

The phases of the moon

By NASA.gov, adapted by Newsela staff on 03.23.17

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Level **700L**



TOP: The phases of the moon are shown in the night sky. The phases change over the course of the lunar month. Photo from: Spirit-Fire/Flickr. BELOW: Phases of the moon, as seen from the solar system and from Earth. Images by: Newsela Staff.

Question: What are the phases of the moon?

Answer: On different nights, the moon appears differently in the sky. Some nights, it looks like a bright, skinny sliver. On other nights, it looks like a half circle or a full circle. These changing shapes are known as the phases of the moon.

Catching The Sun

It takes the moon about 29 days to go through all of its phases. This period of time is known as the lunar month. It always begins with a new moon.

The moon does not produce light. We only see the moon because it reflects sunlight back to us from its surface. Like Earth, half of the moon is lit by the sun while the other half is dark. The half of the moon facing the sun is always lit. However, the lit side does not always face the Earth. As the moon circles the Earth, the amount of the lit side we see changes. That results in the different phases of the moon that we see from Earth.

New Month, New Beginning

At the beginning of the lunar month, the moon is lined up between the Earth and the sun. We see the side of the moon that is not being lit by the sun. In other words, we see no moon at all. This is called the new moon.

As the nights go by, the moon moves away from the sun in the sky. We see a bit more of the sunlit side of the moon each night. A few days after the new moon, we see a thin sliver of moon in the sky. This curved sliver is called a crescent. With each passing night, the crescent moon appears to grow larger. This is called waxing. Eventually, half of the moon is lit up. This phase is called the first quarter moon.

The moon continues to wax. When the moon is more than half full it is referred to as gibbous. The gibbous moon appears to grow larger each night. Eventually, we see the full sunlit face of the moon, called the full moon. The full moon marks the half-way point of the lunar month.

Now the moon starts to wane, or grow thinner each night. Soon it is once again only half lit up. This looks just like the first quarter moon, except that the dark and light sides are reversed. This phase is called the third quarter moon.

As the moon completes its journey, it becomes a waning crescent. Then the moon becomes a new moon, and the next lunar month begins.

Hold The Moon In Your Hands

You can use a lamp and a baseball to recreate the phases of the moon in an ordinary room. Place the lamp with its shade removed in one end of a dark room. Sit at the other end of the room and hold the baseball up in front of you. Keep it between your face and the lamp. Now slowly move the ball around your head at arm's length. As the baseball circles your head, you will see it go through the same phases as the moon.

Moonlight Lead The Way

About 250 years ago, a group of people started a club called the Lunar Society. The members called themselves "lunatics." They held their meetings on evenings when there was a full moon. This was so that they would be able to find their way home after dark. In the days before electricity, there were no street lights. People could not simply switch on a light bulb to light their home. So they needed the light of the moon to make their way in the dark.

