

# THE DARK SIDE



STUDENT WORKBOOK

ACCELERATE

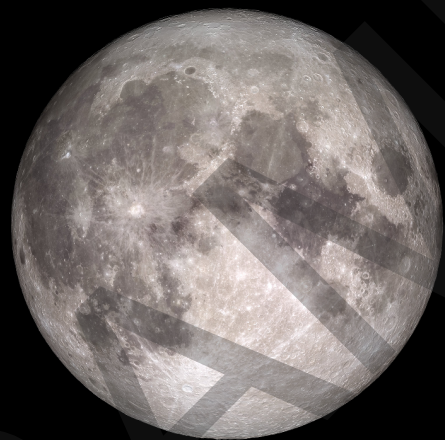


# LOCKED UP TIGHT

There's more to the Moon than meets the eye. What do we know about this ever-present and always-changing feature of the night sky?

## IT'S BETTER TOGETHER

In 1973, the British rock band Pink Floyd released their album "The Dark Side of the Moon." One of the tracks, "Brain Damage," included this lyric: "I'll see you on the dark side of the Moon." Flash forward to 2018: American rapper Lil Wayne released the song "Dark Side of the Moon" in which he refers to waiting for someone on the dark side of the Moon. So, is there really a dark side of the Moon, as Pink Floyd and Lil Wayne might have you believe? Or is it just an expression about an imaginary place?



VIEW FROM  
NORTHERN HEMISPHERE



VIEW FROM  
SOUTHERN HEMISPHERE

The Planetary Society

*Spring Moon*



*Summer Moon*



*Fall Moon*



*Winter Moon*



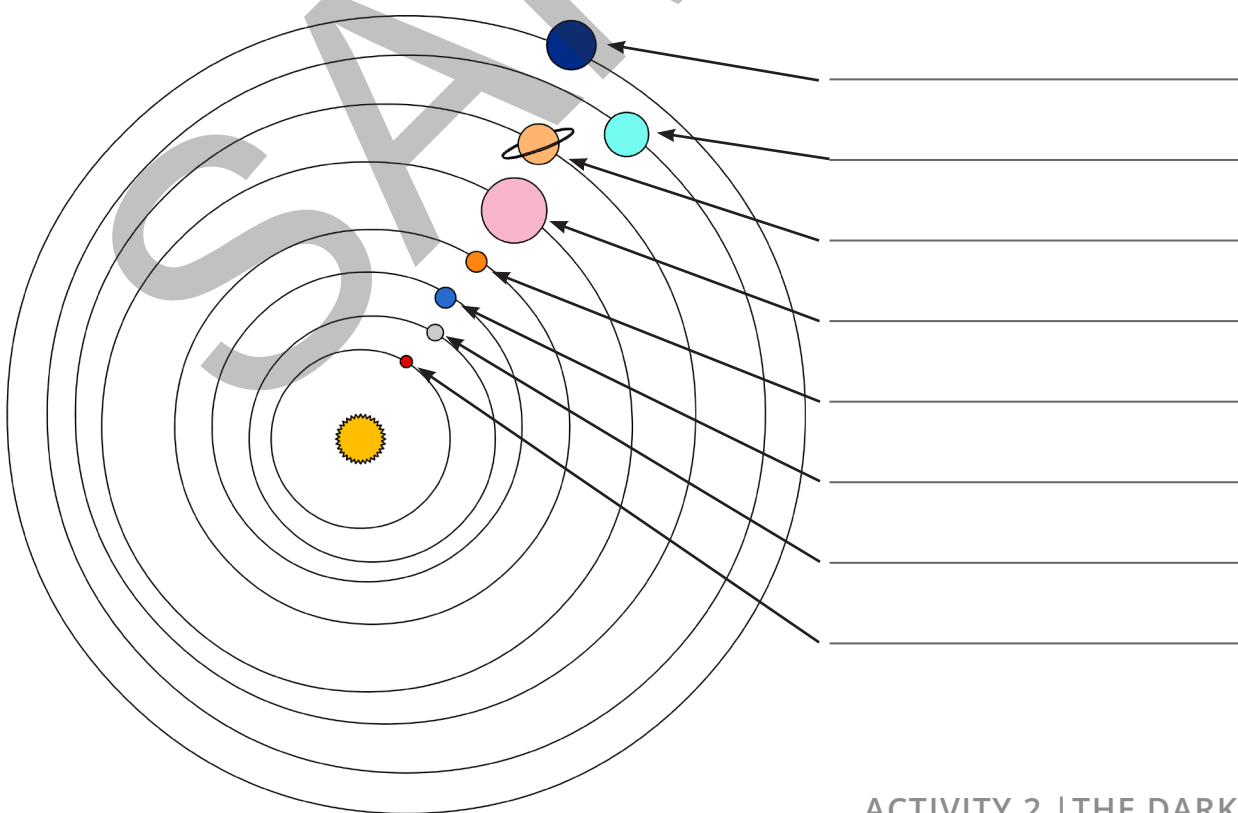


- 1. Is there a dark side of the Moon? Explain.
- 2. Is there a far side of the Moon? Explain.
- 3. Explain what a lunar eclipse and solar eclipse are, and how they are the result of the Earth-Moon-Sun system.
- 4. Explain the relative sizes of the Earth, Moon, and Sun to your teacher or a partner using objects you have available to you as examples.



## JUST FOR FUN

Can you label all the planets in the solar system?

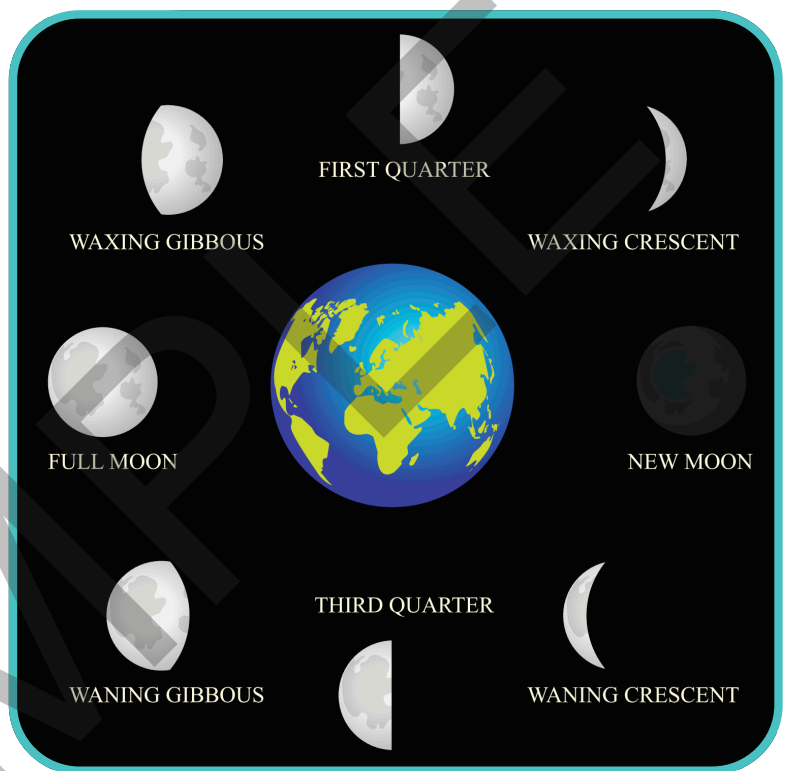


## Lunar Phases

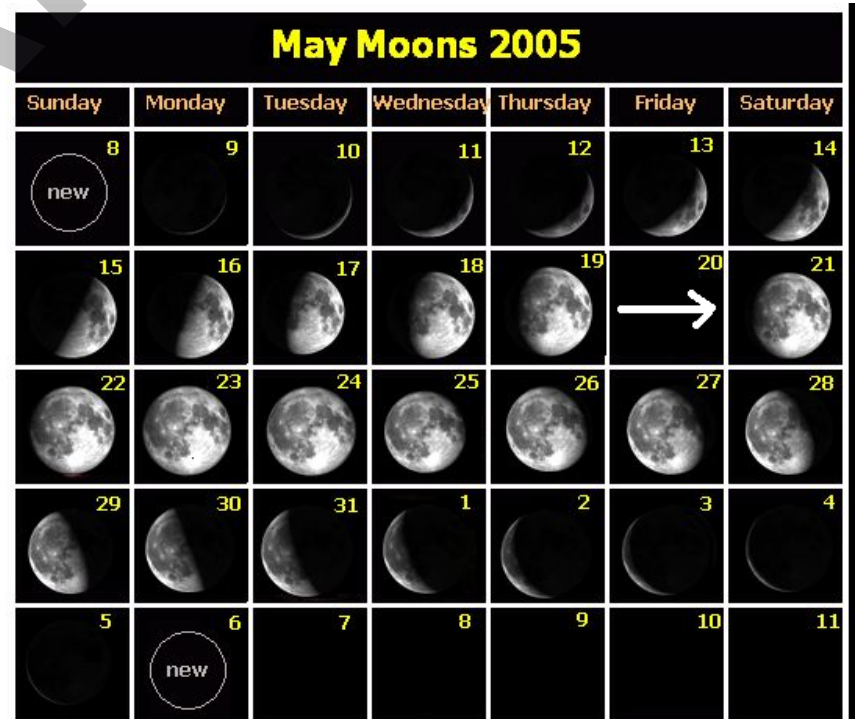
You've learned a lot about patterns that only happen to us on Earth, but let's look back to the sky. Seasons happen for a certain period of time and go in a specific order. Another pattern that happens to the Moon are **lunar phases**. Lunar phases are the shape of the Moon's sunlit portion viewed from Earth. During a lunar phase, the Moon stays the same. However, we observe the Moon differently here on Earth based on how the Earth, Moon, and Sun are positioned.

There are 8 phases of the Moon, starting with a full Moon and ending with no Moon visible from Earth at all. They are:

- Full Moon
- Waxing Gibbous
- First Quarter
- Waxing Crescent
- New Moon
- Waning Crescent
- Last Quarter
- Waning Gibbous



The visible part of the Moon doesn't just show these 8 phases, but the amount of the Moon visible from Earth slowly increases and decreases throughout a month. As a result, over the month of May 2005, this was what the Moon looked like.





# SCIENCE UNLOCKED

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