



Teacher's Pet

# Astronomical Phenomena

Exploring the most stellar phenomena in the sky above!

# What Are Phenomena?

A phenomenon (singular) is basically something remarkable or interesting that happens as a result of certain other things that happen!

When we say astronomical phenomena, it means something that happens as a result of other things happening up in space that we can observe!

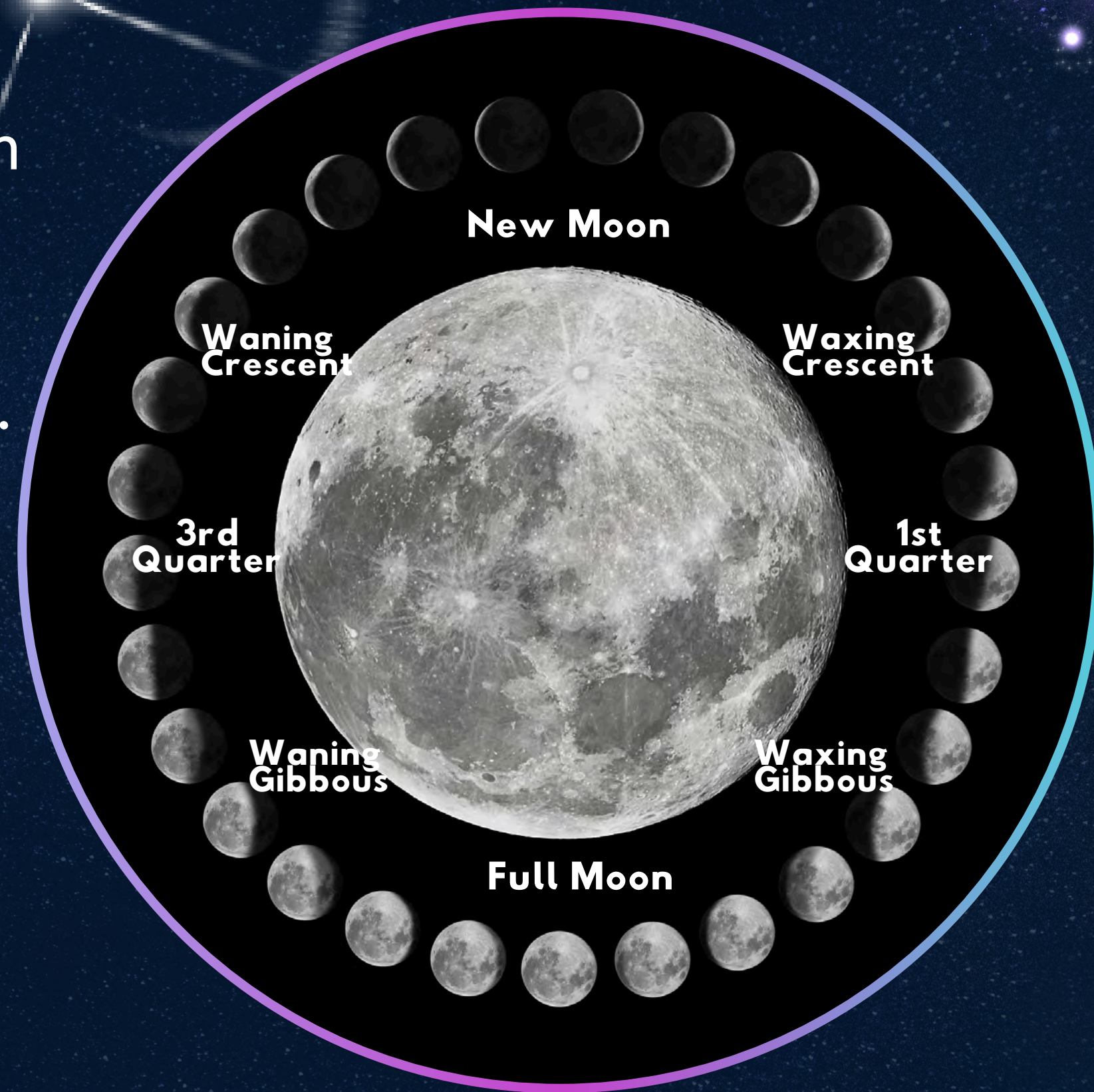


# Activity 1: Moon Adventure



# The Lunar Phases!

- The Moon's cycle lasts 28 days and starts with the New Moon (when we can't see it in the sky).
- As it grows bigger, we call this 'waxing,' and when it looks fully lit, it's a Full Moon.
- After that, it starts shrinking, or 'waning,' until it becomes a New Moon again.
- When the moon is bulging out but is not quite full, we call this a 'gibbous' moon.
- Many cultures use the lunar cycle to mark time over the year and even relate the cycles to the different seasons!



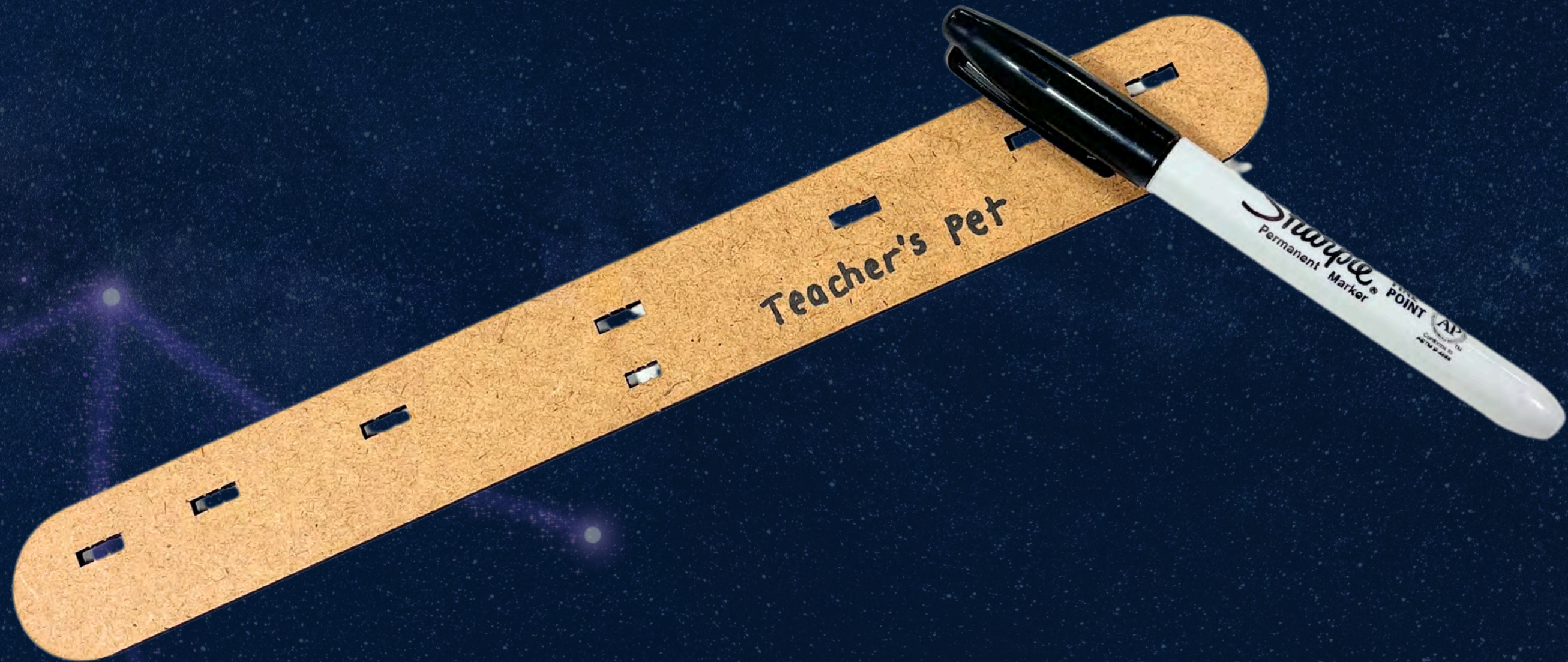
# Project Time: Lunar Cycle Model



# Step 1: Gently pop out each piece of the model.



**Step 2: Write your name on the bottom of the base.**



# Step 3: Organize your pieces in order.



Waxing  
crescent



First  
quarter



Waxing  
gibbous



Full moon



Waning  
gibbous

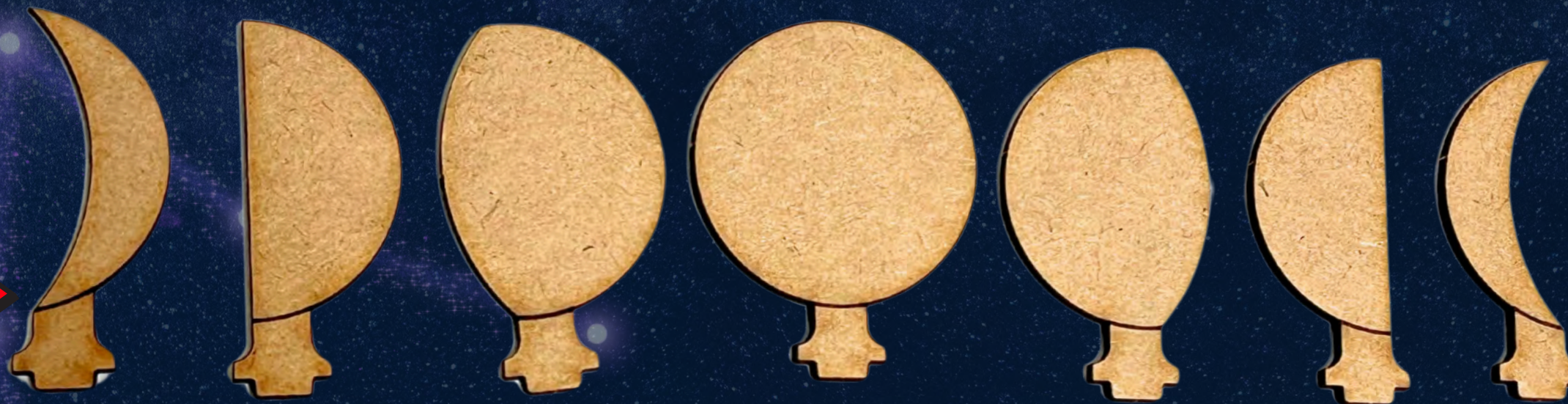
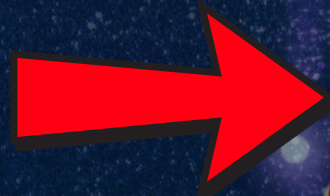


Third  
quarter



Waning  
crescent

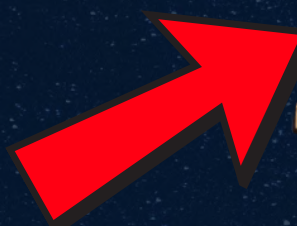
Look for  
the line  
at the  
bottom



**Step 4: Using a cotton ball and white paint, dab a thin layer of paint on each moon piece.**



paint the front side  
above the line



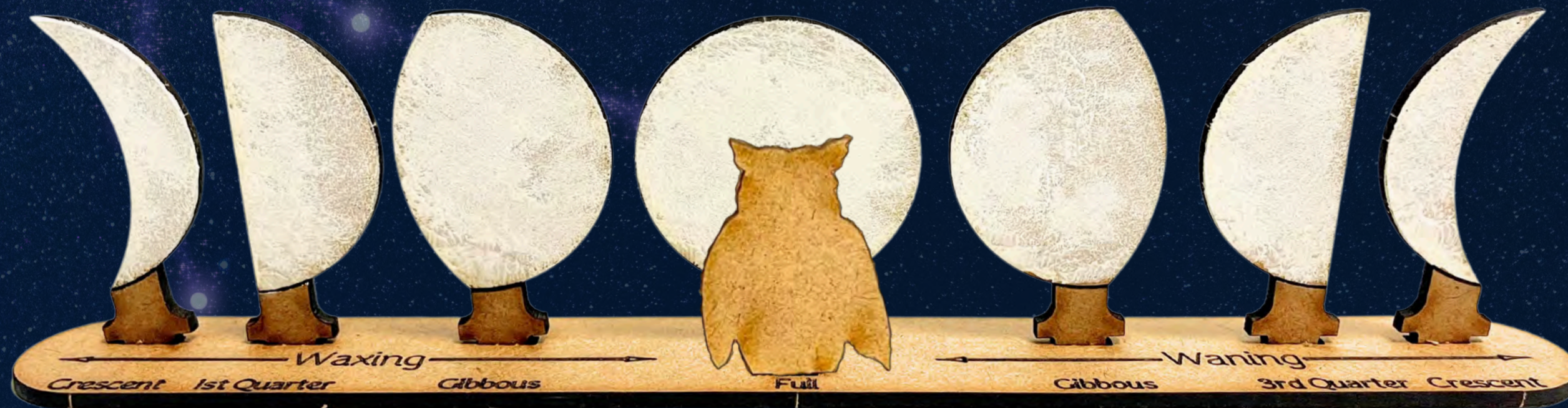
# Lunar Phase Game



**Step 5: Once the pieces are completely dry, gently wiggle them into the base in order.**



**Step 6: Choose the wolf or owl and insert it into the centre slot to complete your model.**



# Activity 2: Aurora Adventure





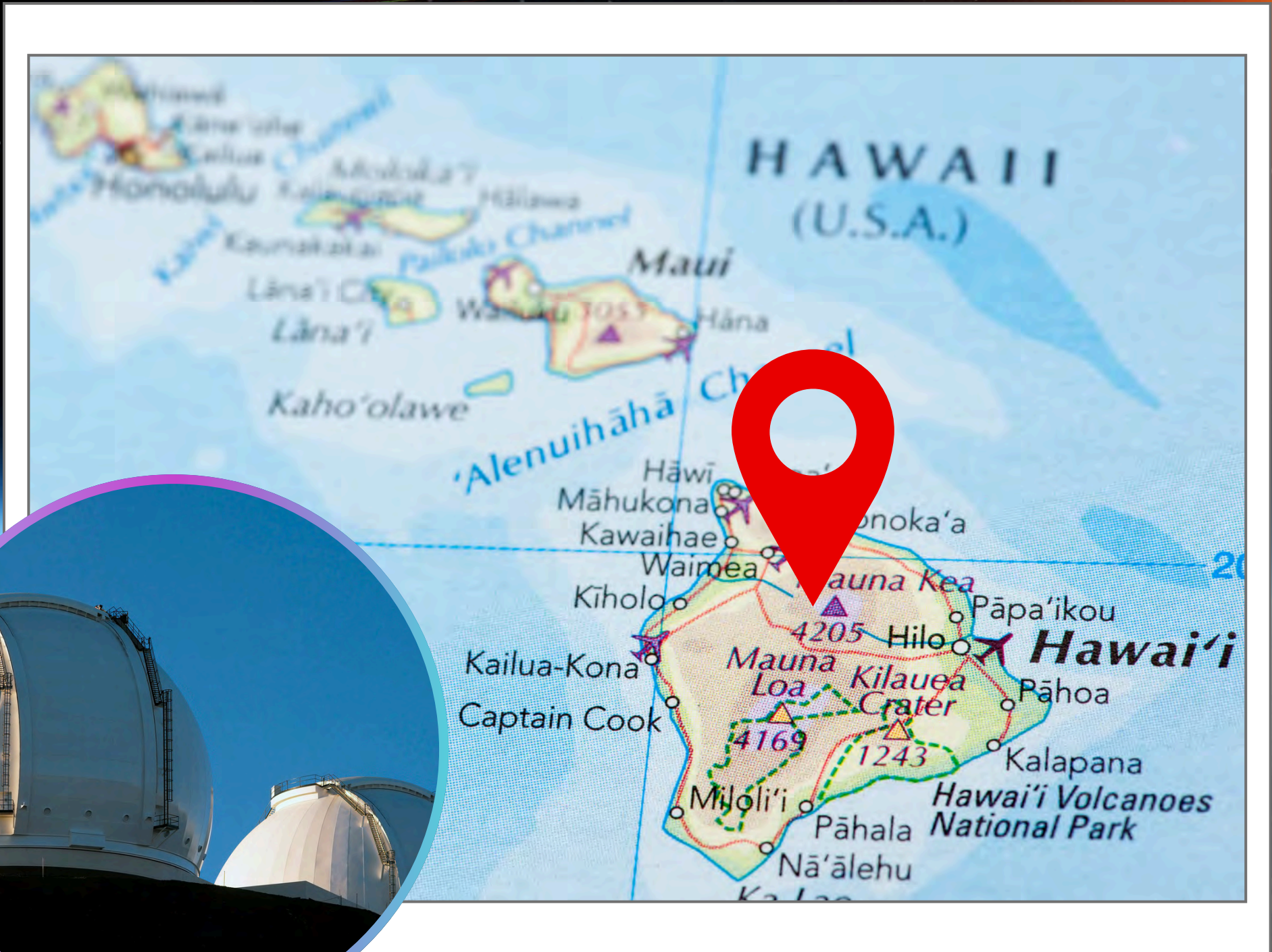
# Aurora Borealis

The Aurora Borealis, also called the Northern Lights, is a colorful light show in the night sky. It happens when bursts from the sun bump into Earth's magnetosphere. This makes the sky glow in beautiful colours like green, pink, and purple. It's like nature's very own magical light display!



[Play Video](#)





# Activity 3: Eclipse Adventure

Look at this Solar Eclipse...



...or this Lunar Eclipse



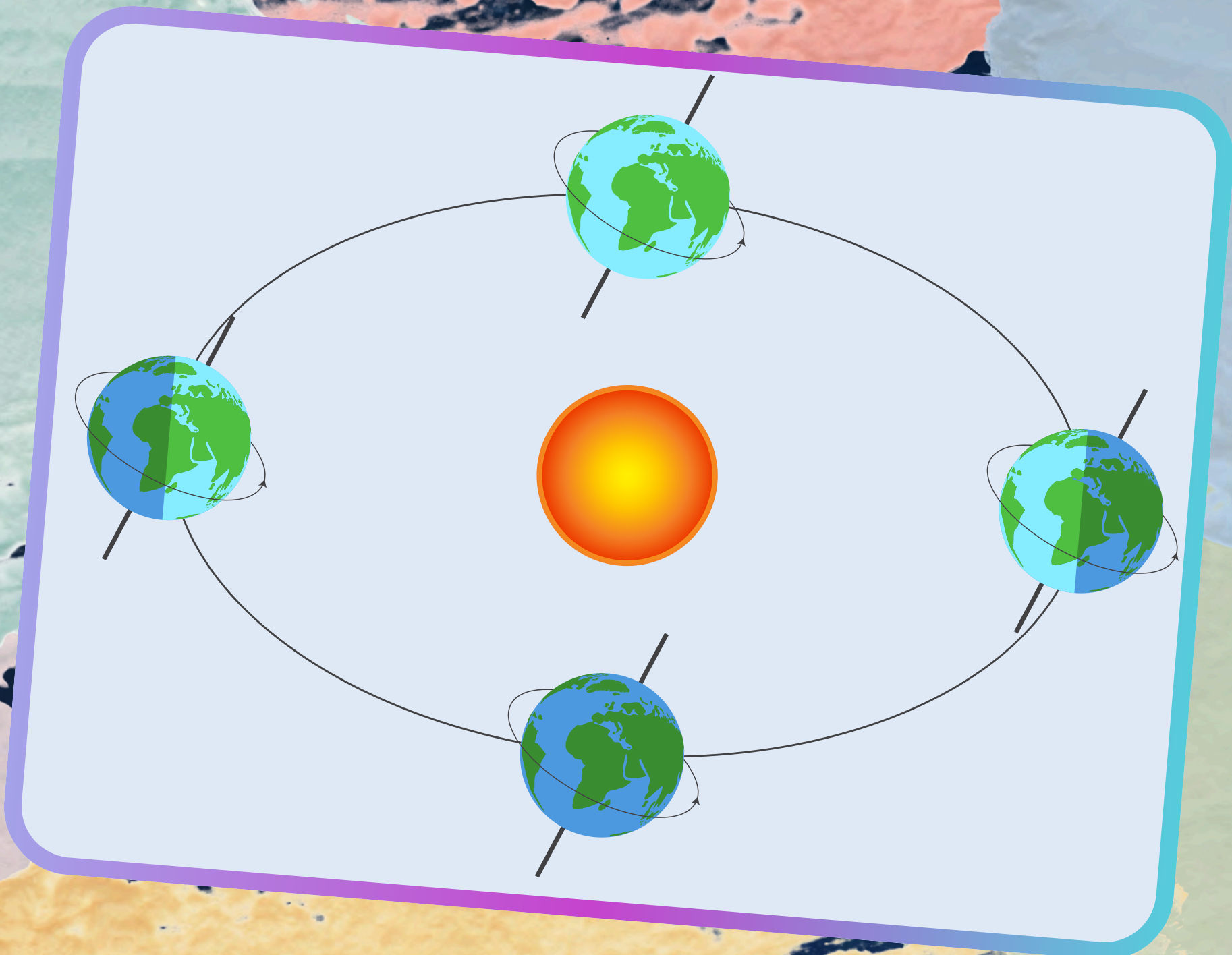
These phenomena are caused when the moon passes in front of the Sun in the case of a solar eclipse, or when the Earth passes right between the Sun and the moon in the case of a lunar eclipse.

# Hemispheres

- northern & southern hemispheres
- experience opposite seasons

# Equinox

- day & night are the same length



# Polar Night

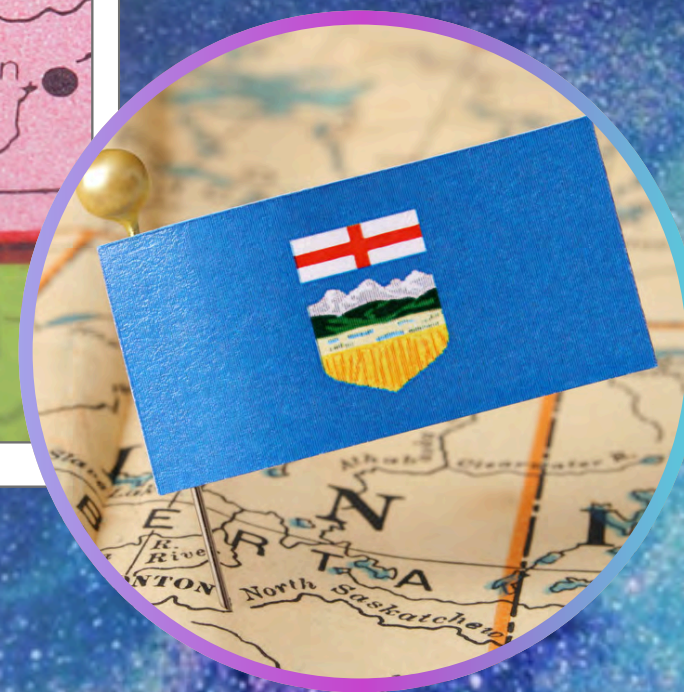
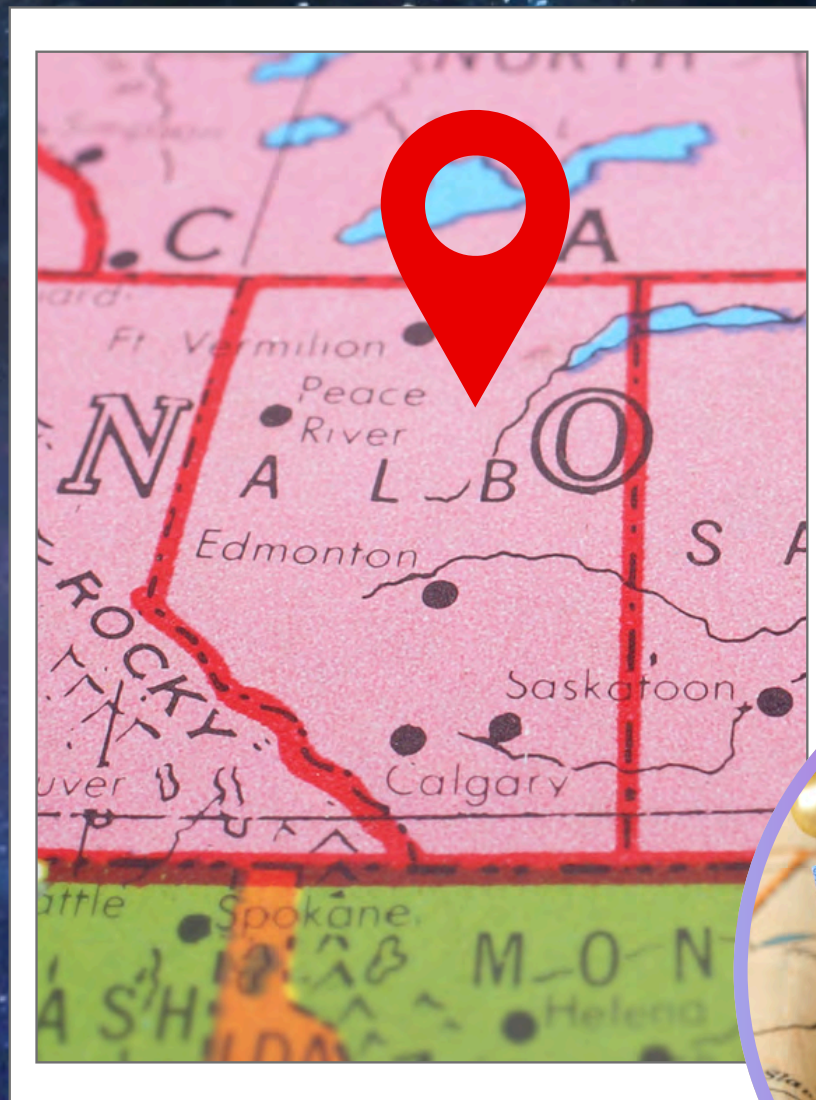
- no sun during daylight hours

# Midnight Sun

- sun all night long

The Earth's tilt as it orbits the sun changes the length of day, or how many sunlight hours we experience throughout the year.

# Activity 4: The 4 Seasons Adventure



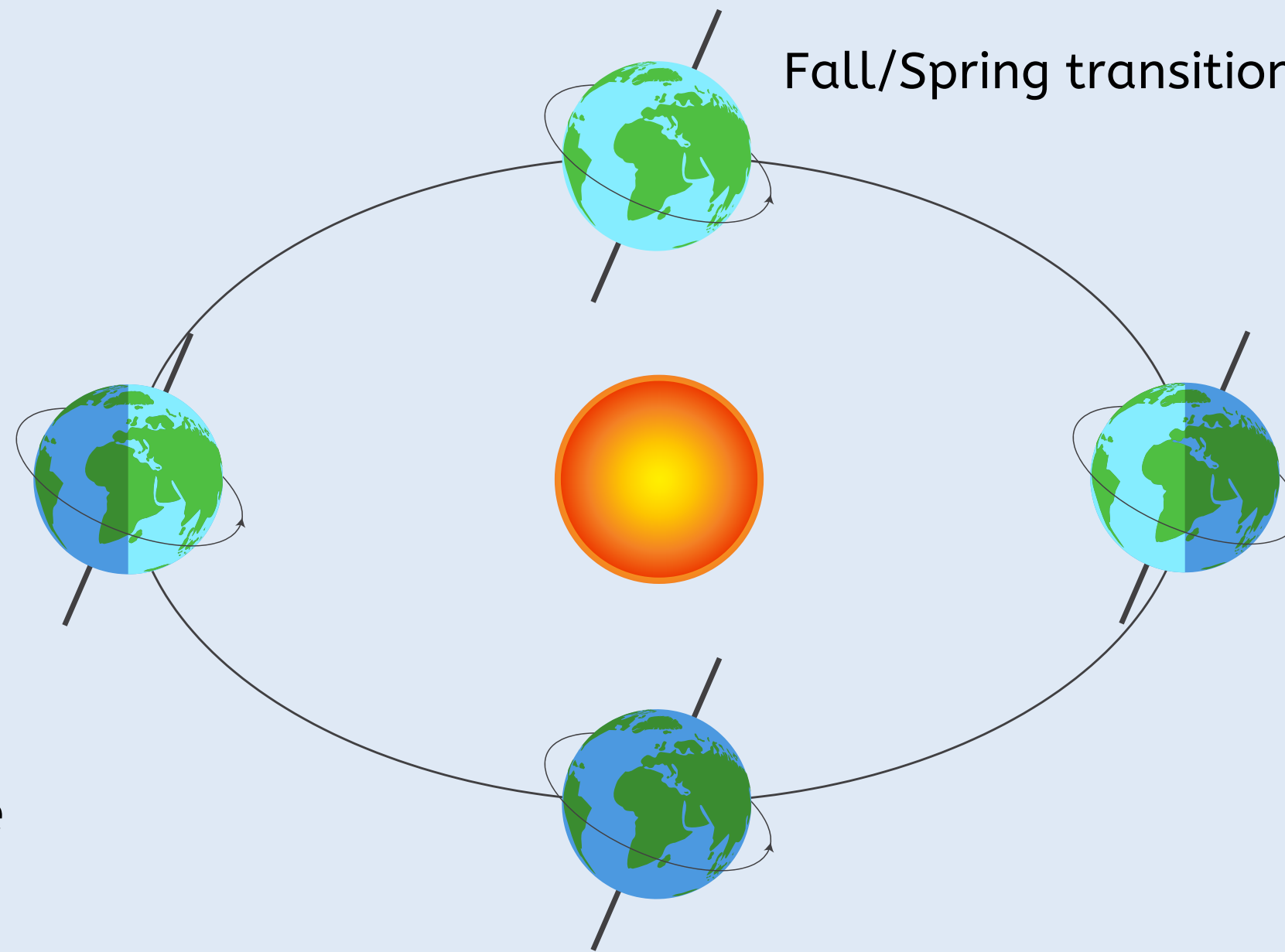
# Seasons

Seasons are an example of astronomical phenomena caused by Earth's 23° tilt. If you imagine Earth's orbit as a flat surface, Earth would look like a tilted spinning top—but it stays steady thanks to the Moon's gravity. Humans have also divided Earth into hemispheres: the northern hemisphere includes places like Canada and the USA, while everything south of the equator is in the southern hemisphere.



When Earth's northern hemisphere tilts towards the sun it experiences summer

Earth's southern hemisphere tilts away from the sun during the same time and experiences winter



Fall/Spring transition

When Earth's northern hemisphere tilts away from the sun it experiences winter

Earth's southern hemisphere tilts towards the sun during the same time and experiences summer

Spring/Fall transition

# Thank You

Thanks for joining us  
on this astronomical  
adventure today!

