

WHAT CAUSES THE PHASES OF THE MOON?

A. Question: *What causes the phases of the moon?*

B. Materials Needed:

1. A large show box, carton paper or other black paper.
2. A Styrofoam ball (about 5 cm in diameter).
3. A small strong flashlight, masking tape, black thread.

C: Procedure:

1. Cover the inside of the shoe box with black paper by gluing or placing small rolls of masking tape between the paper and the box.
2. Suspend the Styrofoam ball from a black thread of about 2 cm long, and tape the thread against the center of the lid.
3. Cut a hole the size of the flashlight at the end of the box and seal any space around it with masking tape.
4. Make five holes in the sides of the box: two on each long side and one at the end of the box obliquely under the flashlight.
5. Put the lid with the suspended ball on the box and seal the edges around it with masking tape.
6. Look through the eye holes and observe the ball (with the flashlight on) in the order numbered in the sketch.

D: Anticipated Results:

Students should observe the phases of the moon.

E: Thought Questions for Class Discussion:

1. What do you see when you look through the eye holes?
2. Turn the flashlight off; what do you see through the eye holes?
3. Looking through which of the holes gives you a similar picture as looking at the new moon?
4. What is it that causes the phases of the moon?

F: Explanation:

Perhaps the best way to explain seeing the eight different phases of the moon is the illustration below. A quarter new moon would correspond with looking through hole 1, half moon and three quarter moon with looking through hole 2, full moon with looking through hole 3, etc.

