

What is the “dark side of the Moon”?

You may have heard references made to the "dark side" of the Moon. This popular, although somewhat inaccurate term refers to the fact that only one face of the Moon, the "near side", is visible to us. The dark side or far side is permanently rotated away from our planet.

Why is this the case? We all know that the Earth rotates on its own axis, so theoretically, the Moon should also do the same, allowing us to get a full picture of the planetoid. Why are we limited to seeing only 50 percent? It turns out that the speed at which the Moon rotates has

lead to this particular phenomenon. Millions of years ago, the Moon spun at a much faster pace than it does now. However, the gravitational influence of the Earth has gradually acted upon the Moon to slow its rotation down, in the same way that the much smaller gravitational influence of the Moon acts upon the Earth to create tides. This influence slowed the rotational period of the Moon to match that of its orbit – about 29.5 days – and it is now "locked in" to this period.

If the Moon didn't spin at all, then eventually it would show its far side to the Earth while moving around our planet in orbit. However, since the rotational period is exactly the same as the orbital period, the same portion of the Moon's sphere is always facing the Earth.

Another interesting fact is that actually a little bit more than half of the Moon's surface is observable from Earth. Since the Moon's orbit is elliptical, and not circular, the speed of its orbital travel increases and decreases depending on how close it is to our planet. The rotational speed of the Moon is constant however – and this difference between orbital speed and rotational speed means that when the Moon is farthest from the Earth, its orbital speed slows down just enough to allow its rotational speed to overtake it, giving observers a small glimpse of the usually hidden area. The term for this "rocking" motion of the Moon is called libration and it allows for 59 percent of the Moon to be seen in total (over time).

Finally, the reason that the far side of the Moon is frequently referred to as the "dark side" is because many people mistakenly think that it never sees any light from the sun. This notion results from a misinterpretation of the fact that it is never illuminated so that it can be observed from Earth. In fact, since the Moon is constantly rotating on its own axis, there is no area of the planetoid which is in permanent darkness, and the far side of the Moon is only completely devoid of sunlight during a Full Moon – when the Sun is facing the Moon with the Earth in between.

