

Name: _____

Period: _____

LAB# _____

Observing Moon Phases

Introduction: Like the Earth, the Moon is always half illuminated by the Sun, but as the Moon orbits the Earth we get to see more or less of the illuminated half. During each lunar orbit (a lunar month) the appearance of the Moon gradually changes. Although this cycle is a continuous process there are eight recognized stages called phases. The phases designate both the degree to which the Moon is illuminated and the geometric appearance of the illuminated part.

Problem: How does the moon change shape over the course of a month?

Procedure:

1. You will observe the moon every 3 - 4 days over the course of a month. You will record the moon's shape and the date and time of the observation in the area provided below. Darken the part of the circle that you cannot see and make sure to correctly indicate the side of the circle that is lit.
2. After you have made all the drawings, write in the name of the phase corresponding to your drawing. Make sure to indicate if it is waxing or waning.

Results (data table):

| | | |
|---|---|---|
| Night 1 Date: _____ Sunrise: _____ Moon Rise: _____ Sunset: _____ Set: _____ Moon Phase: _____ | Night 2 Date: _____ Sunrise: _____ Moon Rise: _____ Sunset: _____ Set: _____ Moon Phase: _____ | Night 3 Date: _____ Sunrise: _____ Moon Rise: _____ Sunset: _____ Set: _____ Moon Phase: _____ |
| Night 4 Date: _____ Sunrise: _____ Moon Rise: _____ Sunset: _____ Set: _____ Moon Phase: _____ | Night 5 Date: _____ Sunrise: _____ Moon Rise: _____ Sunset: _____ Set: _____ Moon Phase: _____ | Night 6 Date: _____ Sunrise: _____ Moon Rise: _____ Sunset: _____ Set: _____ Moon Phase: _____ |
| Night 7 Date: _____ Sunrise: _____ Moon Rise: _____ Sunset: _____ Set: _____ Moon Phase: _____ | Night 8 Date: _____ Sunrise: _____ Moon Rise: _____ Sunset: _____ Set: _____ Moon Phase: _____ | Night 9 Date: _____ Sunrise: _____ Moon Rise: _____ Sunset: _____ Set: _____ Moon Phase: _____ |

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Conclusion Questions:

1. During your observations did the visible part of the moon appear to change its shape?

2. Was there any order or pattern to the way its shape changed? If so, what was this pattern? (You can draw the entire sequence if you prefer.)

3. What is the phase of the moon when it looks banana shaped?

4. What is the difference between waxing and waning?

5. What is the phase of the moon when it looks like a half circle?

6. What is the phase of the moon when it looks like a 3/4 circle?

7. What causes the phases of the moon?

- 8. Summarize the key concepts in this lab in one paragraph or less.**