

## Station Card 3

### Station Card 3: Shapes of the Moon

You have likely studied the different shapes of the moon you have viewed at night. But what is the reason behind these supposed changes in shape? Replicate the picture below to investigate why.



The following are the parts of your model:

- One group member: Earth
- Styrofoam Ball (on a toothpick, so you can hold it): Moon
- Lamp: Sun

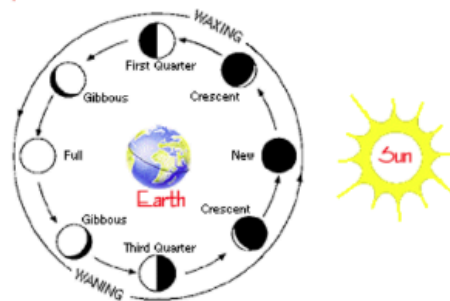
#### Instructions

1. Have the group member (Earth) turn slowly around in a circle, holding the “moon” out directly in front of them. Then answer the discussion questions below.

#### Discussion Questions

1. No matter where the moon is in its orbit around the Earth, how much is lit up?
  - a. Where does the light source come from?
2. When the moon is between the Earth and the sun, what do you observe from Earth's perspective?
  - a. What type of moon do you think this is (Full moon, Crescent Moon, Quarter Moon, New Moon)?
3. When the Earth is between the moon and the sun, what do you observe from Earth's perspective?
  - a. What type of moon do you think this is (Full moon, Crescent Moon, Quarter Moon, New Moon)?
4. Does the shape of the moon actually change? If not, what is actually happening?

*The Moon as seen from Earth*



Sources:

<https://youtu.be/wz01pTvuMa0>