

Phases of the Moon: A 29-Day Cycle

Name: _____

Aim: To use a simple model of the Sun-Earth-Moon system to observe the different phases of the moon.

Equipment: 50 Watt spotlight (the Sun), white Styrofoam ball (the moon), a dark room (space), camera on laptop (the Earth)

Method:

Set up the spotlight in a darkened room at approximately head height.

Stand about 5 metres away from the spotlight and hold up the “moon” in the positions shown in the diagram below. Take a photo of the “moon” from the “Earth” in each position. There will be 8 photos all together.

Upload the photos into your Google Drive folder, paste them into this document, and then crop them.

Label the phase. (Double clicking the numbers will open a “Drawing” window which you can type into.)

The diagram illustrates the Moon's phases as seen from Earth. At the center is a small globe labeled "Earth (camera on laptop)". Surrounding it is a circular path with eight positions marked by half-black/half-white circles. To the right of the path is a grey trapezoid labeled "Sun". Eight empty rectangular boxes are arranged around the path for labeling the phases. The boxes are numbered 1 through 8. Box 2 is labeled "2. waxing crescent". Below the diagram are two example photos. The first photo, labeled "6.", shows a person holding a white ball in a dark room with a spotlight. The second photo, labeled "7.", shows a person holding a white ball in a dark room with a spotlight.

4. _____

3. _____

2. waxing crescent

1. _____

8. _____

7. _____

6. _____

5. _____

Position 6
(as an example)

Position 7
(as an example)