

A "Moonth" of Phases

In this lab you will use a model of the earth-moon-sun system to explore how the phases of the moon occur.

"Houston, we have a problem....."

Your problem: What causes the phases of the moon?

Procedure:

1. Using the supplies provided, your group must create an experiment explaining how the phases of the moon occur.
2. Use the 8 circles provided on the back of this page to help you model the phases. (what part of the moon is shaded in your experiment)?
3. You will need to decide what can represent the sun, the moon, and the earth.
4. Only one Styrofoam ball per group!

Questions to ponder:

1. In your model what represents the Earth? The Sun? The Moon?
2. What is the order of the phases of the moon?
3. What does a full moon look like? A new moon? A waxing crescent? A waning crescent? A waxing gibbous? A waning gibbous? A first quarter? A third quarter?
4. How is it possible to only sometimes see little or no lighted moon when the same side is always facing us?
5. Whether you could see it or not, how much of the ball's surface was always lit by the lamp?
6. How much of the lighted part of the ball did you see after each turn?
7. How did making a model help you understand the phases of the moon? What are some disadvantages of using models? What is another way to make a model to represent the moon's phases?