



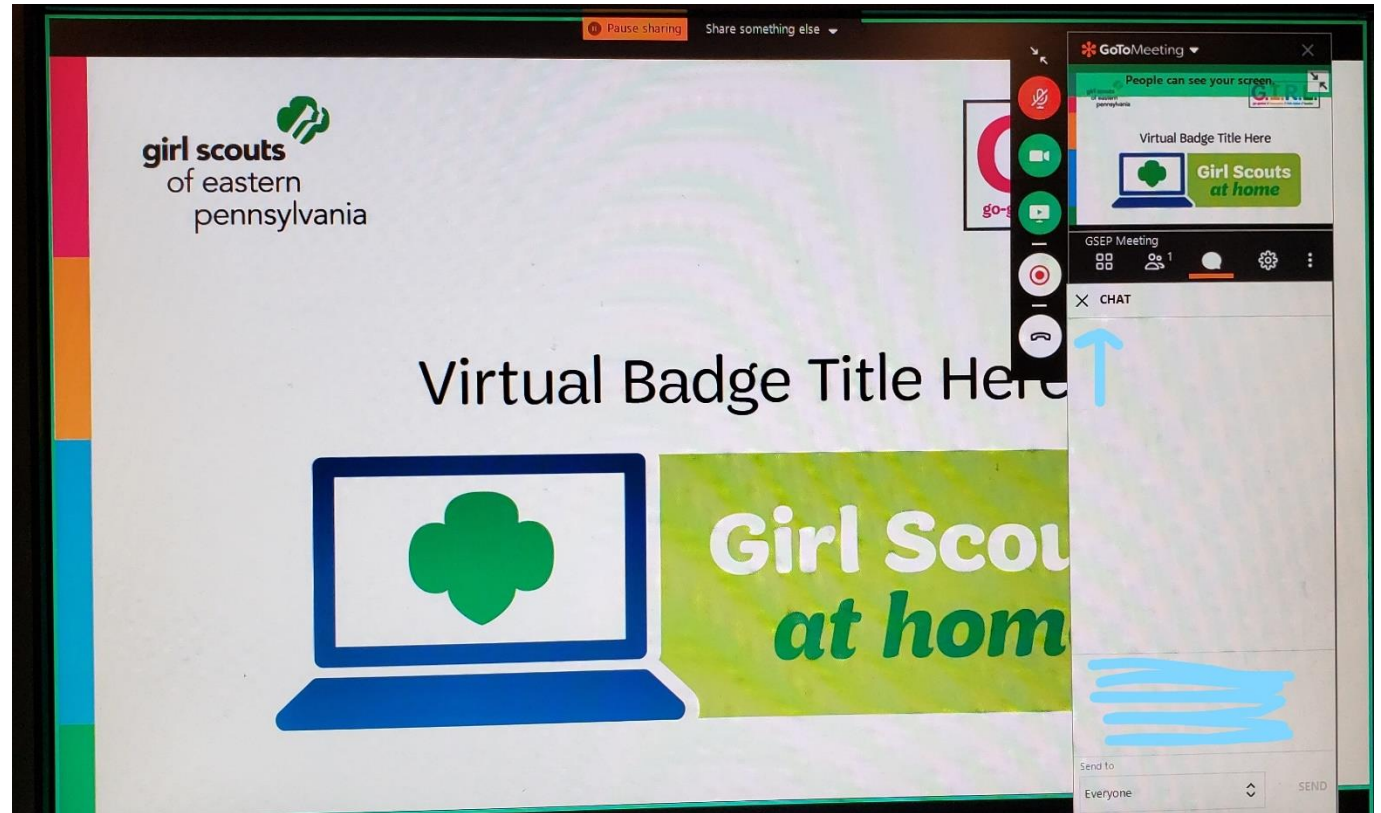
# SPACE SCIENCE INVESTIGATOR



**Girl Scouts**  
*at home*

# How will this Virtual Troop Meeting Work?

- On the right side of your screen, there is a control panel. You should see a microphone, a video camera and a chat bubble.
- When we sing together, you will want to click on your microphone so it is green. Then everyone will be able to hear you.
- If you have a webcam, clicking on it will let everyone else in the meeting see you too.
- The Chat Log looks like a cartoon thought bubble...see it underlined in red? You can type questions or comments into the chat log and everyone will be able to see what you write!



## Meeting Norms:


***-Staying muted unless asked to unmute by the presenter***

***-Only using the chat log for VTM related messages***

***-Use of appropriate language during VTMs***

***-Behavior modelling the GS Promise and Law***





# Junior Badge – Space Science Investigator

- Badge Objective:
- When girls earn this badge, they'll understand that the Earth orbits the Sun, and how far away the Sun, Moon, planets and stars are from our home planet, Earth.

- 5 Steps to Earn this Badge:
- Model the Solar System
- Circle the Sun
- Discover the stars
- Use tools to explore
- Share their sky

## **The Girl Scout Promise**

**On my honor, I will try:**

**To serve God and my country,  
To help people at all times,  
And to live by the Girl Scout Law.**

## **The Girl Scout Law**

**I will do my best to be**

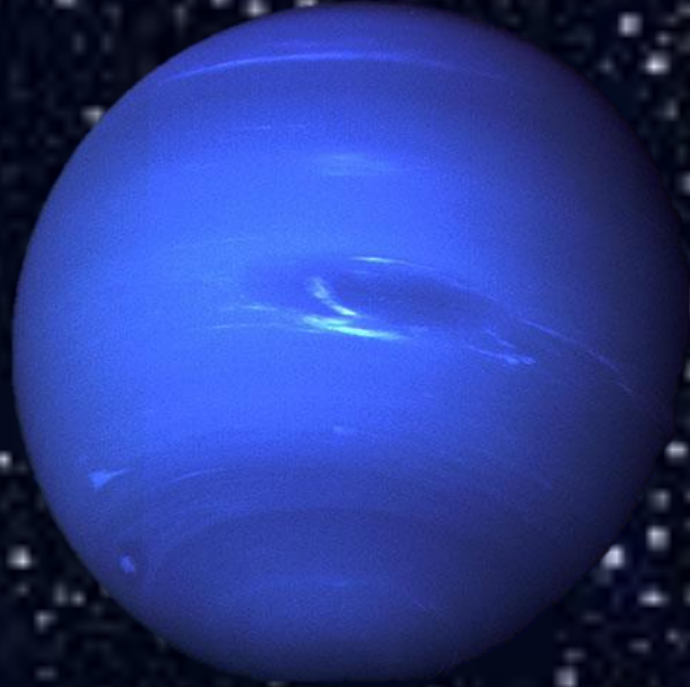
**honest and fair,  
friendly and helpful,  
considerate and caring,  
courageous and strong, and  
responsible for what I say and do,  
and to**

**respect myself and others,  
respect authority,  
use resources wisely,  
make the world a better place, and  
be a sister to every Girl Scout.**



# A Solar System Game

Put your answer into the chat.



**Ice Giant – Icy mix with a rocky or metal core.  
Atmosphere is made of H<sub>2</sub>, He and CH<sub>4</sub>**

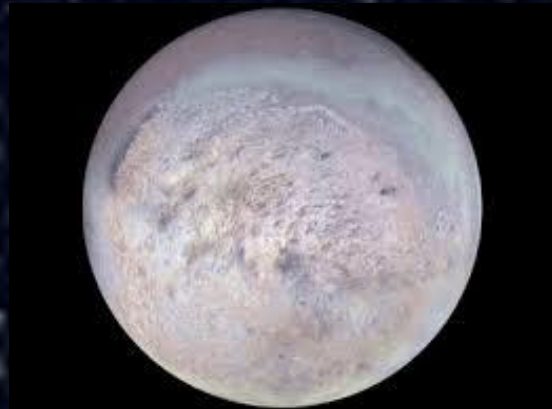
**Cannot be viewed by the naked eye**

**Takes 4 hours for sunlight to reach it.**

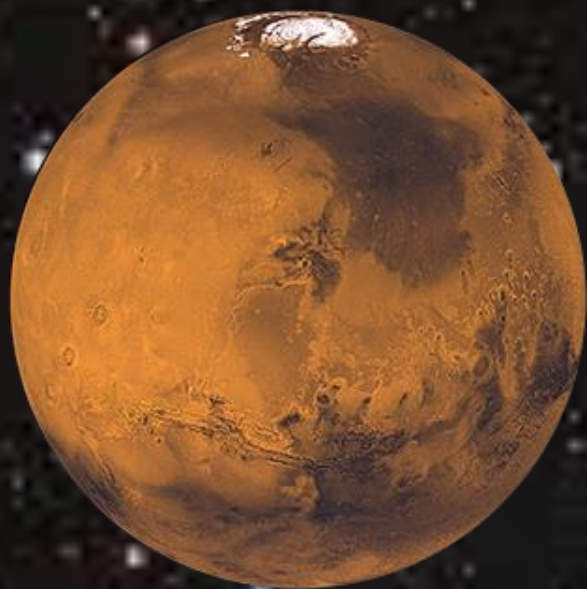
**Known as the windiest planet. Winds can reach 1200 miles per hour.**

**Named after Roman god of the sea.**

**Has 14 moons, 5 rings**







**Terrestrial – core of iron, nickel and sulfur.  
Atmosphere is made of CO<sub>2</sub>, AR and N<sub>2</sub>  
Plus small amounts of O<sub>2</sub> and H<sub>2</sub>O vapor.**

**Dusty cold desert world with canyons,  
volcanos and a polar ice cap.**

**Takes 13 minutes for sunlight to reach it.**

**Named after Roman god of the war.**

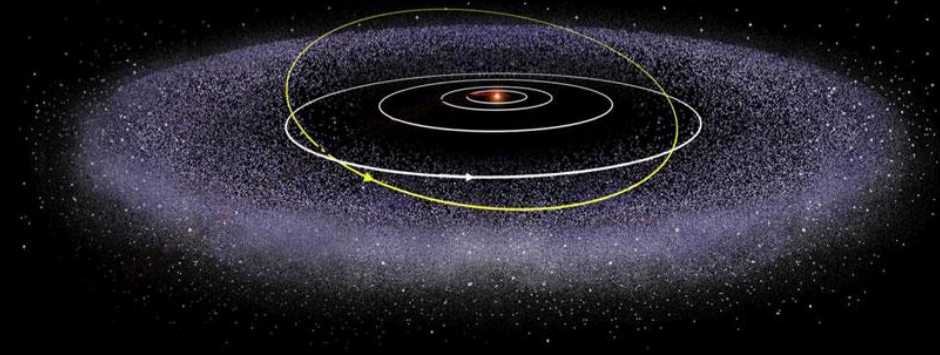
**Half the size of the earth with an elliptical orbit.**

**Has 2 moons named Phobos and Deimos.**





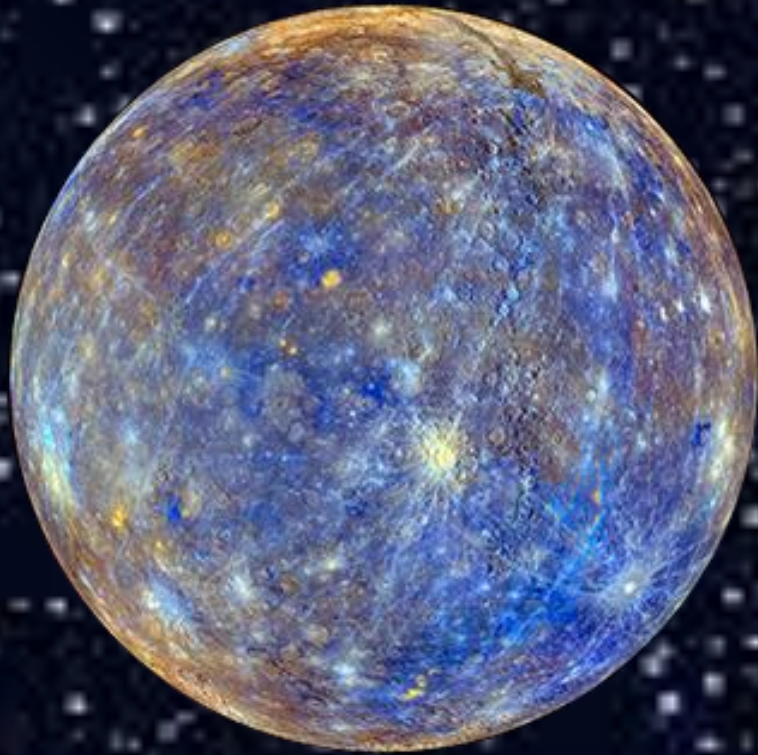
**A doughnut-shaped ring of icy objects.**



**Contains bits of rock, ice, comets, and dwarf planets.**

**Named after a scientist named had the idea that a belt of icy bodies might have existed beyond Neptune. He was trying to explain where comets with small orbits came from.**





**Terrestrial – solid rocky surface.**

**Atmosphere is made of O<sub>2</sub>, NA, H<sub>2</sub> He and K**

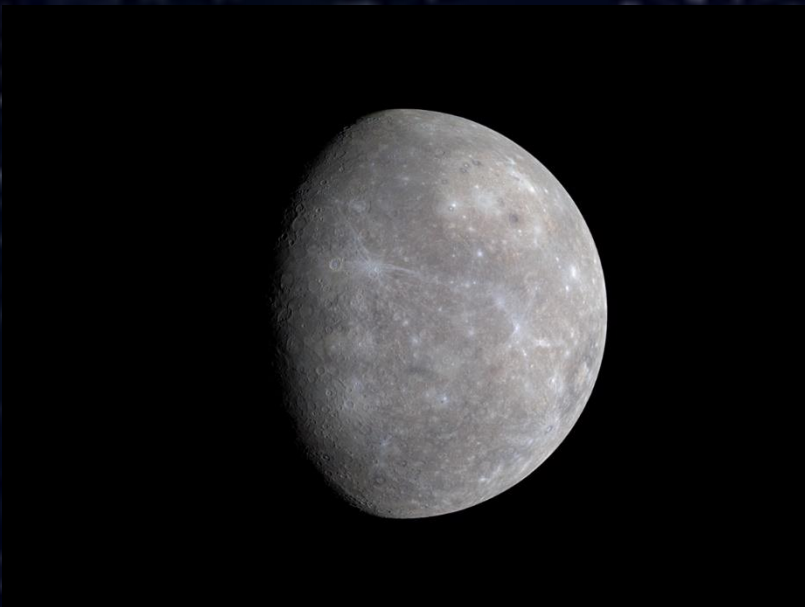
**Considered the swiftest planet.**

**Takes 3 minutes for sunlight to reach it.**

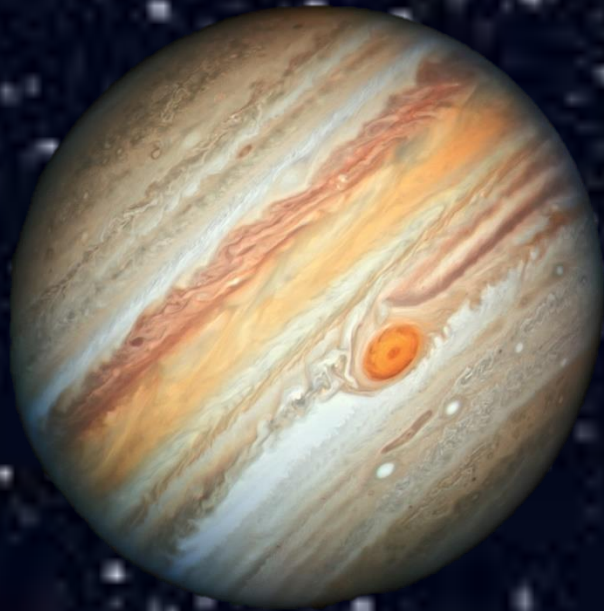
**Holds the largest ocean in the Solar System.**

**Named after the messenger of the Roman gods.**

**Has no moons.**







**Gas Giant – Clouds of Ammonia and H<sub>2</sub>O  
Atmosphere is made of H<sub>2</sub>, He and NH<sub>3</sub>**

**Has storms that are over 100 years old.**

**Takes 43 minutes for sunlight to reach it.**

**Holds the largest ocean in the Solar System.**

**Named after the King of the Roman gods.**

**Has 4 large moons, 53 small moons and dust rings.**







**Enter planet's atmosphere at high speed and burn up.**

**Is a particle broken off of an asteroid or comet orbiting the Sun**

**They include any space debris bigger than a molecule and smaller than about 330 feet**

**Can be made of rock or iron-nickel or a combination of both.**





**Terrestrial – rock core, mantle and crust.  
Atmosphere is made of O<sub>2</sub>, N<sub>2</sub>, AR and CO<sub>2</sub>**

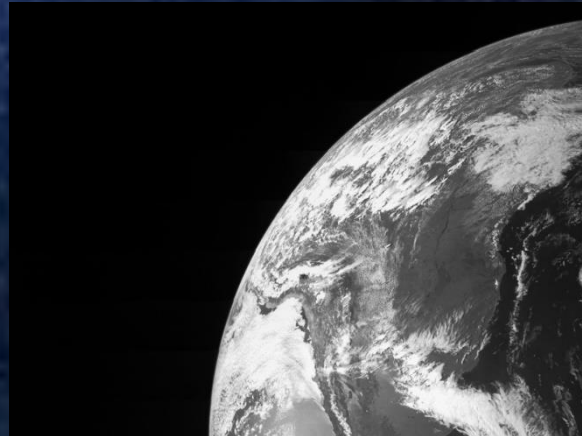
**Has 2,218 satellites in orbit.**

**Takes 8 minutes for sunlight to reach it.**

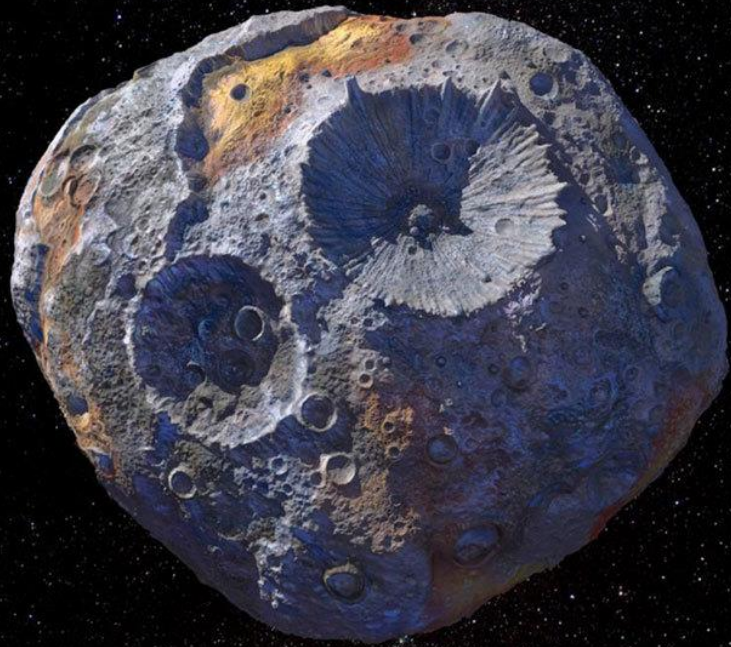
**Mostly liquid on the surface.**

**Not named after a Roman or Greek god.  
Name is Germanic and means ground.**

**Has one moon.**







**Small, rocky objects.**

**Jagged and irregular shaped.**

**Some are solid bodies, while others are smaller piles of rubble bound together by gravity.**

**There are 958,017 recorded.**







**Ice Giant – rocky core and icy mix of H<sub>2</sub>O, NH<sub>3</sub> and CH<sub>4</sub>  
Atmosphere is made of H<sub>2</sub>, He and CH<sub>4</sub>.**

**Known as the sideways planet because of its rotation.  
Has an East West rotation and is at a 90 degree angle.**

**Takes 2 hours and 40 min for sunlight to reach it.**

**Blue green color caused by methane absorbing reds.**

**Named after the Roman of the sky..**

**Has 27 moons and 13 rings.**





**Survives the entry into a planet's atmosphere.**

**Is a particle broken off an asteroid or comet orbiting the Sun.**

**They include any space debris bigger than a molecule and smaller than about 330 feet.**

**Can be made of rock or iron-nickel or a combination of both.**





Terrestrial – rock core, mantle and crust.  
Atmosphere is made of CO<sub>2</sub> and Sulfuric Acid

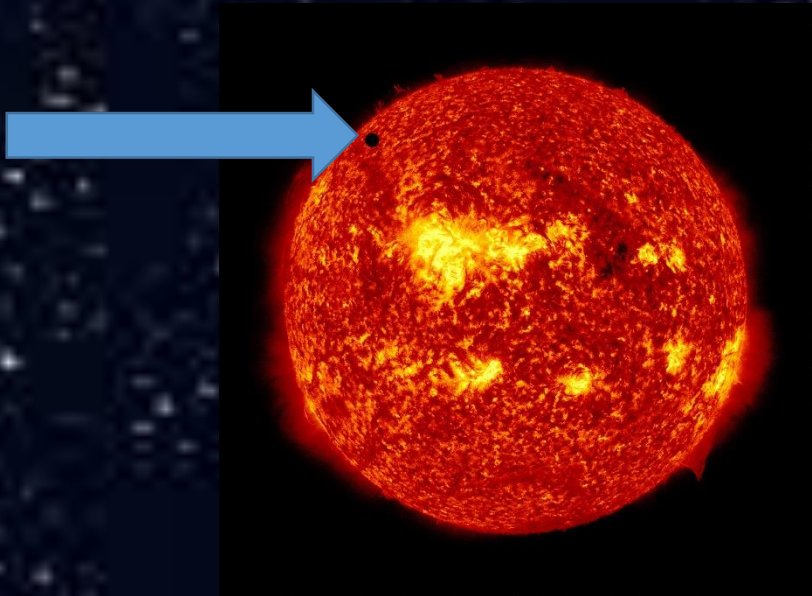
Has East West rotation and no tilt. So no seasons.

Takes 6 minutes for sunlight to reach it.

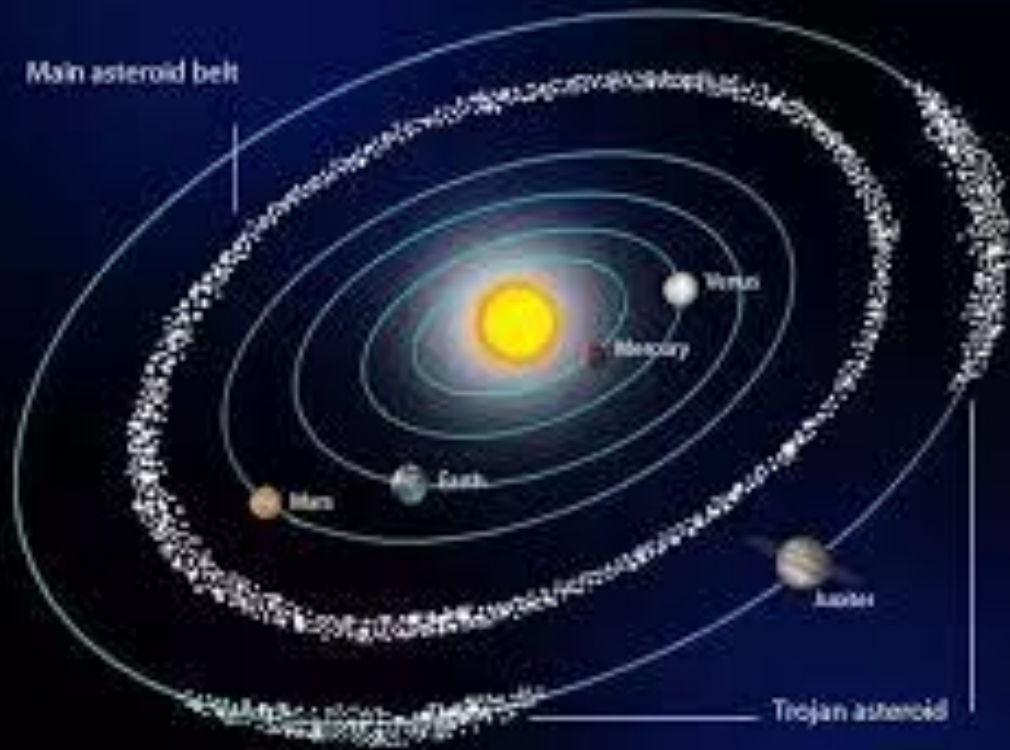
863°F with hurricane force winds.

Named after the Roman god of love.

Has no moons or rings.



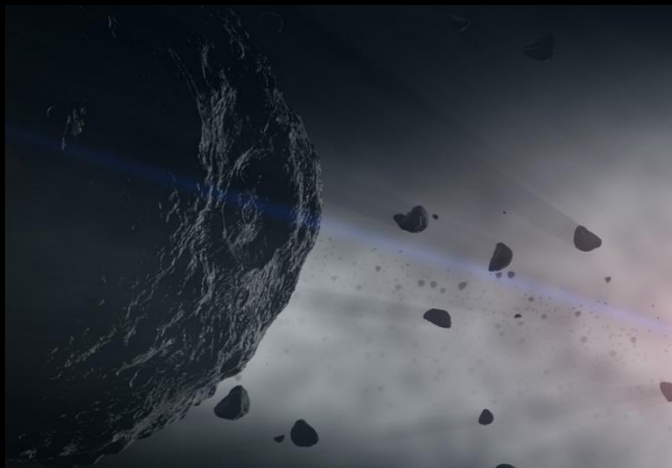


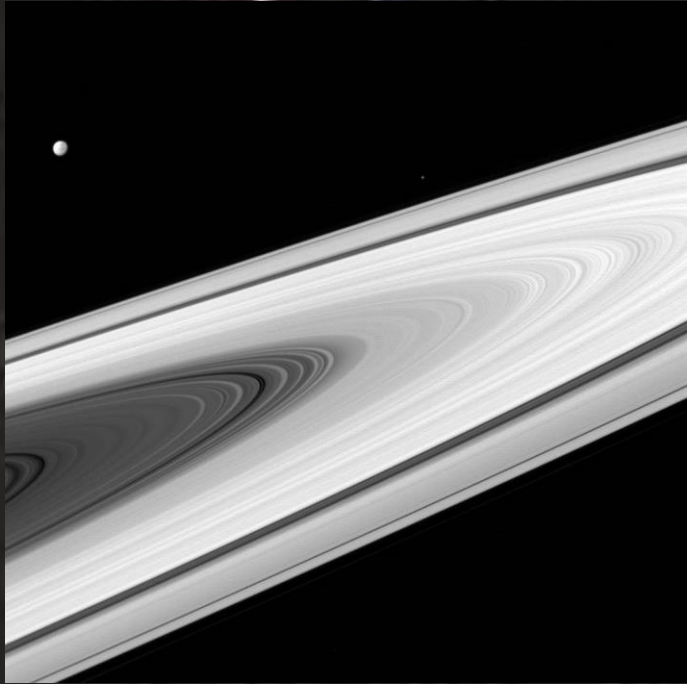
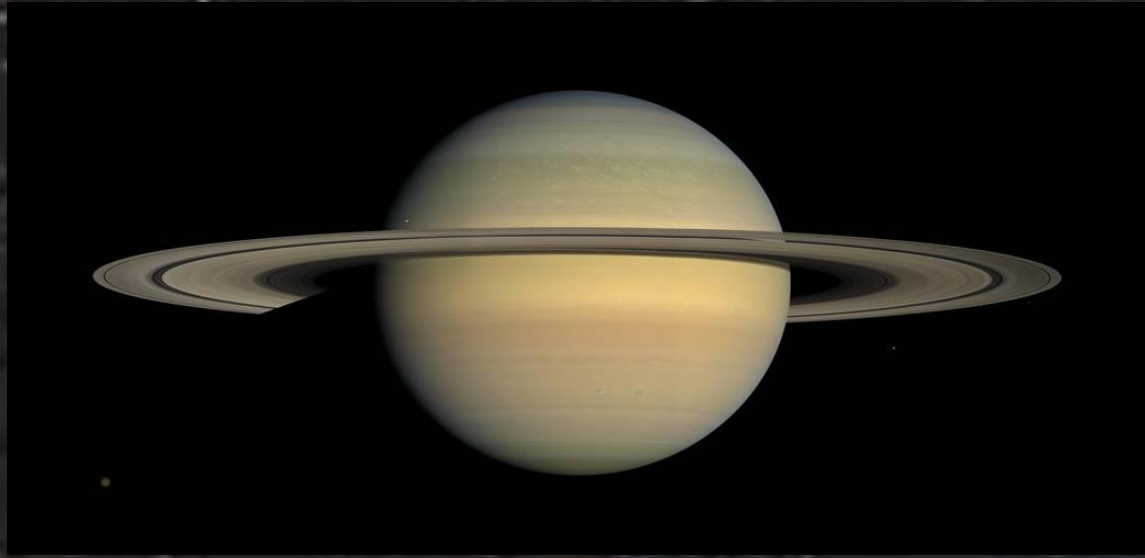


**Large group of ancient space rubble found orbiting the sun between Mars and Jupiter**

**Irregularly shaped, though a few are nearly round, and they are often pitted or cratered.**

**Made of clay and silicate, iron-nickel or a combination of both.**





**Gas Giant – gases make up the bulk of this giant.  
Atmosphere is made of H<sub>2</sub> and HE**

**One day is 10 hours long.**

**Takes 80 minutes for sunlight to reach it.**

**Density is less than water so it would float in a tub. If there was a tub that large.**

**Named after Roman god of agriculture and wealth. The father of Jupiter.**

**Has 53 known moons and 29 or more being researched. Has 7 rings.**





**Snowballs of frozen gas, rock and dust that orbit the Sun.**

**Dust and gases form a tail.**

**There are 3,626 currently known.**

**Most travel a safe distance from the Sun but some, called sungrazers, crash straight into the Sun or get so close that they break up and evaporate.**

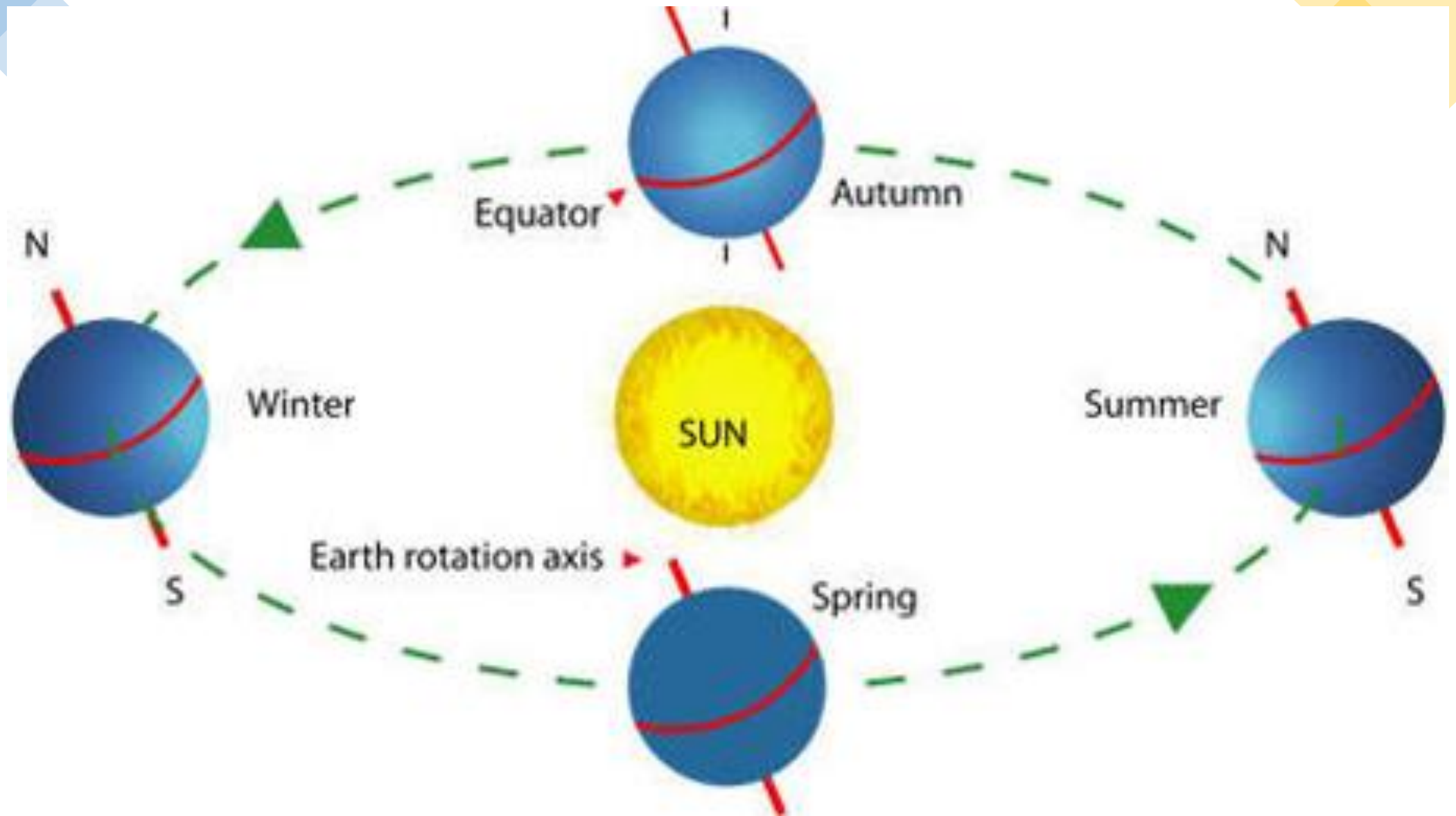


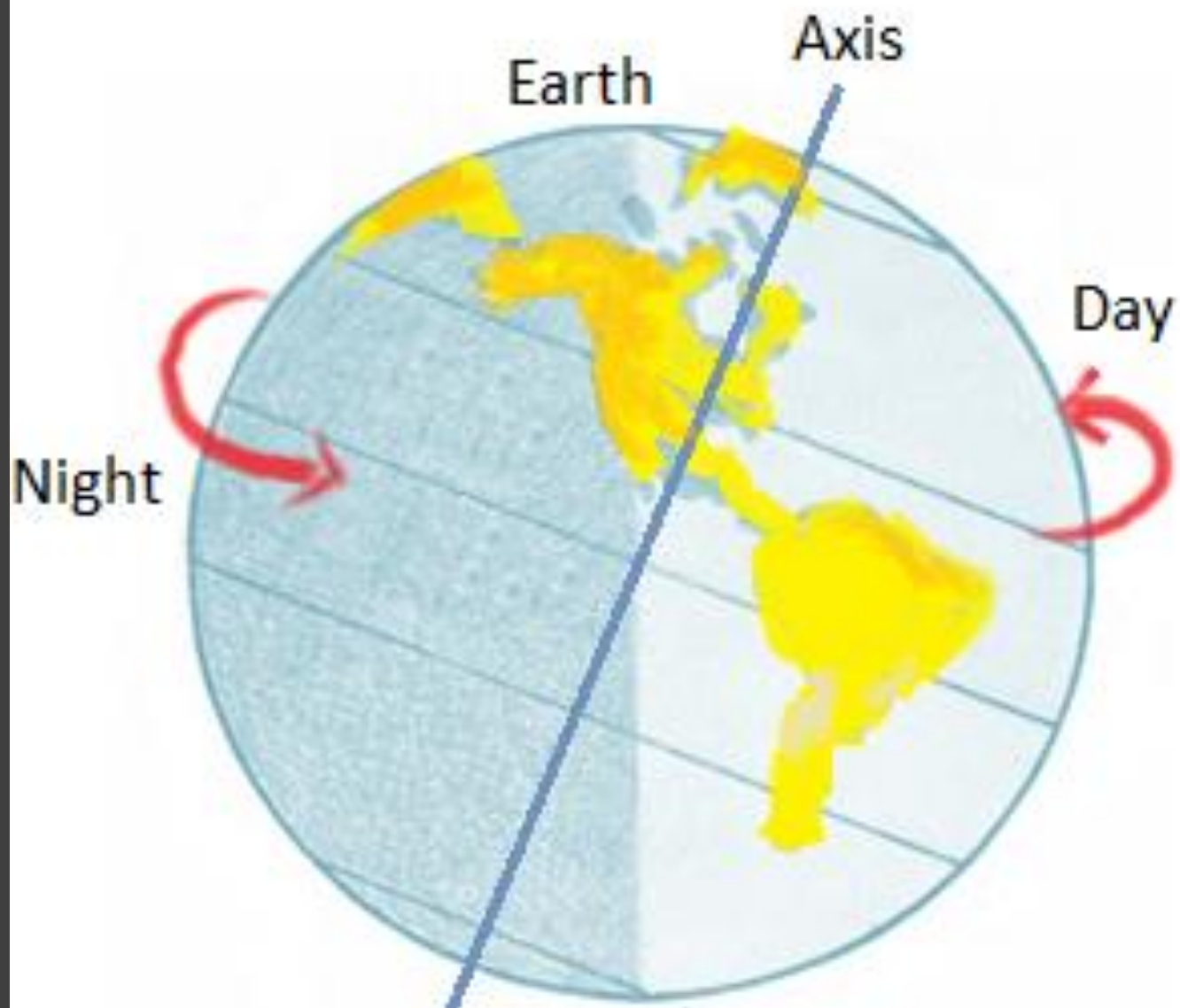


## Step 2: Circle the Sun

Why do Planets move around the sun??








Sun





Let's Look at  
Saturn..



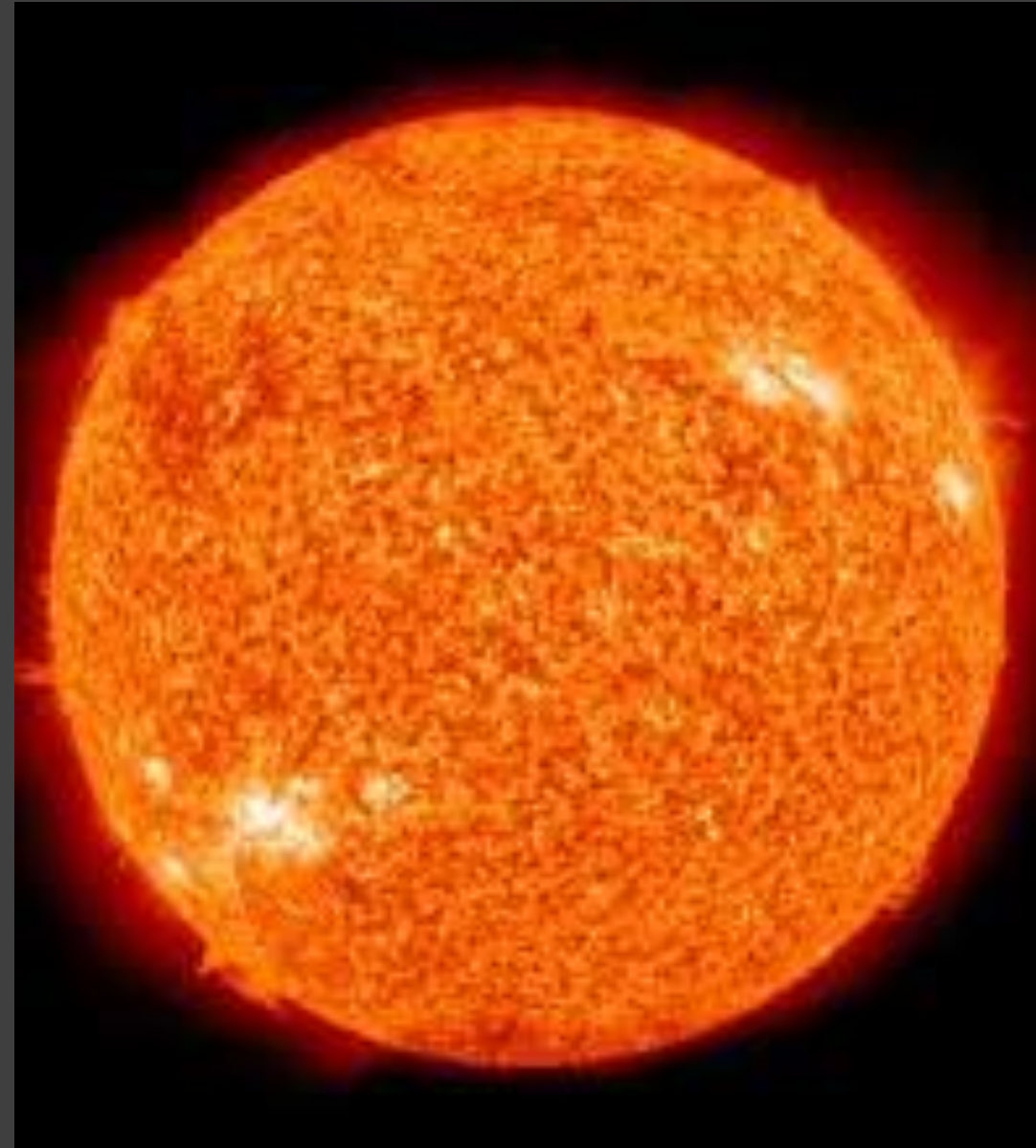


Do you want to  
learn more??

- Cool website to check out:
- Calculate your age on other planets – visit [www.girlscouts.org/SpaceSciencePlanetAges](http://www.girlscouts.org/SpaceSciencePlanetAges)
- If you were born on 4/20/2008 – 12 years old
  - Mercury – 49.8 years old – your next birthday – 5/5/2020
  - Venus – 19.5 years old – your next birthday – 8/9/2020
  - Mars – 6.3 years old – your next birthday – 6/19/2021



# Step 3: Discover the Stars





# Orion – The Hunter



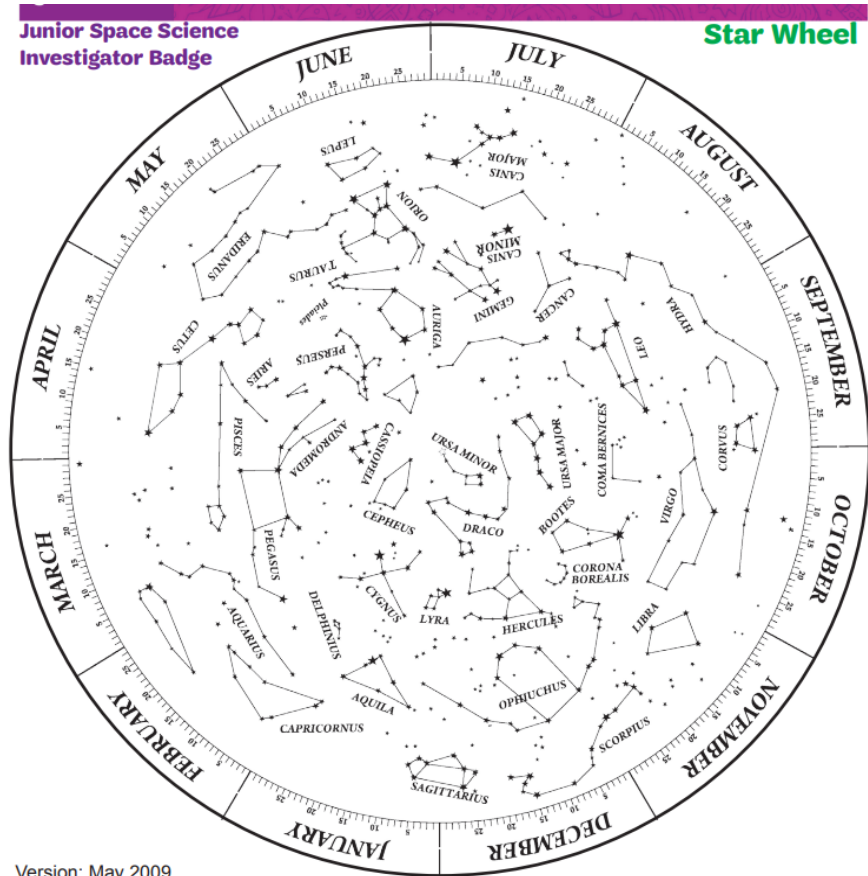
Rigel





Betelgeuse

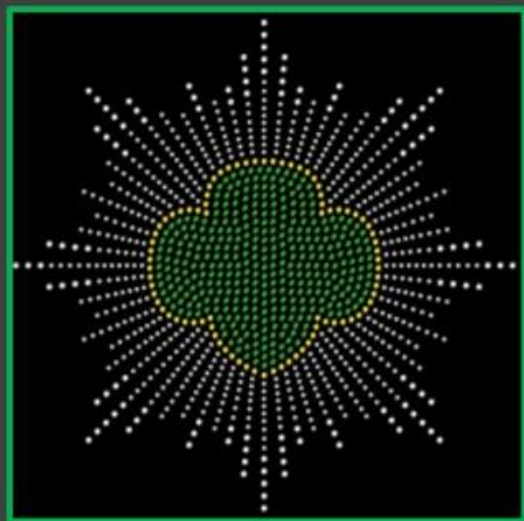
# Step 4: Use Tools to Explore – Star Wheel



INSTRUCTIONS FOR ASSEMBLING UNCLE AL'S STAR WHEELS

- Pictured is “Uncle Al’s Star Wheel”.
- Instructions for completing this project can be found on <http://lhs.berkeley.edu/pass/AS T110&111&121.html>

# YOUR NEXT STEPS



Check out resources in post meeting email



Continue to work on your observation scrapbook



Share what you've learned