



Image credit: NASA

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Don't Worry, It's Just a Phase

Where does the rest of the Moon “go” during the crescent phase? As this high-dynamic-range image clearly reveals, nowhere.

Half of the Moon is always being illuminated by the Sun - the only exception to this rule is the relatively rare occurrence of a lunar eclipse, which is a ‘special case’ of the full moon phase and a great discussion for another time. And yet the Moon’s apparent shape definitely seems to be changing during the phasing cycle. WHY?!

The Moon orbits Earth once every 29.5 days. During this period we see a varying percentage of the illuminated portion of the Moon. Basically, the Sun illuminates the Moon from one angle while we on Earth view the Moon from another angle. These angles change throughout the phasing cycle. Only during a full moon are those angles approximately the same, and for a few hours we see the entire illuminated half of the Moon.

You can create a pretty darn good model of this week’s image by holding a soccer ball at arm’s length in your right hand, and a bright flashlight at arm’s length in your left hand. Point the light at the ball, and with a little adjustment you will find the same geometry required to produce the waning crescent pictured here. A dark room is best, but you’re clever. You’ll get the idea.



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