



# Why the Moon Changes Shape Every Night

KS2 SCIENCE

KS3 SCIENCE

Ages 9-14 ⌚ 3 min read

## The Moon's Changing Faces

Have you noticed that the **Moon** doesn't always look the same? Sometimes it's a perfect circle, sometimes it's just a thin crescent, and sometimes you can't see it at all. This happens because of how the **Sun** shines on it as the Moon travels around **Earth**. The Moon doesn't make its own light—it only shines because sunlight bounces off it.

## How the Moon Orbits Earth

The **Moon** takes about **29 days** to circle all the way around **Earth**. As it moves, the angle between the **Sun**, the **Moon**, and **Earth** keeps changing. This means different amounts of the Moon's lit-up side face towards us.

Think of it like a ball rolling around a lamp. As the ball moves, sometimes the light hits the side facing you, so you see it brightly. Sometimes the light hits the back, so you see a dark shadow. Sometimes you see part light and part dark.

## The Eight Phases of the Moon

Scientists call these different shapes the **Moon's phases**. There are **eight main phases**. When the Moon is between the Sun and Earth, we can't see it at all—this is called **New Moon**. About a week later, we see a **First Quarter**, which looks like half a circle. After another week, the whole face is lit up—the **Full Moon**. Then it shrinks back down again through the **Last Quarter** before returning to **New Moon**.

## Why This Matters

Understanding **Moon phases** helps us predict when the Moon will be visible and how bright it will be. Ancient people used the Moon's phases to keep track of time before clocks were invented. The **Moon phases** also affect **ocean tides**, which is why fishermen and sailors have long paid attention to them.

Think of it like a light bulb in a rotating room. As the room spins, you see different amounts of the bulb's glow depending on where you're standing.

