READ NOW!

LEARNING ABOUT... MOON PHASES WITH OREOS

LAB Activity B

OPTICS CENTRAL

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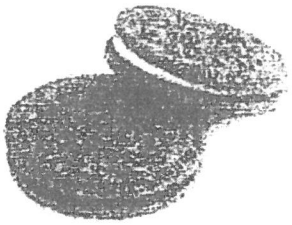
"Don't worry, it's just a phase."

Moon Phases: Oreo Lab B



Procedure:

1. Each pair of students will receive only **8** Oreo cookies.
2. Separate your cookies carefully, so that ½ of the cookie has **ALL** of the frosting and the other ½ of the cookie has **NO** frosting.
3. Use your plastic butter knife to scrape off the frosting from the first cookie, making a shape of the waxing crescent.
4. You will continue using the butter knife to scrape off the frosting for each of the moon phases. (How will you represent new moon?)
5. Place the cookies in order on a paper plate and label them correctly. by placing the correct on the line

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Questions: Please use complete sentences and restate once you have completed the lab.

HINT: Frosting represents the moon light side

Conclusion:

1. **Describe the process that causes the moon to appear as these different phases.**
   a. **Different phases are caused by the angle and orbit of the moon**
   b. **Different phases are caused by the rotation and orbit of the earth**
   c. **Different phases are caused by the angle and orbit of the Sun**
   d. **Different phases are caused by the rotation and tilt of the moon**

2. **How long is one cycle of phases?**
   a. **24 hours**
   b. **27.3 days**
   c. **29.5 days**
   d. **365.24 days**

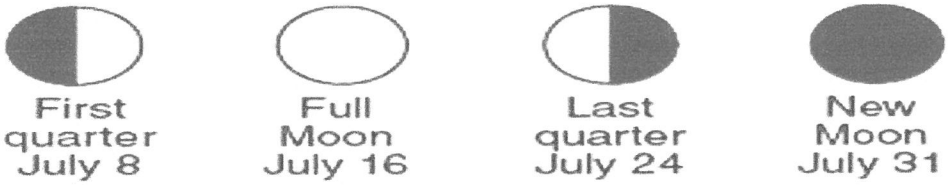
3. **What is the average time (in days) between phases?**
   a. **1-2 days**
   b. **3-4 days**
   c. **7 days (1 week)**
   d. **365 days**

4. **Why does the same side of the moon always face Earth?**
   a. **Because the moon is tidally locked**

5. **Which statement best explains why the Sun and the Moon appear to be about the same size in the sky?**
   a. **The Sun and the Moon have the same diameter**
   b. **The Moon is larger in diameter and farther from Earth than the Sun.**
   c. **The Moon is smaller in diameter and is closer to Earth than the Sun.**
   d. **The Sun and the Moon are the same distance from Earth.**

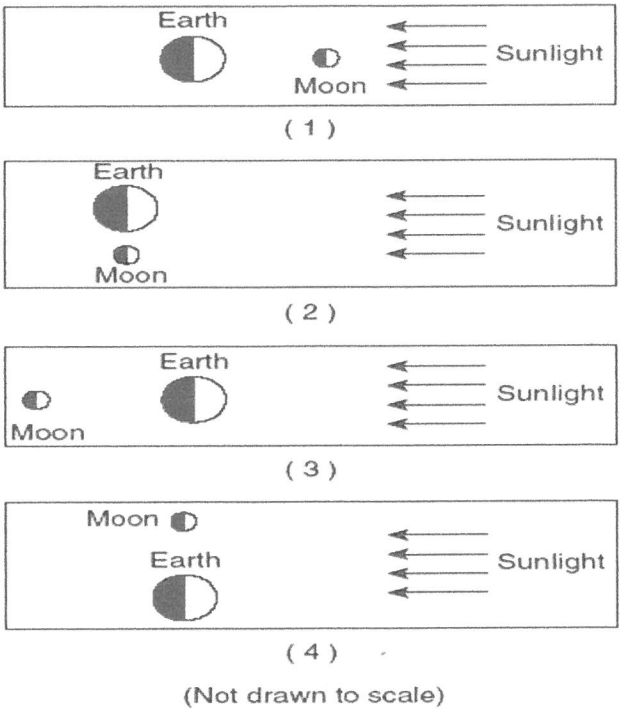
The diagram below shows four Moon phases observed during July.

6. **On which date would the next New Moon occur?**
   a. **August 5**
   b. **August 10**
   c. **August 19**
   d. **August 29**



7. **Which diagram, to the right, correctly shows the position of the Moon with respect to Earth during a lunar eclipse?**
   a. **1**
   b. **2**
   c. **3**
   d. **4**

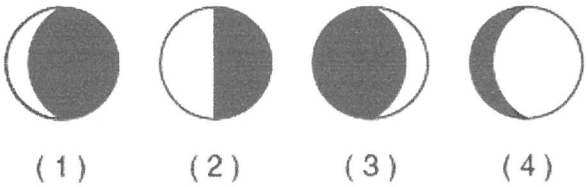
8. **Which diagram, to the right, correctly shows the position of the Moon with respect to Earth during a solar eclipse?**
   a. **1**
   b. **2**
   c. **3**
   d. **4**



(Not drawn to scale)

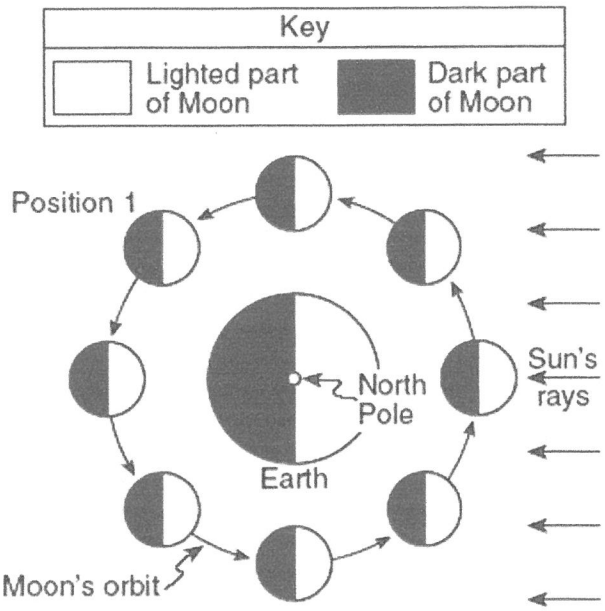
The diagram below represents the Moon in its orbit, as viewed from above Earth's North Pole. Position 1 represents a specific location of the Moon in its orbit.

9. **Which phase of the Moon will be seen from Earth when the Moon is at position 1?**



   a. **1**
   b. **2**
   c. **3**
   d. **4**

10. **What is the name of the phase of the Moon will be seen from Earth at position 1?**
    a. **Waning crescent**
    b. **Last Quarter**
    c. **Waxing crescent**
    d. **Waxing gibbous**



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Lab B

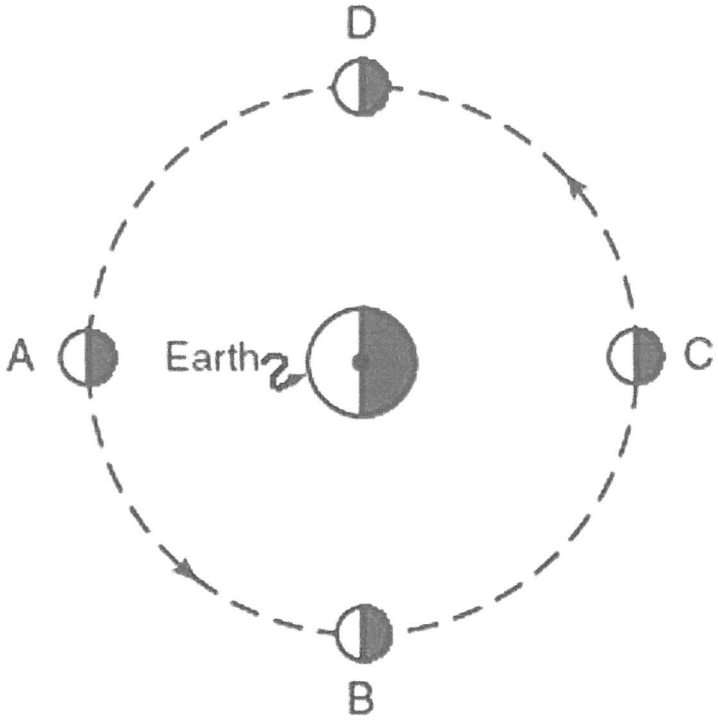
Base your answers to the following 5 question on the diagram to the below. The diagram shows the position of Earth and four positions of the Moon during one orbit of Earth.

11) What motion is represented by the arrows in the diagram?
- **A) Revolution**
- **B) Rotation**
- **C) Circular**
- **D) Counterclockwise**

12) Approximately how long does it take to cycle from one new Moon to the next new Moon?
- **A) a day**
- **B) a week**
- **C) a month**
- **D) a year**

13) Which letter in the diagram shows the position of the Moon when an observer on Earth sees a full Moon?
- **A) A**
- **B) B**
- **C) C**
- **D) D**

14) Which letter in the diagram shows the position of the Moon when an observer on Earth sees a New Moon?
- **A) A**
- **B) B**
- **C) C**
- **D) D**



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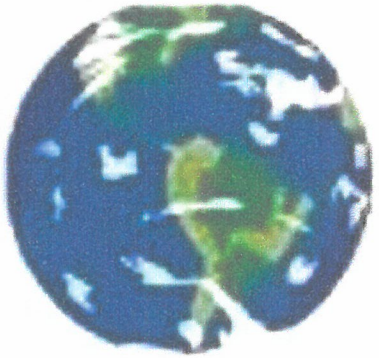
15) Which letter in the diagram shows the position of the Moon when an observer on Earth sees a Last quarter Moon?
- **A) A**
- **B) B**
- **C) C**
- **D) D**

Lab B

Moon Phases Data Sheet

LAB Activity B

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