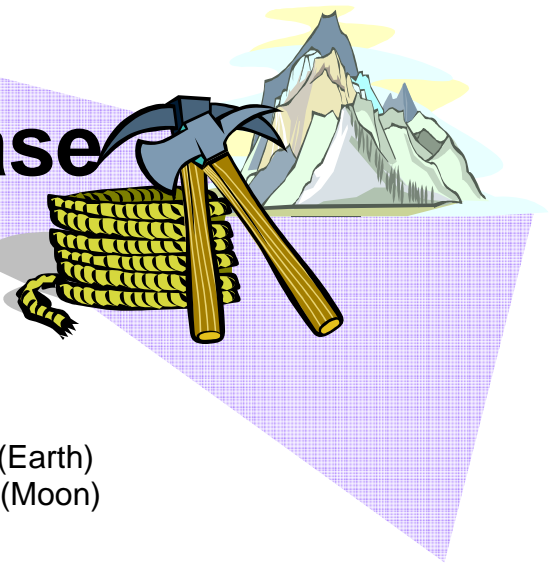


ES – Activity #13

It's Just A Phase



QUESTION: What is the position of the Sun, Earth and Moon for there to be a lunar eclipse, a solar eclipse, or any of the Moon's 8 phases?

MATERIALS:

flashlight

moon phase cards

moon phase illustration

styrofoam ball - large (Earth)

styrofoam ball - small (Moon)

wood skewer

PROCEDURE:

1. Using the flashlight as the Sun, move the Moon around the Earth to show its position in order for there to be a lunar eclipse. Record the position of the Sun, Moon and Earth in the Data Table 1.
2. Using the flashlight as the Sun, move the Moon around the Earth to show its position in order for there to be a solar eclipse. Record the position of the Sun, Moon and Earth in the Data Table 1.
3. Carefully study the moon phase illustration provided.
4. Study the 8 Moon phase cards and put them in the correct order starting with the new Moon and finishing with the waning crescent.
5. Using the flashlight as the Sun, move the Moon around the Earth to show its position in order to see the following.
new Moon waning gibbous
full Moon waxing gibbous
1st quarter waning crescent
3rd quarter waxing crescent
6. Draw a simple sketch to show the position of the Sun, Moon and Earth for each phase and identify which, if any type of eclipse could occur during each phase.

DATA: See next page

QUESTIONS:

1. During which phase is it possible for there to be an eclipse?
2. How does changing the distance between the Earth and the Moon affect the size of the eclipse that might occur?
3. Why doesn't a lunar or solar eclipse occur every month?
4. Why is it that only a few people ever see a solar eclipse?
5. Why would it be better to call the Full Moon a Half Moon?

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DATA:

Data Table 1

Lunar Eclipse	
Solar Eclipse	

Data Table 2

MOON PHASE	SKETCH	ECLIPSE (lunar, solar, none)
New Moon		
Waxing crescent		
1st Quarter		
Waxing gibbous		
Full Moon		
Waning gibbous		
3rd Quarter		
Waning crescent		

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