm's length, in front of and slightly above your head.
2. Have your partner shine the flashlight on the Moon Pop so that it lies between you and the light.
3. The Pop should be about 1 to 1.5 m away from the light.
4. Observe and shade the circle on the diagram to match the amount of light seen on the Moon Pop.
5. Turn to the left for each position and complete the diagram.



Questions:

1. How much of the lighted part of the Moon Pop did you see when facing the lamp? _____
2. Label your diagram with the name of the phases of the moon.
3. What does it mean when someone says the moon is "waxing" or "waning"? _____

4. Was the darkness of the new moon caused by an eclipse? Explain your answer. _____

5. A solar eclipse occurs when a new moon comes between the sun and the Earth. Draw and label a diagram to show the positions of the sun, moon and Earth during a solar eclipse.
6. A lunar eclipse occurs when the Earth comes between the sun and a full moon. Draw and label a diagram to show the positions of the sun, moon and Earth during a lunar eclipse.

