

Misconceptions Your Students May Have About the Moon

Some or even many students mistakenly believe:

- Phases of the Moon are caused by a shadow from the Earth, clouds, or the Moon wobbling all over the place in its orbit, rather than by a change in our perspective of the Moon's sunlit appearance as it orbits the Earth.
- Different countries see different phases of the Moon on the same day, rather than understanding that the Moon has the same phase for everyone.
- The Moon goes around the Earth in a single day, instead of taking a month to orbit the Earth.
- The Moon makes its own light (the same way the Sun does), rather than understanding that the Moon reflects the light of the Sun.
- The Moon does not rotate, rather than understanding that the Moon does spin on its axis, once each month.
- The same half of the Moon is in darkness all the time—i.e. that there is a “dark side”—when in fact the Moon has no side that is constantly dark; the front and the back are alternately lit by the Sun over a month.
- The Moon has no gravity; things float “up” when dropped on the Moon, when in fact the Moon does have gravity, but less than Earth.
- The Moon is only visible at night, rather than understanding that we can frequently see the Moon in the day.