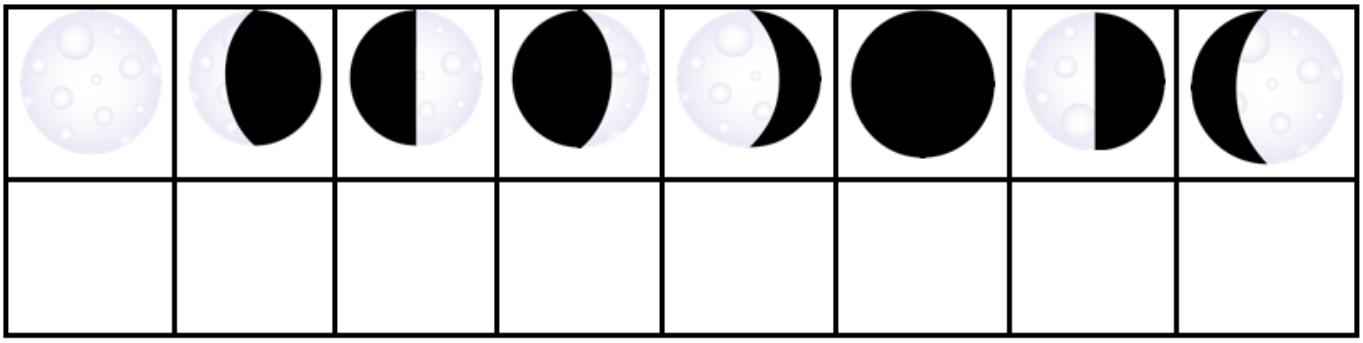
Name:

MOON POPS!

AIM: How does the revolution of the moon around the Earth produce different phases as seen by an observer on Earth?

Do Now: On the table below, name the phases of the Moon from the following choices**:**

New Moon; Full Moon; Waxing Crescent; Waning Crescent; Waxing Gibbous; Waning Gibbous; Waxing 1st Quarter; Waning 3rd Quarter.



Part A: Background information on the Moon

1. Watch the video on the moon's formation and provide a synopsis of what occurred in your own words

_____
_____
_____
_____

Part B: Observe the different phases of the Moon as seen from Earth. (groups of 2)

Procedure: Read this procedure and then check the box stating "I have read and understand the procedure" located below the directions. Please don't hesitate to ask questions before checking the box!

1. Partner #1 will hold the moon while Partner #2 will represent an observer on Earth's surface.

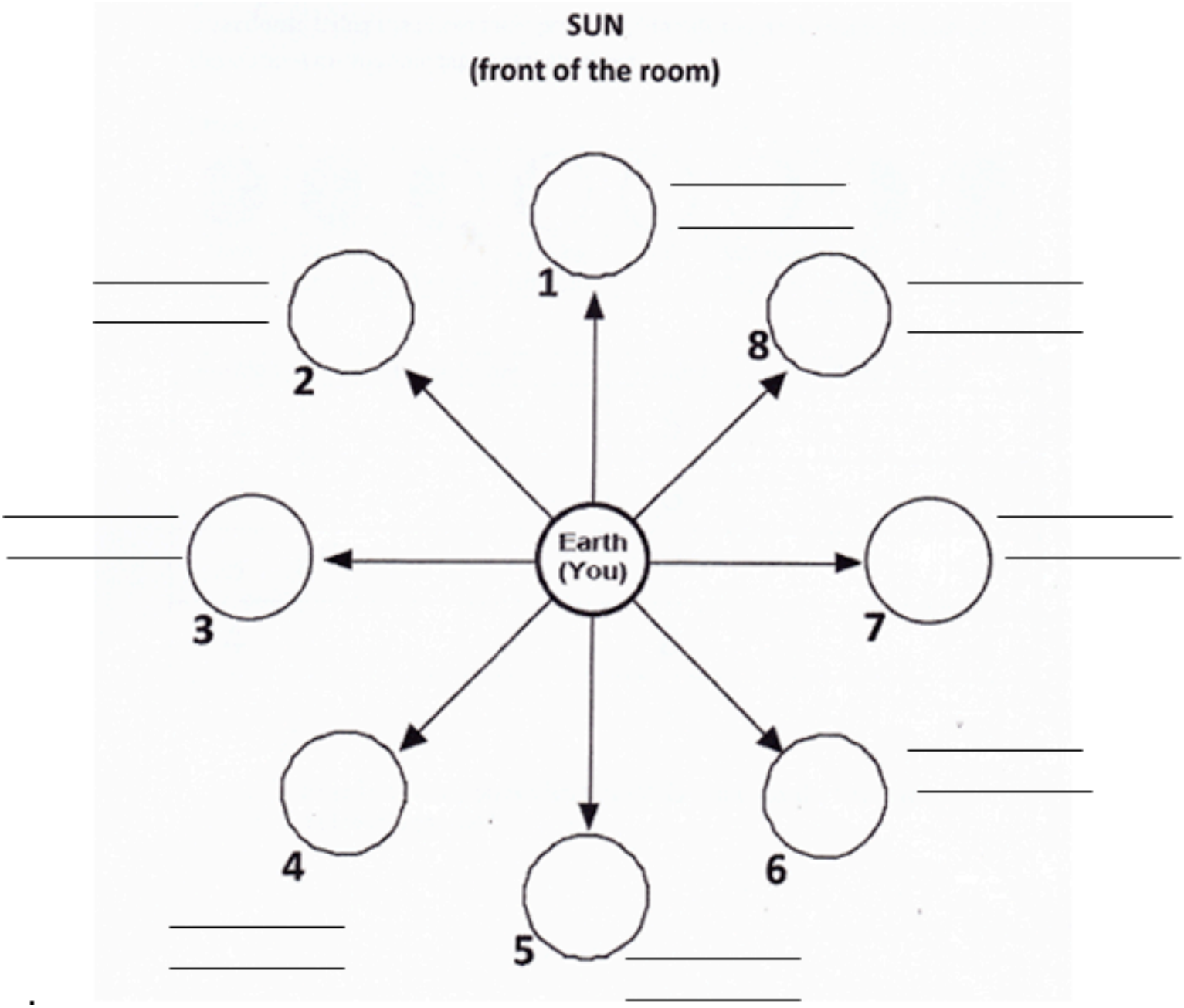
2. The student holding the moon must keep the light side facing towards the sun (located on projector)

3. Keeping the moon oriented with the light side **always** facing the sun, Partner #1 will travel from positions 1-8. Partner #2 will use the diagram on the following page and shade in the correlating circle with what they see at each position. You are shading the DARK parts of the Moon with a PENCIL

4. When Partner #1 completes his/her revolution around the Earth, switch roles so Partner #2 is the moon

5. Using your answers from the Do Now, identify the phase names of the positions you shaded in on the moon phase diagram.

☐ **I have read and understand the procedure**



Part C: Analysis and Critical Thinking

1. What is the source of light for the moon? _____

2. How much of the moon is illuminated at all times? _____ %

3. Why don't we see this percentage of the moon lit up at all times from Earth?

_____
_____
_____
_____

4. How long does this moon phase cycle (aka revolution) take. Check ESRT _____ days

5. Using the information provided on ESRT 15, how does the moons period of revolution compare to its period of rotation?

_____
_____

6. What does this mean in terms of what side of the moon we see from Earth?

_____
_____
_____
_____
_____
_____

7. Compare your answer in Analysis Question #4 with the fact that it takes a person on Earth 29 days to observe one full moon cycle. How can you account for this difference between actual and observed time? Hint: You should look at how Earth revolves around the sun while the moon is revolving around the Earth.

**Please use the box below as your work space for trying to tackle this problem. Use charts, diagrams, doodles, and/ or written thoughts and do not be afraid to make a mistake. We want to see your process!!!