

## Moon Phases

The moon is a fascinating part of our world. Did you know that its only light comes from the sun? That's right, the moon does not shine on its own. Rather, it reflects the sunlight hitting it. Even when the moon is visible during the daylight hours, we can only see it because it is mirroring the sun's light.

According to NASA (National Aeronautics and Space Administration), the moon was formed about 4.5 billion years ago, when a planet about the size of Mars collided with Earth. The debris from the collision was thrown into our atmosphere. It became bound by gravity and originally spun much faster than it does now. Because the moon is not a perfect circle but bulges slightly at its equator (center), it eventually slowed down and became locked with Earth's tides, making it keep the same face turned towards our planet at all times. That's why we have what is called 'the dark side of the moon.' The dark side is the side we can never see from Earth.

Earth would be a very different place without the moon. The moon has been gradually slowing down Earth's rotation since it was formed, but it will take millions of years for it to really affect the way creatures on Earth live. There are several ways, however, that the moon affects us daily.

The moon's gravity pulls at the Earth's oceans, causing the oceans to swell and distort. We call this push and pull **tides**. The side of Earth closest to the moon has the greatest gravitational pull. When we think of the ocean moving in and out, away from the shore, it actually is really swelling and reducing as the moon pulls at it.

Without the moon, there would be no eclipses. Eclipses happen when the Earth moves between the moon and the sun or the moon moves between the sun and the Earth. Since we experience eclipses 2 to 3 times a year, being moonless would make a significant difference in our lives.

The moon has a huge impact on how dark our nights are. If you follow the phases of the moon, you can see that nighttime is much brighter during a full moon than a new moon. If there were no moon, our nights would be very dark indeed.

Without the moon our days would only last about 6 to 8 hours. Even if half that time was daylight, it wouldn't give you much time to accomplish anything, would it?

The moon keeps the Earth from tilting on its axis. You may already know that Earth rotates on its axis—at about a 23.5 degree tilt. The moon stabilizes Earth's axis so it doesn't change too much. If it did change, we could end up having no seasons at all.

We see the moon from Earth in **phases**. That is because the moon revolves (or travels) around the Earth the way we revolve around the sun. When you go out at night and look up at the moon, the part that is lit up is actually pointing toward the sun. So even at night you can tell which direction the sun is. As we now know, the moon lights up because it is reflecting the light of the sun. The part that lights up depends on the moon's position in relation to the sun and the earth.

The moon's cycle begins with the new moon. It goes through eight phases every 29.5 days. The phases are named after the amount we can see lit up. When the moon goes from new to full, we call it a **waxing moon**, meaning its light is growing bigger across the surface. When the moon cycles from full back down to new, we call it the **waning moon**, meaning its light is growing smaller.

The phases of the moon go like this:



Image by Woodlands Junior School

Different peoples have given the moon names throughout history based on the month or season in which the moon occurs. The Native American tribes give the moon names as follows:

**January - Moon of Popping Trees (Northern Cheyenne)**

**February - Baby Bear Moon (Potawatomi)**

**March - Maple Sugar Moon (Anishinabe)**

**April - Frog Moon (Cree)**

**May - Budding Moon (Huron)**

**June - Strawberry Moon (Seneca)**

**July - Moon When Acorns Appear (Pomo)**

**August - Moon of Wild Rice (Menominee)**

**September - Moose-Calling Moon (Micmac)**

**October - Moon of Falling Leaves (Cherokee)**

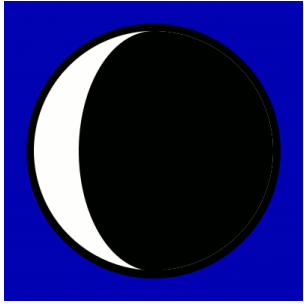
**November - Moon When Deer Drop Their Horns (Winnebago)**

**December - Moon When Wolves Run Together (Lakota Sioux)**

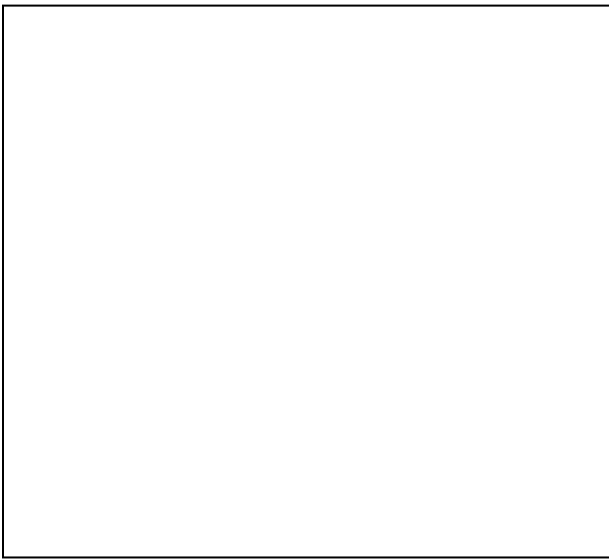
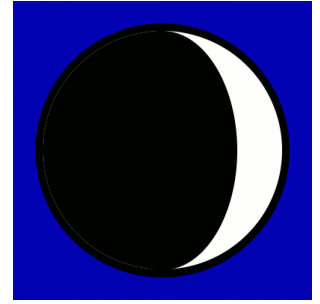
**Blue (extra) Moon - Big Moon (Abenaki)**

You can read more about these names in **Thirteen Moons on Turtle's Back** by Joseph Bruchac and Jonathan London.

There are other names for each month's moons from many different cultures. See if you can learn some of them at the library or through an internet search.



# My Moon Phase Journal



Draw a picture of the moon here

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Date

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Moon Phase

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Moon Name

**Observations** \_\_\_\_\_

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