



Name: \_\_\_\_\_ #: \_\_\_\_\_

Date: \_\_\_\_\_

Section: \_\_\_\_\_ HR: \_\_\_\_\_

## Chapter 1 Section 2: Phases of the Moon - Two Column Notes

### Motions of the Moon

How long does the moon take to revolve around Earth?

How long does the moon take to rotate on its axis?

Why is a day on the moon the same length as a year on the moon?

Explain the terms "near side" and "far side" of the moon.

- 27.3 days
- 27.3 days
- Since the moon takes 27.3 days to revolve around Earth and 27.3 days to rotate on its axis, the day is the same length as the year
  - Rotation : day :: revolution : year
- Since the moon rotates and revolves at the same rate, the same half of the moon is always facing the earth.
  - See Figure 5

### Phases of the Moon

How does the moon get its light?

phases -

How long does the moon take to complete all of its phases?

- The moon does not produce its own light.
- The moon reflects light from the sun.
- The sun is the only object in our solar system that produces light.
- The different shapes of the moon you see from Earth.
  - Circular
  - Half
  - Sliver or crescent
  - No moon
- About once a "moonth" (month)

### What Causes Phases?

What causes the phases of the moon?

- Phases are caused by changes in the relative positions of the moon, Earth, and the sun.
- Half the moon is always in direct sunlight.
- As the moon revolves around Earth, we see the moon from different angles.
- The half of the moon that faces Earth is not always the half that is sunlit.
- **The phases of the moon we see depends on how much of the sunlit side of the moon faces Earth.**

### The Cycle of the Phases

Describe what happens to the relative position of the moon, Earth, and sun from the new to full moon phase.

If the moon takes 27.3 days to revolve around Earth, why does it take 29.5 days for the moon to complete its phases?

- During the new moon the half of the moon that faces Earth is not the half reflecting sunlight.
- As the moon revolves around Earth, we see more and more of the lighted side of the moon.
- When the half of the moon that faces Earth is completely reflecting sunlight, we experience a full moon.
- The moon takes 27.3 days to get back to the same position it was previously
- As the moon is revolving around Earth, the earth is also revolving around the sun.
  - Because of this, Earth is not in the same position as it was 27.3 days ago.
  - Therefore, the moon needs an extra 2.2 (earth) days to get back to the same relative position with Earth and the sun.