

# It's Just a Phase!

## How does the appearance of the moon change?

From Earth, the moon's appearance changes. As the moon revolves around Earth, the portion of the moon that reflects sunlight back to Earth changes, causing the moon's appearance to change. These changes are called **lunar phases**.

### Active Reading

8 Describe Why does the moon's appearance change?

## Lunar Phases Cycle Monthly

The cycle begins with a new moon. At this time, Earth, the moon, and the sun are lined up, such that the near side of the moon is unlit. And so there appears to be no moon in the sky.

As the moon moves along its orbit, you begin to see the sunlight on the near side as a thin crescent shape. The crescent becomes thicker as the moon waxes, or grows. When half of the near side of the moon is in the sunlight, the moon has completed one-quarter of its cycle. This phase is called the *first quarter*.

More of the moon is visible during the second week, or the *gibbous* (GIB-uhs) phase. This is when the near side is more than half lit but not fully lit. When the moon is halfway through its cycle, the whole near side of the moon is in sunlight, and we see a full moon.

During the third week, the amount of the moon's near side in the sunlight decreases and it seems to shrink, or wane. When the near side is again only half in sunlight, the moon is three-quarters of the way through its cycle. The phase is called the *third quarter*.

In the fourth week, the area of the near side of the moon in sunlight continues to shrink. The moon is seen as waning crescent shapes. Finally, the near side of the moon is unlit—*new moon*.

## Views of the moon from Earth's northern hemisphere

The waxing moon appears to grow each day. This is because the sunlit area that we can see from Earth is getting larger each day.



Waxing gibbous



First quarter



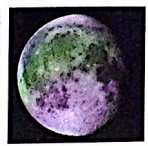
Waxing crescent



New moon



Full moon



Waning gibbous



Third quarter



Waning crescent

### Think Outside the Book

9 Apply Look at the night sky and keep a moon journal for a series of nights. What phase is the moon in now?

### Visualize It!

10 Analyze What shape does the moon appear to be when it is closer to the sun than Earth is?

Drawing not to scale.