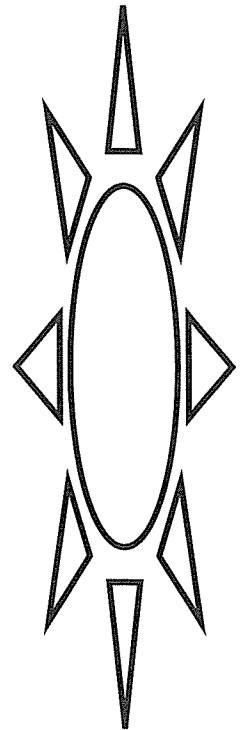
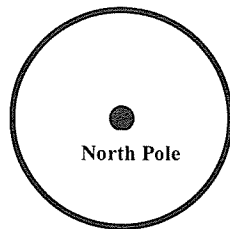


Crescent to New: What causes the phases of the Moon?

For thousands of years, people have been gazing at the night sky. Most people throughout history mistakenly believed that the phases of the Moon were caused by the Earth's shadow, but that is an eclipse and happens much more rarely. The phase of the Moon changes a little every day.

Directions: Create a model of the Earth, Moon and Sun system and observe the phases of the Moon. Use a light to represent the Sun and you will be the Earth. The Moon can be any round object that you can hold at arms length. Change the Moon's position in its orbit around the Earth (you) and draw each of eight phases.

Draw what you see "lit up" (phase) by the Sun at each position.



Questions:

1) From Earth's perspective, describe what happens from position #1 to #8.

2) Regardless of which Moon phase, how much of the Moon is illuminated (lit up) by the Sun?

3) From this exercise, what do you think causes the phases of the Moon?

4) Shade in half of the Earth that is in darkness and use the drawing to consider why you can see some phases of the Moon during the daytime. (Remember, the Earth is rotating)