

THE MOON

+ Called Luna by the Romans, Selene and Artemis by the Greeks, and many other names in other mythologies.

+ The Moon is the only natural satellite of Earth

+ Orbit: 384,400 km from Earth
+ Diameter: 3476 km
+ Mass: 7.35e22 kg

PRO FACT!
The diameter of a Basketball is around .0000254 km. If you had a basketball 80,000,000 times that size, you'd still only get a diameter of 2,035 km. Around 936 km less than the moon!

+ There are two primary types of terrain on the Moon: the heavily cratered and very old highlands and the relatively smooth and younger maria.

+ The maria (which comprise about 16% of the Moon's surface) are huge impact craters that were later flooded by molten lava. Most of the surface is covered with regolith, a mixture of fine dust and rocky debris produced by meteor impacts. For some unknown reason, the maria are concentrated on the near side.

+ MOON PHASES

New Moon

The Moon's unilluminated side is facing the Earth. The Moon is not visible (except during a solar eclipse).

Waxing Crescent

The Moon appears to be partly but less than one-half illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is increasing.

First Quarter

One-half of the Moon appears to be illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is increasing.

Waxing Gibbous

The Moon appears to be more than one-half but not fully illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is increasing.

Full Moon

The Moon's illuminated side is facing the Earth. The Moon appears to be completely illuminated by direct sunlight.

Waning Gibbous

The Moon appears to be more than one-half but not fully illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is decreasing.

Last Quarter

One-half of the Moon appears to be illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is decreasing.

Waxing Crescent

The Moon appears to be partly but less than one-half illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is decreasing.

First Quarter

One-half of the Moon appears to be illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is decreasing.

Waxing Gibbous

The Moon appears to be more than one-half but not fully illuminated by direct sunlight. The fraction of the Moon's disk that is illuminated is decreasing.

The Moon orbits around the Earth, the angle between the Earth, Moon, and Sun changes

This is known as the Moon Phases

From any location on the Earth, the Moon appears to be a circular disk which, at any specific time, is illuminated to some degree by direct sunlight.

Like the Earth, the Moon is a sphere which is always half illuminated by the Sun, but as the Moon orbits the Earth we get to see more or less of the illuminated half.

During each lunar orbit (a lunar month), we see the Moon's appearance change from not visibly illuminated through partially illuminated to fully illuminated, then back through partially illuminated to not illuminated again.

Although this cycle is a continuous process, there are eight distinct, traditionally recognized stages, called phases. The phases designate both the degree to which the Moon is illuminated and the geometric appearance of the illuminated part.

PRO FACT! Because each moon cycle is 28 days, there are approximately 13 moon cycles each year. So, for every 100 years we have approximately

1.303 FULL MOONS

Following waning crescent is New Moon, beginning a repetition of the complete phase cycle of 29.5 days average duration. The time in days counted from the time of New Moon is called the Moon's "age". Each complete cycle of phases is called a "lunation".

Because the cycle of the phases is shorter than most calendar months, the phase of the Moon at the very beginning of the month usually repeats at the very end of the month.

PRO FACT! When there are two Full Moons in a month (which occurs, on average, every 2.7 years), the second one is called a "Blue Moon".

Although Full Moon occurs each month at a specific date and time, the Moon's disk may appear to be full for several nights in a row if it is clear.

This is because the percentage of the Moon's disk that appears illuminated changes very slowly around the time of Full Moon (also around New Moon, but the Moon is not visible at all then).

The Moon may appear 100% illuminated only on the night closest to the time of exact Full Moon, but on the night before and night after will appear 97-99% illuminated; most people would not notice the difference. Even two days from Full Moon the Moon's disk is 93-97% illuminated.

+ MOON VISITS

The Moon was first visited by the Soviet spacecraft Luna 2 in 1959. It is the only extraterrestrial body to have been visited by humans. The first landing was on July 20, 1969, the last was in December 1972. The Moon is also the only body from which samples have been returned to Earth. In the summer of 1994, the Moon was very extensively mapped by the little spacecraft Clementine and again in 1999 by Lunar Prospector.

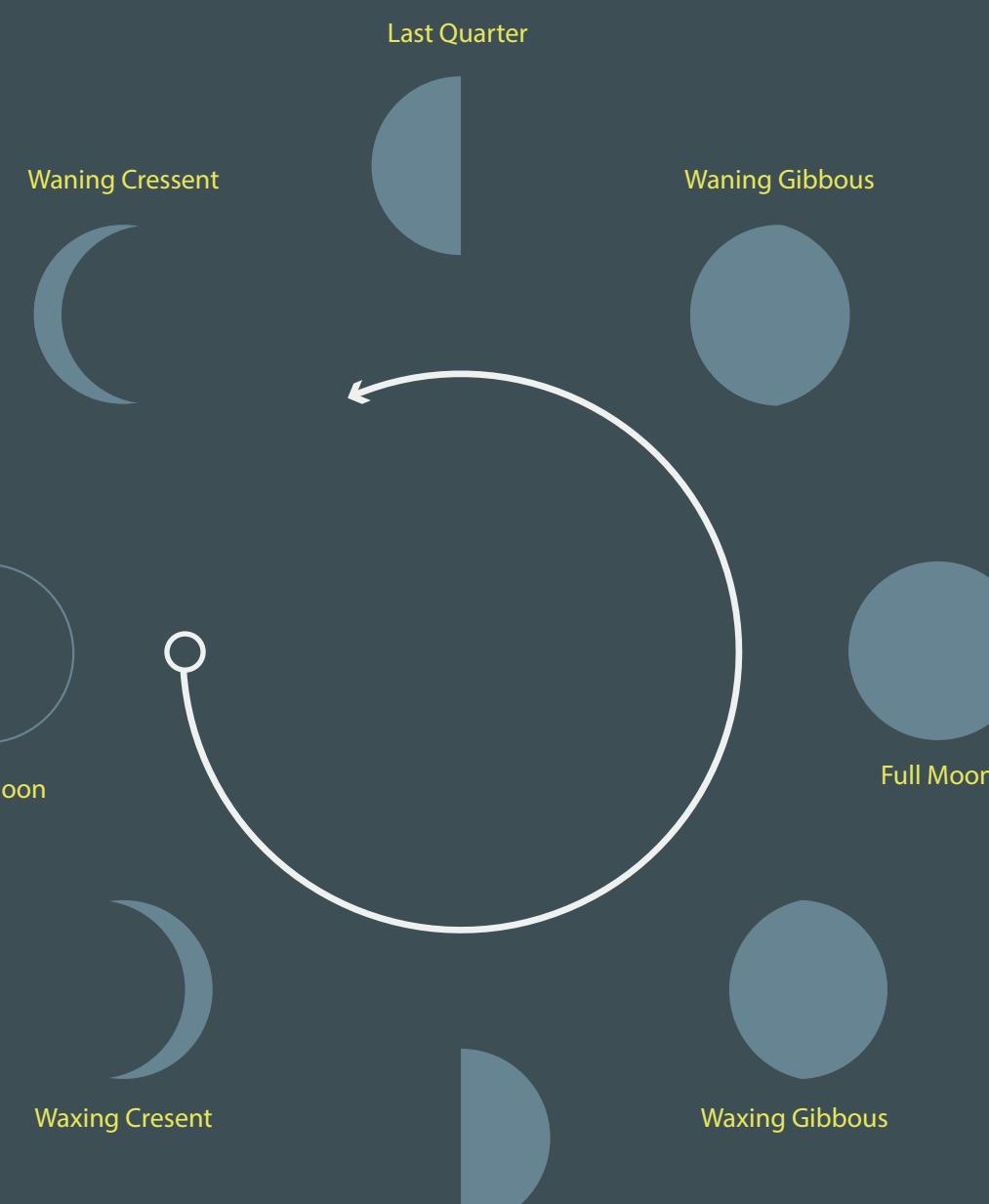
The Moon has no atmosphere. But evidence from Clementine suggested that there may be water ice in some deep craters near the Moon's south pole which are permanently shaded. This has now been reinforced by data from Lunar Prospector. There is apparently ice at the north pole as well.

THE MOON IS 4.5 BILLION YEARS OLD

THE MOON'S DIAMETER IS ABOUT 1/4 THE DIAMETER OF THE EARTH. YOU COULD FIT ROUGHLY 49 MOONS INSIDE THE EARTH.

WHEN ALAN SHEPPARD WAS ON THE MOON, HE HIT A GOLF BALL AND DROVE IT

2,400 FEET
NEARLY ONE HALF MILE



MOON PHASES FOR UTC (2013)

LUNATION	NEW MOON	FIRST QUARTER	FULL MOON	THIRD QUARTER	DURATION
1113				JAN 5 03:58	29D 11H 02M
1114	JAN 11 19:44	JAN 18 23:45	JAN 27 04:39	JAN 3 13:57	29D 11H 37M
1115	FEB 10 07:20	FEB 17 20:31	FEB 25 20:26	FEB 4 21:53	29D 12H 31M
1116	MAR 11 19:51	MAR 19 17:27	MAR 27 09:28	MAR 3 04:37	29D 13H 44M
1117	APR 10 09:36	APR 18 12:32	APR 25 19:58	APR 2 11:15	29D 14H 53M
1118	MAY 10 00:29	MAY 18 04:35	MAY 25 04:25	MAY 31 18:59	29D 15H 28M
1119	JUN 8 15:57	JUN 16 17:24	JUN 23 11:33	JUN 30 04:54	29D 15H 18M
1120	JUL 8 07:15	JUL 16 03:19	JUL 22 18:16	JUL 29 17:44	29D 14H 36M
1121	AUG 6 21:51	AUG 14 10:57	AUG 21 01:45	AUG 28 09:35	29D 13H 46M
1122	SEP 5 11:37	SEP 12 17:19	SEP 19 11:13	SEP 27 03:56	29D 12H 58M
1123	OCT 5 00:35	OCT 11 23:03	OCT 18 23:38	OCT 26 23:41	29D 12H 15M
1124	NOV 3 12:50	NOV 10 05:58	NOV 17 15:16	NOV 25 19:29	29D 11H 32M
1125	DEC 3 00:23	DEC 9 00:23	DEC 17 09:29	DEC 25 13:48	29D 10H 52M

THE MULTI LAYER SPACE SUITS WORN BY THE ASTRONAUTS TO THE MOON WEIGHED 180 POUNDS ON EARTH BUT ONLY THIRTY POUNDS ON THE MOON.



In a survey conducted in 1988, 13% of those surveyed believed that the moon is made of cheese.



THE TEMPERATURE CAN REACH AS HIGH AS 250 DEGREES FAHRENHEIT DURING THE DAY

THE MOON IS THE 5th LARGEST MOON IN THE SOLAR SYSTEM

THE MOON IS MOVING ABOUT 1 INCH FURTHER AWAY FROM EARTH EACH YEAR

IT WOULD TAKE THE MOON AROUND 63,360 YEARS TO MOVE 1 MILE AWAY FROM EARTH

AT NIGHT IT CAN GET AS LOW AS -380 DEGREES FAHRENHEIT

WATER WAS DISCOVERED ON THE MOON IN NOVEMBER 2009