THE PHASES OF THE MOON

Данияр Думан
10 «ЕМ-5» класс

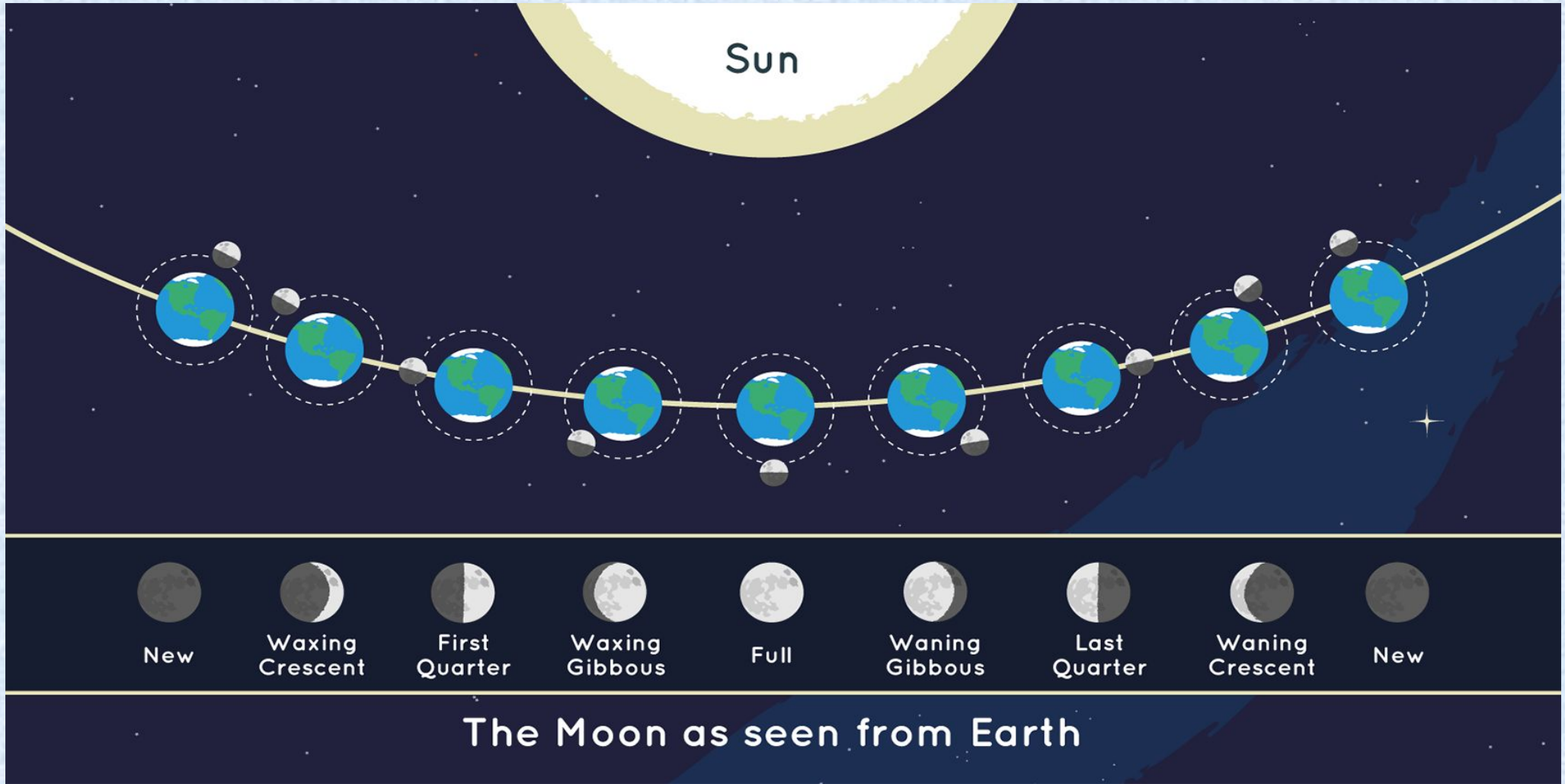
The moon itself does not glow, and we see it only when it is illuminated by the sun. If you observe the moon for a month, you will notice that the moon is always visible in different ways - either a thin crescent, or a round pancake.

With a change in the relative position of the Earth, Moon and Sun, the terminator, i.e., the boundary between the illuminated and unilluminated parts of the Moon's disk, moves, which causes a change in the outlines of the visible part of the Moon.

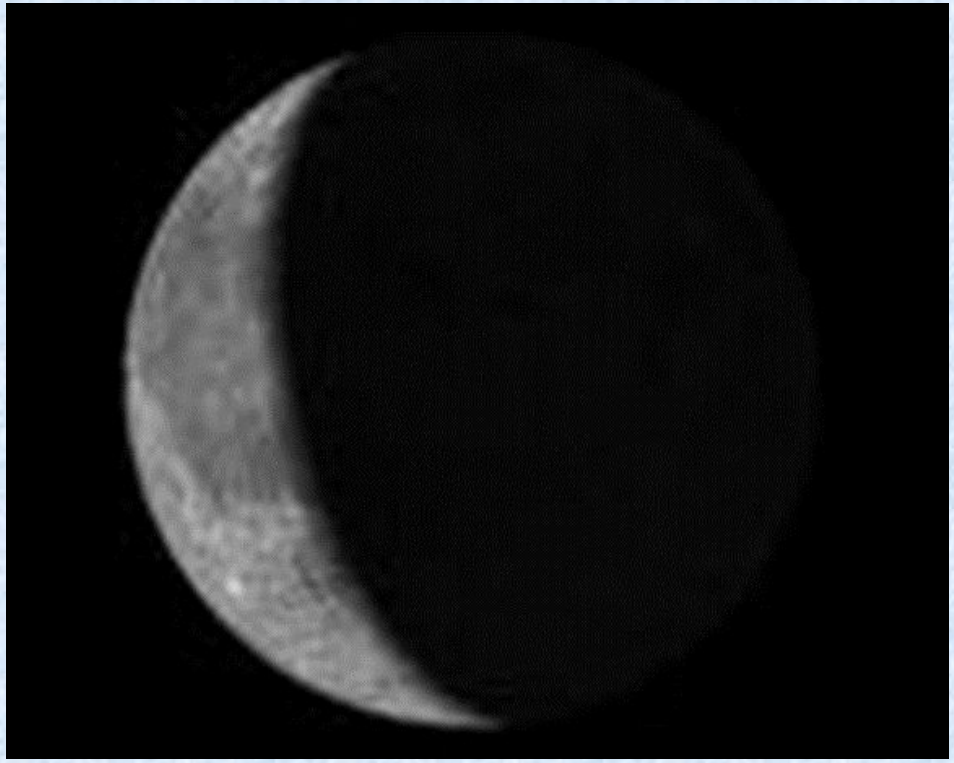
Sometimes its "ends" are directed in one direction, and sometimes in the other. The change in the phases of the Moon is due to changes in the conditions of illumination by the Sun of the dark ball of the Moon as it moves in orbit.

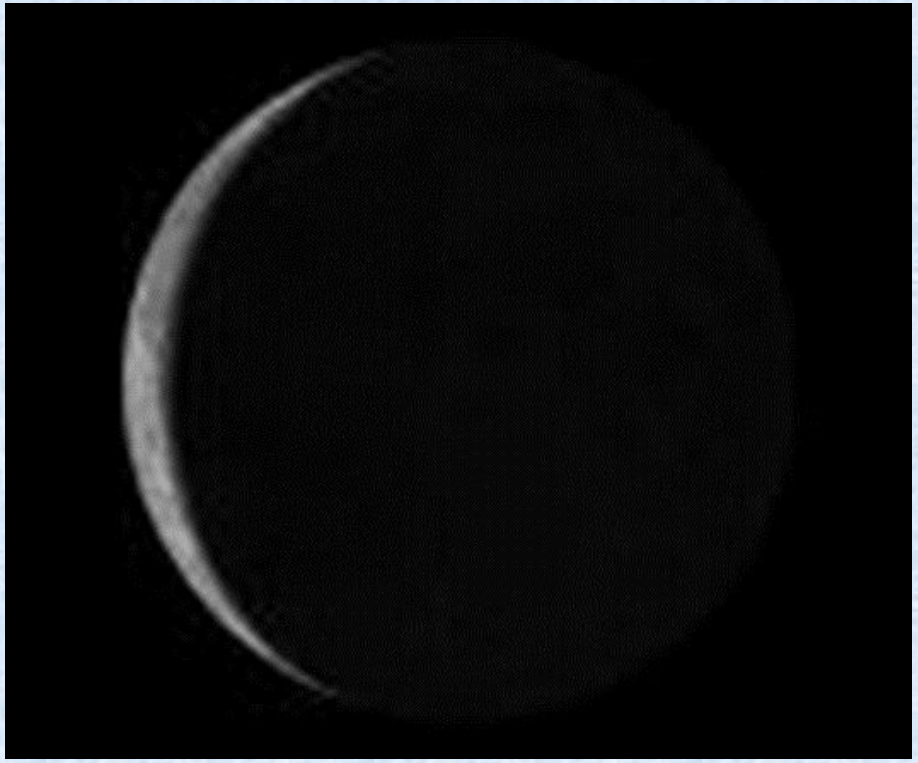
The phases of the moon are periodically changing states of the illumination of the moon in the sky.

There are four main phases of the moon: - new moon; - the first and last quarters, when the moon is visible from the earth at an angular distance of 90 degrees. Respectively, to the east and west of the sun, and half of its visible disk is illuminated by the sun's rays; - full moon.

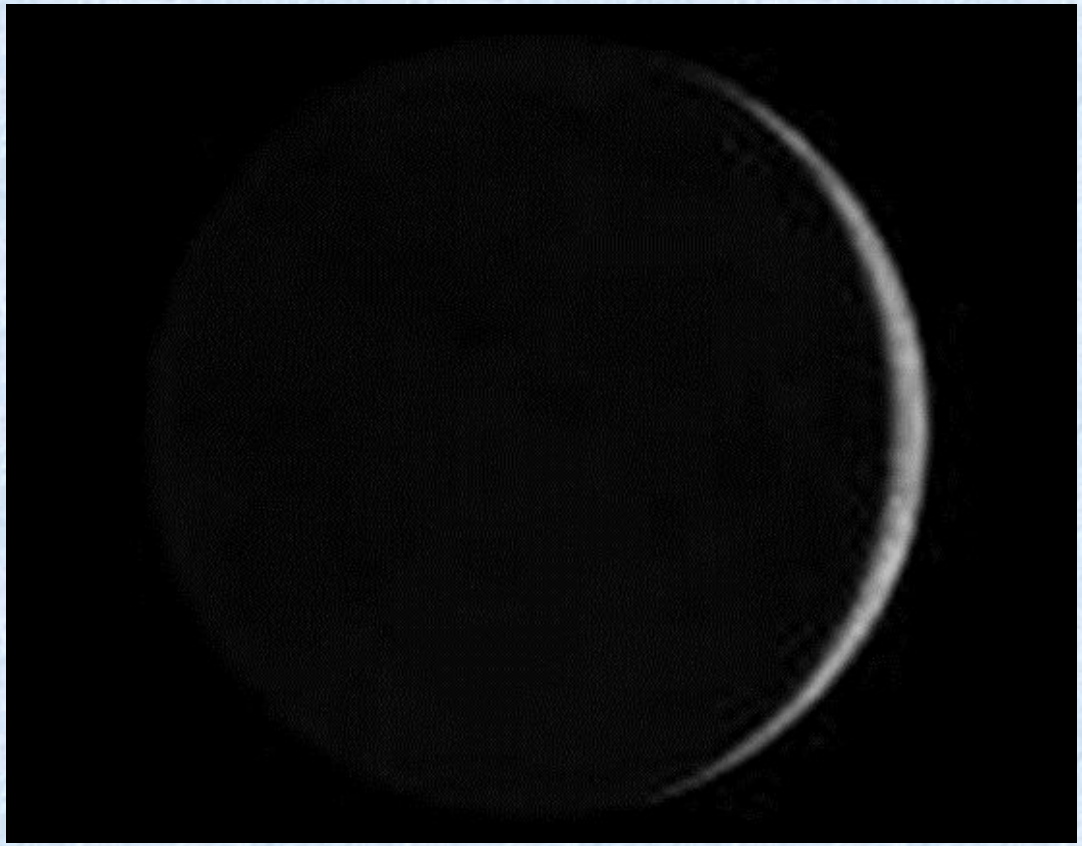


To distinguish the first quarter from the last, a person in the northern hemisphere can use the following mnemonic rules. If the lunar crescent in the sky looks like the letter "C", then this is the "aging" moon, that is, this is the last quarter.





If it is turned in the opposite direction, then, mentally putting a wand to it, you can get the letter “P” - the moon is “growing”, that is, this is the first quarter.



The angular distance of the moon from the sun decreases, it again becomes a narrowing crescent, and after 29.5 days a new moon occurs again. The interval between two successive new moons is called a synodic month (29.53 days).

The synodic month is longer than the sidereal one (the time of the moon's revolution around the earth), since the earth during this time passes approximately 1/13 of its orbit and the moon, in order to again pass between the earth and the sun, must pass an additional 1/13 of its orbit, which is spent a little over 2 days.

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- It should be noted that near the equator, the month is always seen "lying on its side", and this method is not suitable for determining the phase, and in the southern hemisphere, the phases of the moon are reversed.
- Not being self-luminous, the Moon is visible only in the part where the sun's rays fall, either directly or reflected by the Earth.
- Every month, the Moon, moving in orbit, passes approximately between the Sun and the Earth and faces us with its dark side, at which time a new moon occurs.

THANKS FOR ATTENTION