

[Hadel Rachid](#) at [Tribute to Star Trek](#)

# THE SOLAR SYSTEM

An Exploration



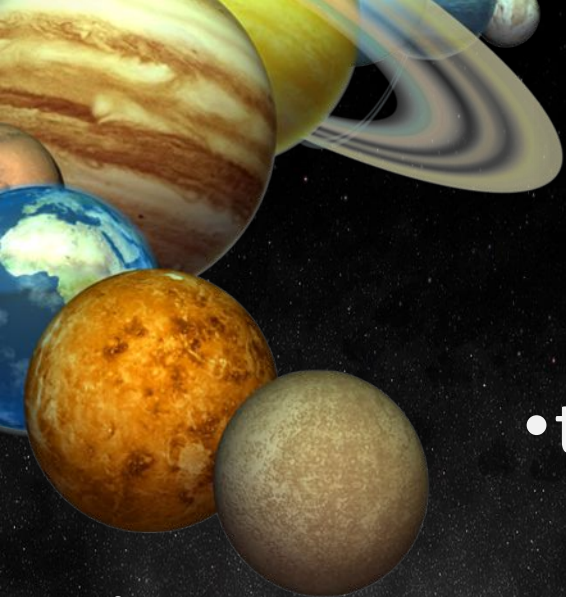
# Universe Unpacked

Scholastic.com



[Study Jams!](#) by [Scholastic.com](#)





# Our Solar System consists of celestial bodies that include:

- the Sun (Star)
  - planets and their moons
    - dwarf planets
    - asteroids
    - comets
    - meteoroids



*Classify celestial Bodies  
Represent and describe characteristics  
Examine light emitters  
Interpret physical, pictorial, or digital models of the solar system.*

## Celestial Bodies

Surface Conditions

Composition

size

shape

emit light  
reflect light

# Solar System

Astronimate - “makes learning about our vast universe with fun animations.”

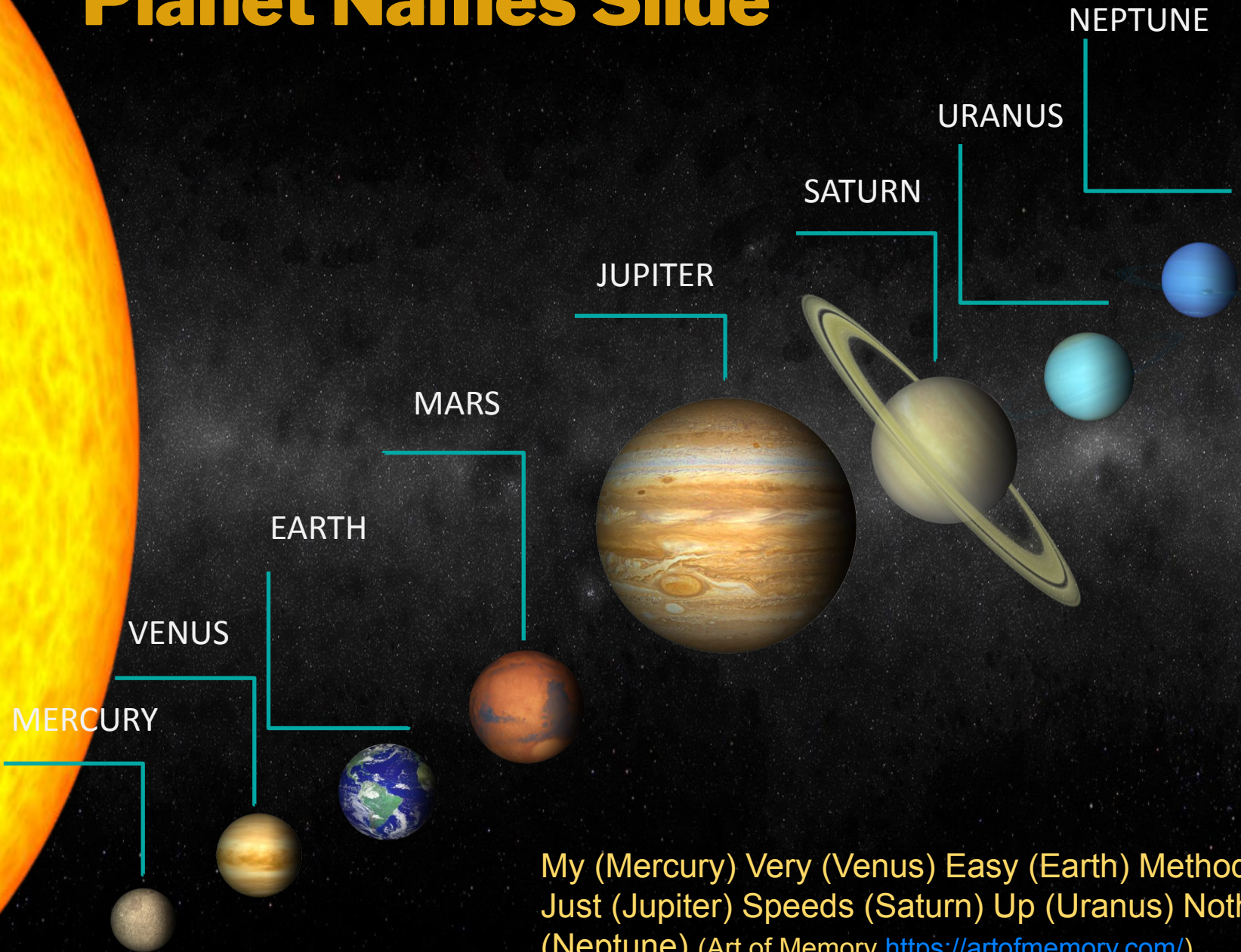
[Astronimate](#)

How did our solar system form?

Why is the Sun such a key part of earth’s survival?



# Planet Names Slide

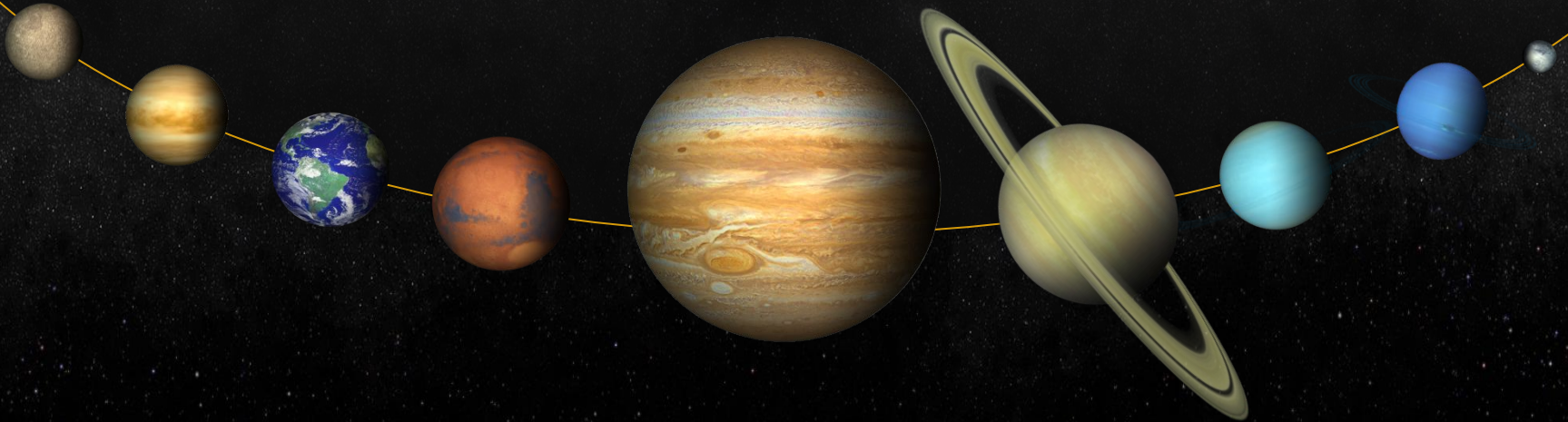


My (Mercury) Very (Venus) Easy (Earth) Method (Mars)  
Just (Jupiter) Speeds (Saturn) Up (Uranus) Nothing  
(Neptune) (Art of Memory <https://artofmemory.com/>)



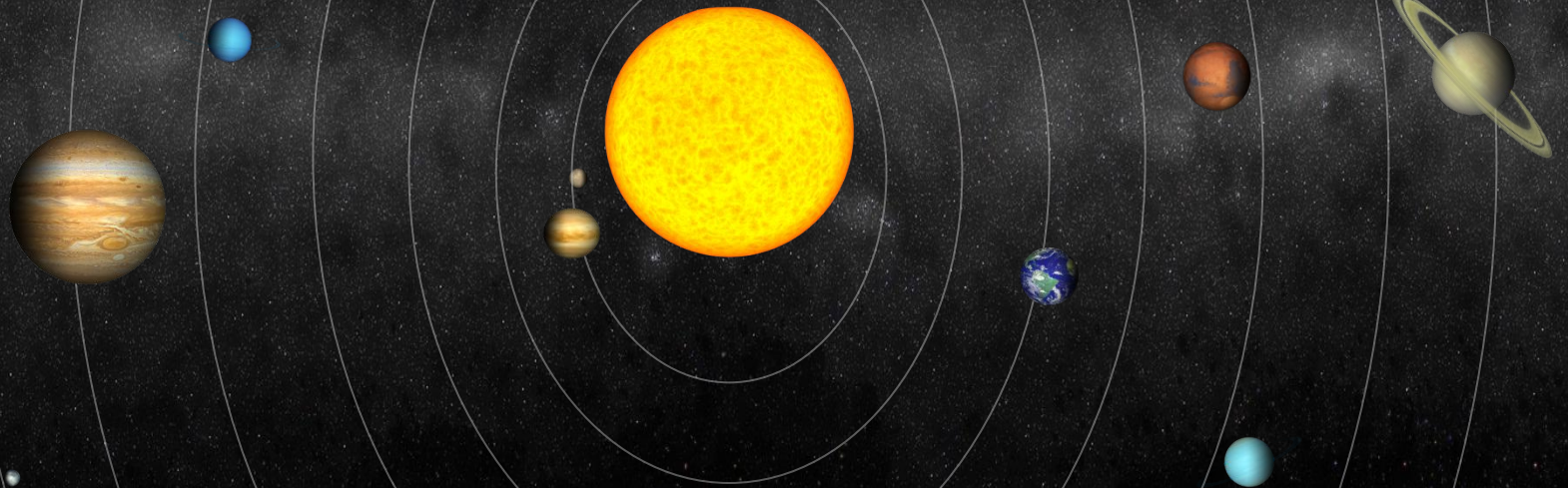
# Planet Information

Click on a planet to view it individual information slide.





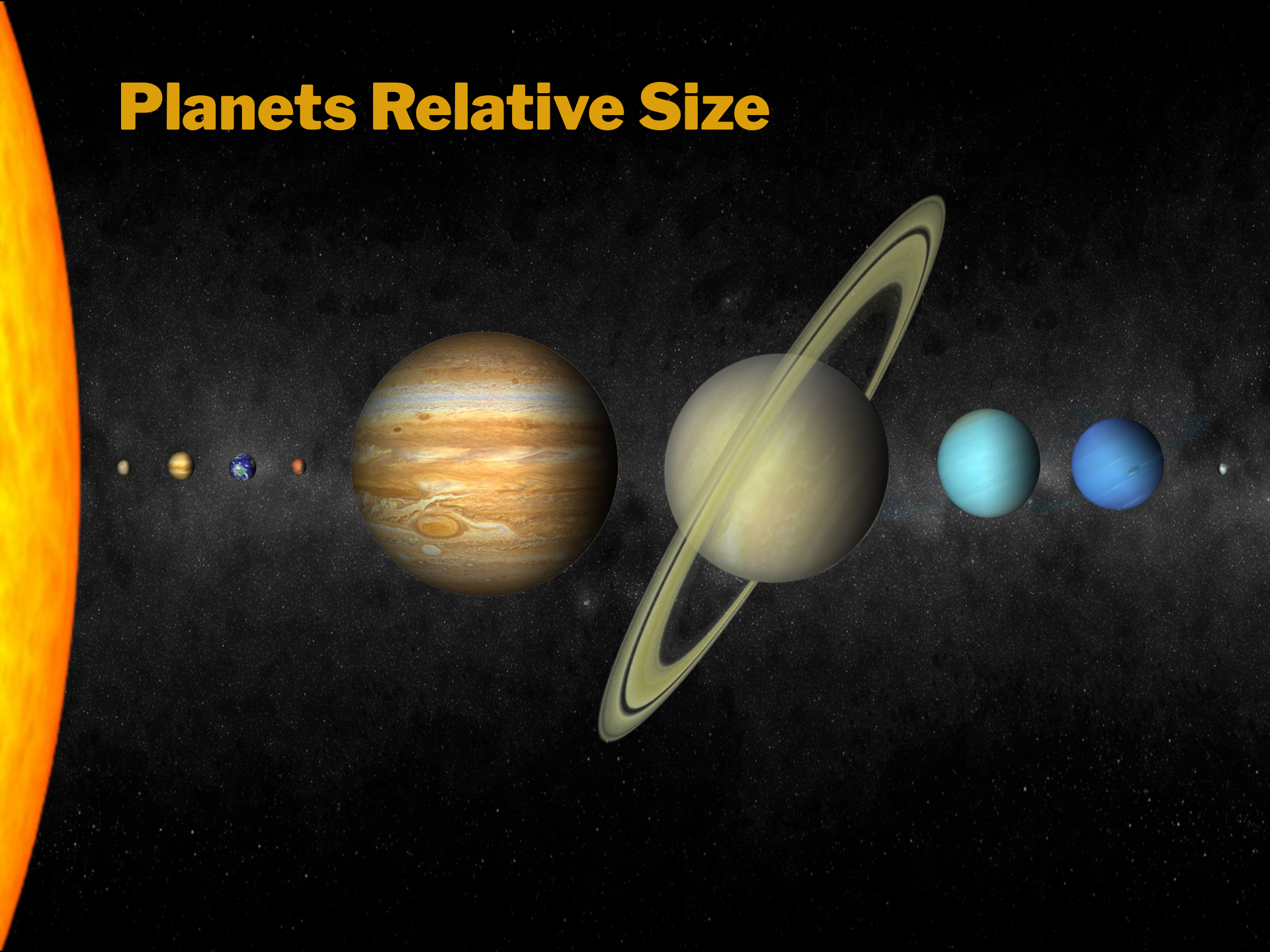
# Solar System Orbit



How do planets maintain their orbits?



# Planets Relative Size





# Furthering Our Inquiry : Light Emitters

Relate the characteristics of a Dwarf planet to the reclassification of Pluto.

Sky Science The Universe: Yours to [Discover](#)



Objects That Emit and Reflect Light

Light: Crash Course [Astronomy](#)  
[#24](#)



# Our Celestial Bodies



Inner Planets

The four inner solar system planets (Mercury, Venus, Earth, and Mars) fall under the category of terrestrial planets;

Outer Planets

The four outer solar system planets are Jupiter and Saturn called gas giants (giant planets composed mostly of hydrogen and helium) while Uranus and Neptune are the ice giants (containing mainly elements heavier than hydrogen and helium).

Asteroid Belt

The Asteroid Belt separates the Inner planets from the Outer planets. The belt lies between Mars and Jupiter.

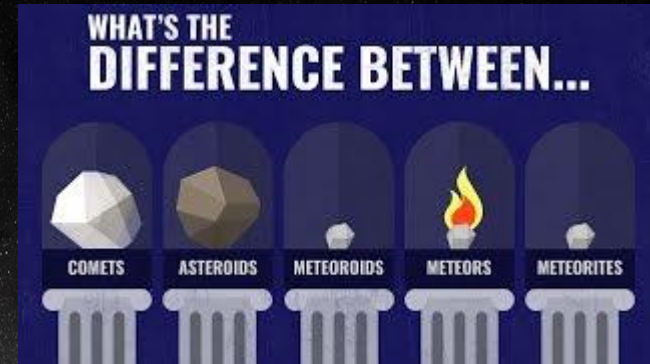
Dwarf Planet

A Dwarf Planet orbits the sun, has enough mass to maintain a round shape but has not cleared its neighborhood around its orbit; it is not a moon.





What Is The Difference Between An Asteroid, A Meteoroid, A Meteorite And A Comet?



Less Than Five - What's the Difference Between Comets, Asteroids, Meteoroids, Meteors & Meteorites?



How To Identify a Meteorite  
University of Alberta



# Finding Micrometeorites

Collecting Micrometeorites

has a Youtube in it of how to carry out the investigation.

Tiny meteorites are everywhere — here's [how to](#) find them



# Stargazing tips



Dreamstime.com ID#29143802



Dreamstime.com ID#6097954 Jeff Whyte

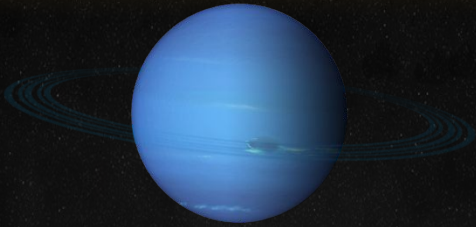
What are binoculars?  
How do they help us  
see stars?

How does a telescope  
work?  
Compare the  
observations you would  
get from a telescope  
pictured above with the  
one at the [Hesje](#)  
Observatory at  
Miquelon Lake  
Provincial Park. (Dark  
Sky Reserve)

Telus World of Science  
Research this centre or one closer to  
you and determine where and how  
you can view space objects.

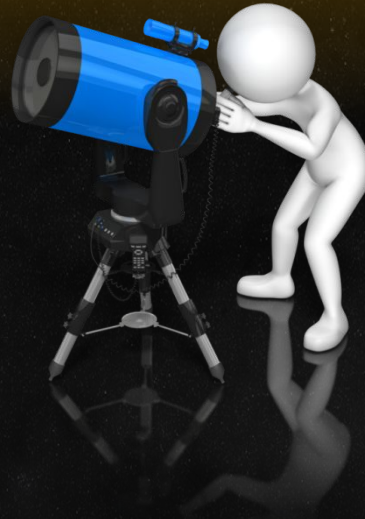


# Space Exploration



Exploring the Planets

What [tools](#) do we use?



How do scientists [explore](#) the solar system?

Solar System  
Exploration - [satellites](#)



[Andrew Bodrov](#) at [Dreamstime.com](#)



NASA Stock Image

MARS [Exploration](#)

National Air and  
Space [Museum](#)

[Artemis 1](#)

Our World in [Data](#)



# Two Picture Page Layout



Image by vectorpouch on [Freepik](#)

Distinguish features between Comets, Asteroids and Meteoroids.

## Sample Natural Satellite



Credits:NASA image

## Sample Artificial Satellite



Credits:NASA image

Compare and contrast natural satellites and artificial satellites.





View of Earth from the ISS



Natural and Artificial Satellites



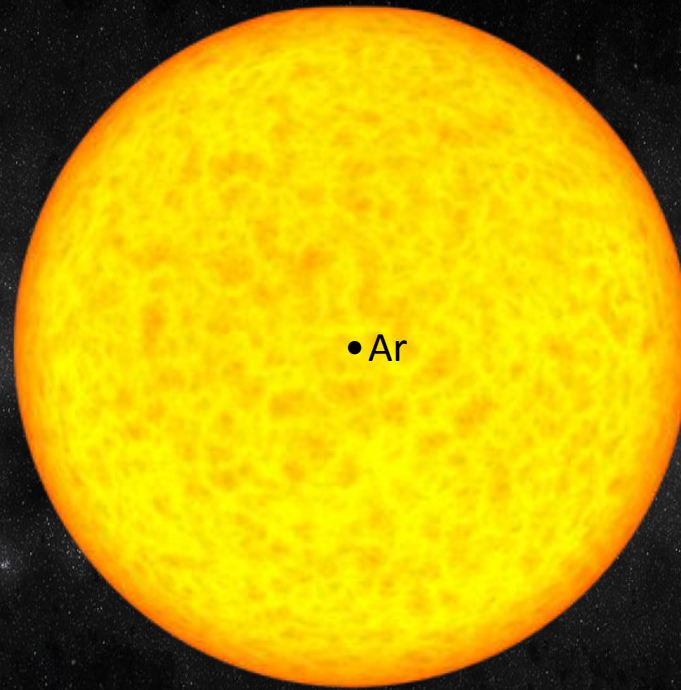
Recycling Air and Water



Fun Facts About ISS



Discuss potential personal, societal, technological, and environmental barriers to living and working in space.



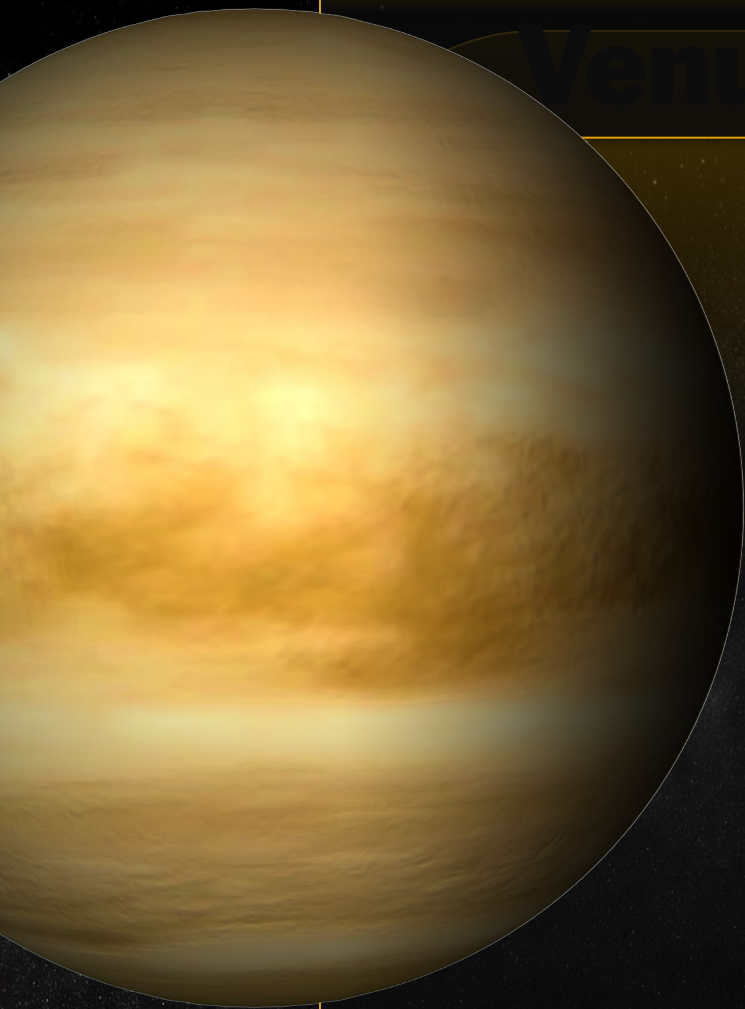




- This planet is the smallest and closest to the Sun.
- Mercury only makes three revolutions for every two around its orbit.
- For every night that passes on Earth, a year goes by on Mercury.
- it has more than 350 craters
- in 1990's, scientists discovered there is ice in the craters of the north and south poles. These poles never experience sunlight therefore remain permanently cold and frozen whereas the equatorial areas exceptionally hot.







- This planet is the second planet from the Sun.
- It is the brightest natural object in the sky after the Earth's moon.
- It has a very dense atmosphere made up of carbon dioxide and a little amount of nitrogen.
- It is the planet most like earth in size and mass
- Surface temperatures average 450°C
- Venus completes an orbit every 224.65 Earth days.





- This planet is the third planet from the Sun and the one you probably call home.
- It is the fifth largest of the planets.
- Earth is home to millions of different species, including humans.
- Earth has one moon called Luna.
- There are 365 days in a year.



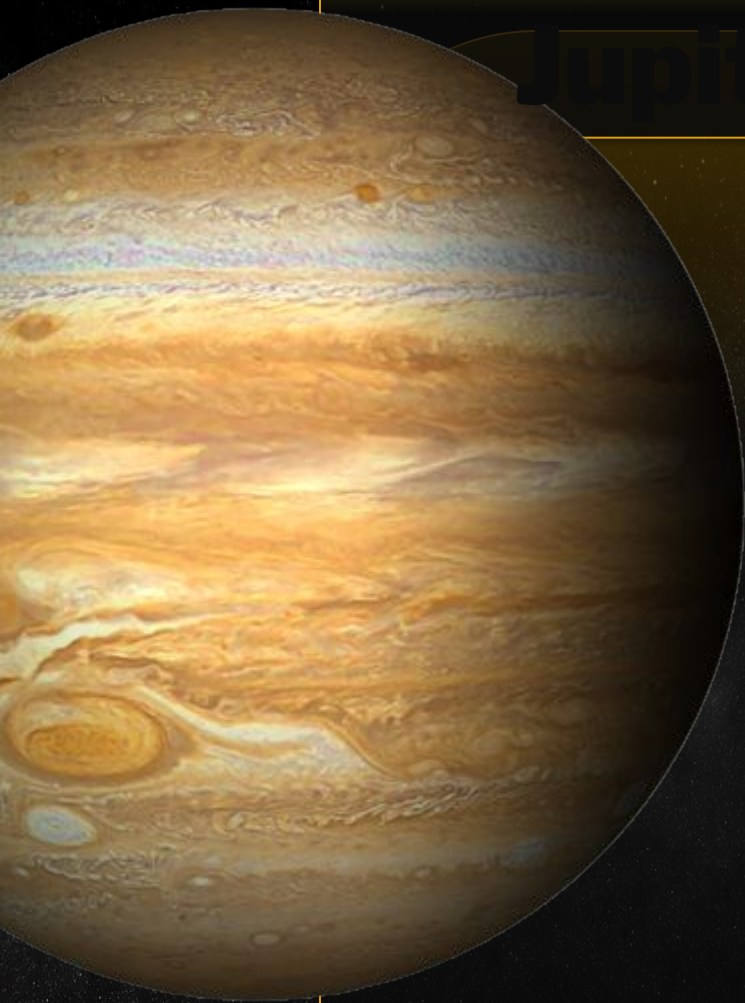




- This planet is the fourth planet from the Sun.
- It is the second smallest planet in the solar system.
- Mars has two small moons Phobos and Deimos.
- Bright areas on Mars are covered with fine, light-colored sand that gets blown around the planet by winds in its thin atmosphere.
- Dark areas, however, are not huge expanses of vegetation, as once thought, but instead vast volcanic deposits dating from the planet's early history.

[Back to Main](#)

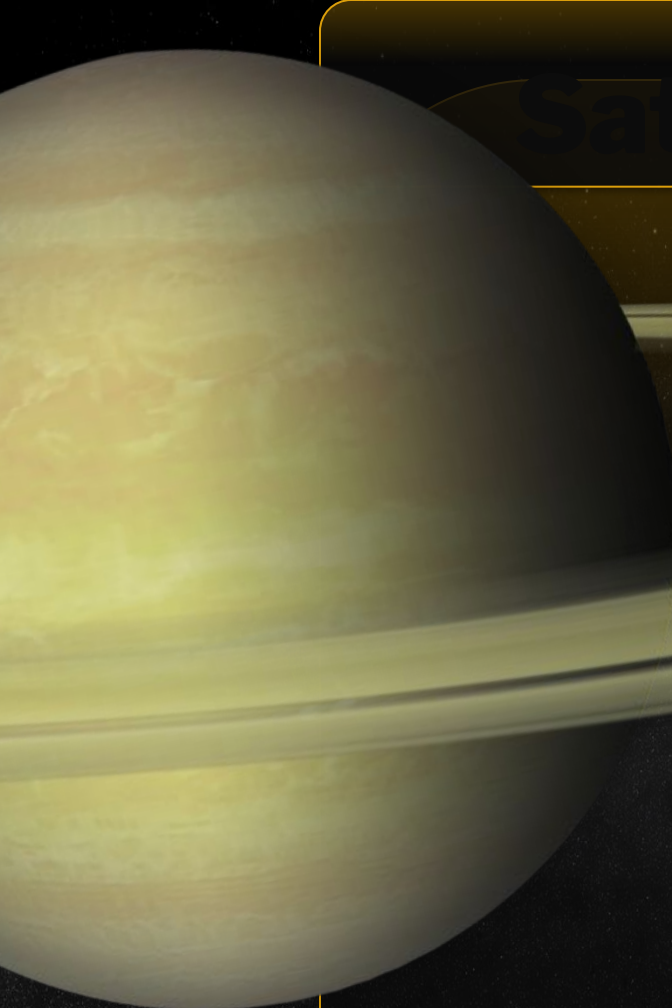




- This planet is the fifth planet from the Sun.
- Jupiter is classified as a gas giant and is made up of primarily hydrogen and a quarter helium.
- Has the fastest rotation of all other planets. Completes a rotation every ten hours.
- It has 67 moons.

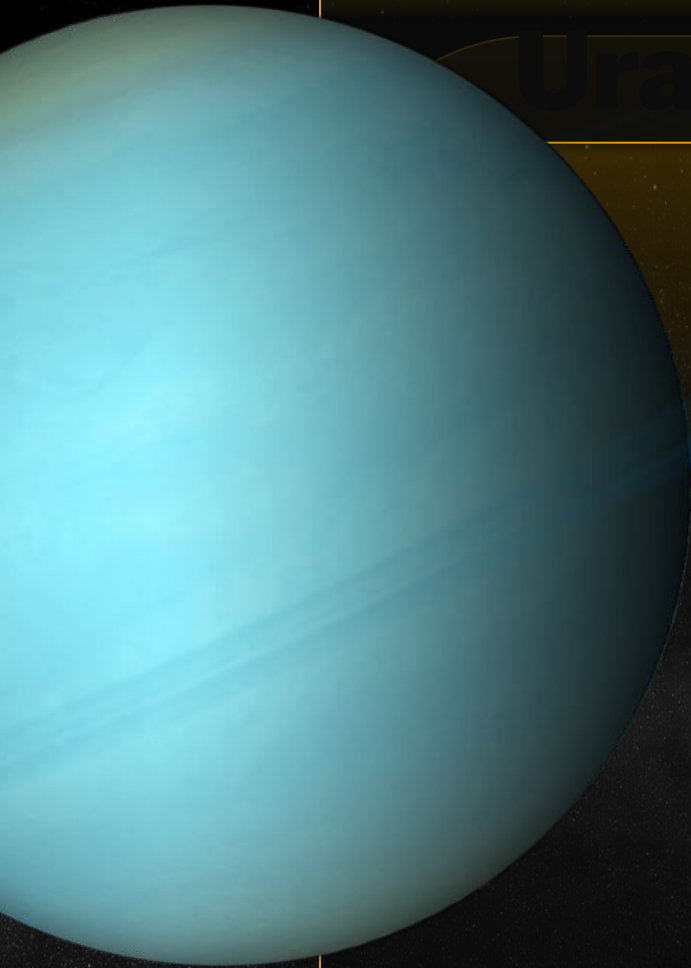






- This planet is the sixth planet from the Sun.
- Saturn's rings are made up of mostly ice particles and smaller particles of rocky debris and dust
- It takes Saturn 10,759 earth days to make one revolution around the sun.
- Saturn has 53 named moons.

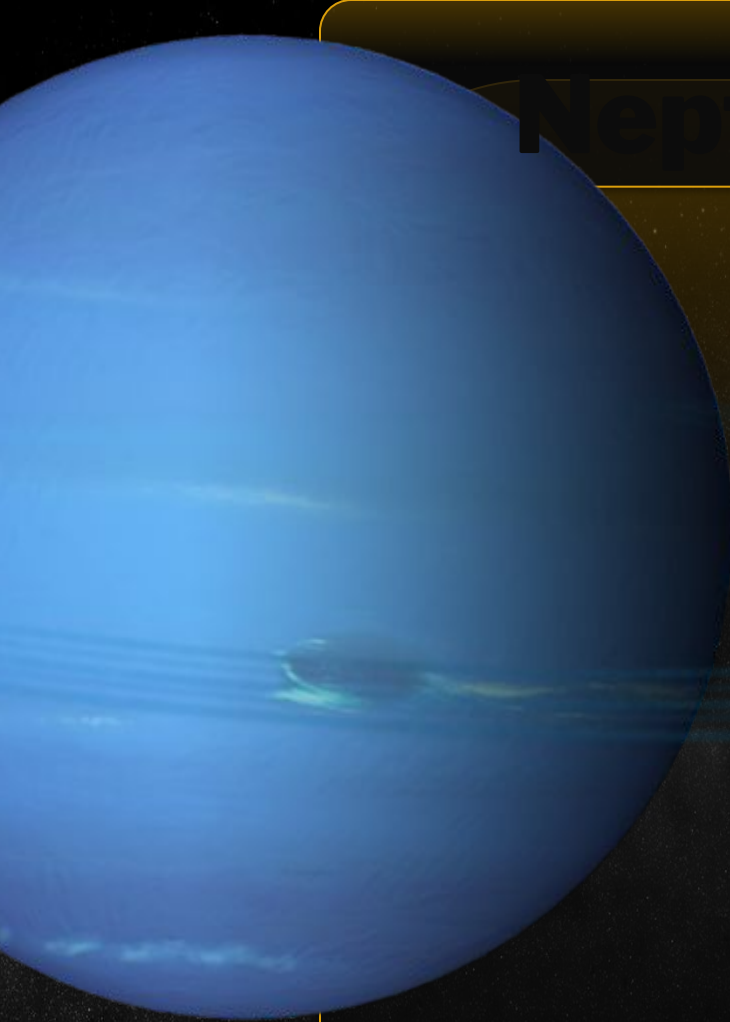




- This planet is the seventh planet from the Sun.
- Uranus is classified as a ice giant and has the coldest planetary atmosphere in the Solar System.
- Every 84 earth years Uranus makes one revolution around the sun.
- Uranus has 27 moons.

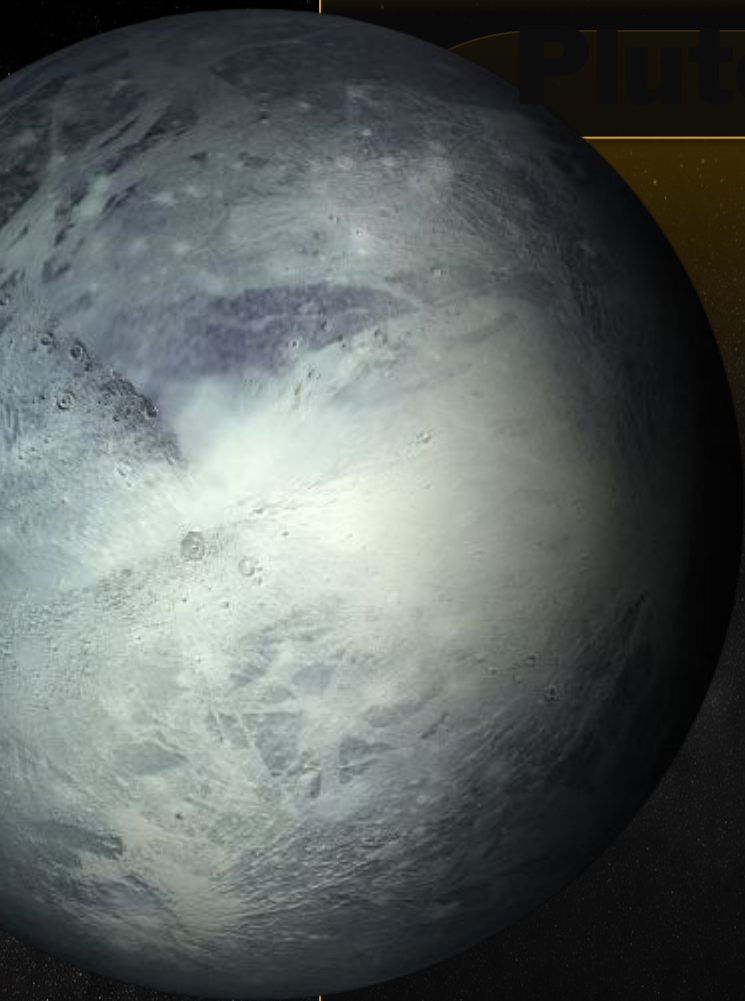






- This planet is the eighth planet from the Sun.
- Neptune's atmosphere is made up of 80% hydrogen and 19% helium.
- Neptune makes a complete revolution around the sun about every 165 earth years.
- Uranus has 13 moons.

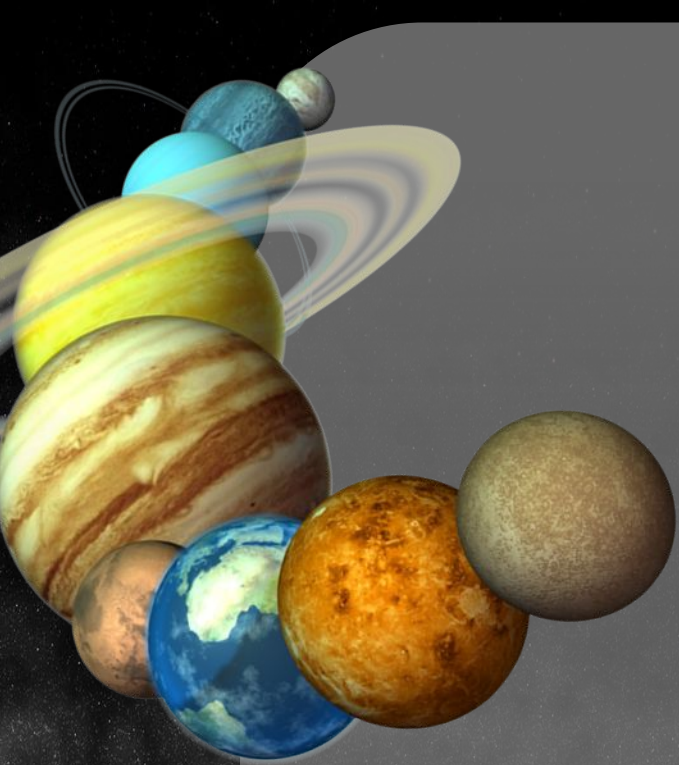




- This dwarf planet was originally classified as the ninth planet from the Sun.
- Pluto is made up of mostly rock and ice.
- Every 248 Earth years Pluto makes one rotation around the sun.
- Pluto has five moons.







# Science Resources for Space

Ducksters: Astronomy for [Kids](#)

Nine [Planets](#)

[Astronomy](#)

NASA STEM [Engagement](#) - several activities (look in NASA Audiences)

Curriculum [Resources](#)

STAR Date- Moon Phase [Calculator](#)

Explore the Wonders of the Solar System: Fascinating Facts About the [Planets!](#)

Exploring Our Solar System: Planets and Space for Kids - [FreeSchool](#)

Why isn't Pluto a planet [anymore?](#)

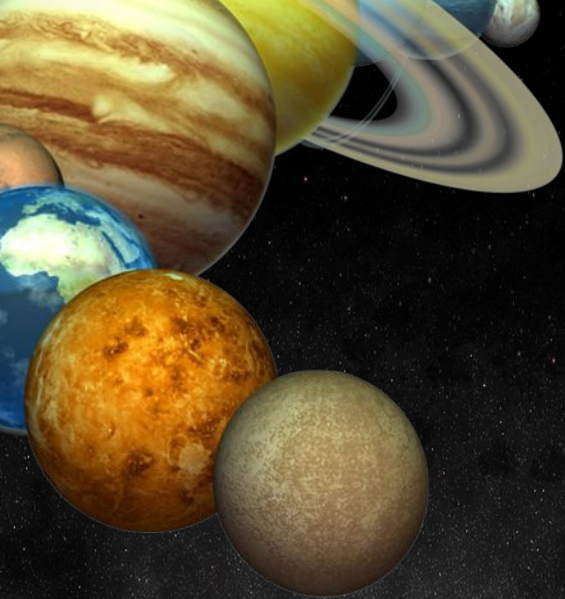
## Additional Resources

# Sources

Temming, M. Sky & Telescope: Essential Guide to Astronomy: *how many planet are in our solar system?*. July 15, 2021.

<https://skyandtelescope.org/astronomy-resources/solar-system-planets-how-many-are-there/#:~:text=There%20are%20eight%20planets%20in,Saturn%2C%20Uranus%2C%20and%20Neptune.>



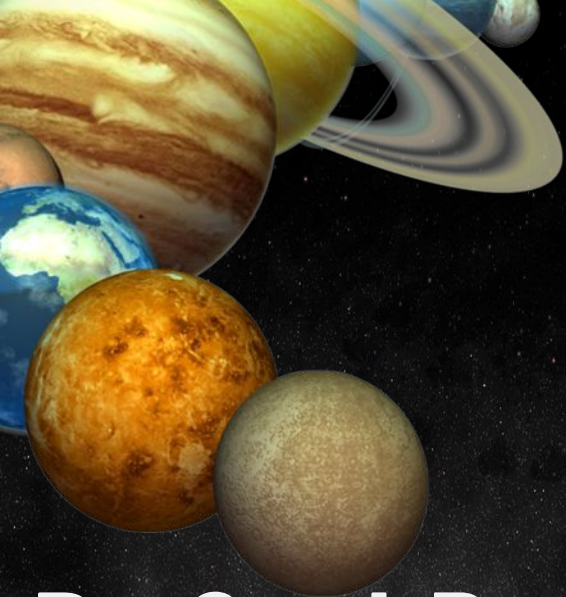


# Table Page Layout

Here is the description of the graph. This chart is compatible with PowerPoint 2007 or later..

Here is some more text. You may delete the graphical elements.

Geographic Region	Q1	Q2	Q3	Q4
United States	1254	1873	1015	2284
Europe and Asia	324	310	300	419
Australia	15	18	13	20
Canada	6	3	4	7
Mexico	1	.5	.5	2
TOTALS	1600	2205	1333	2732



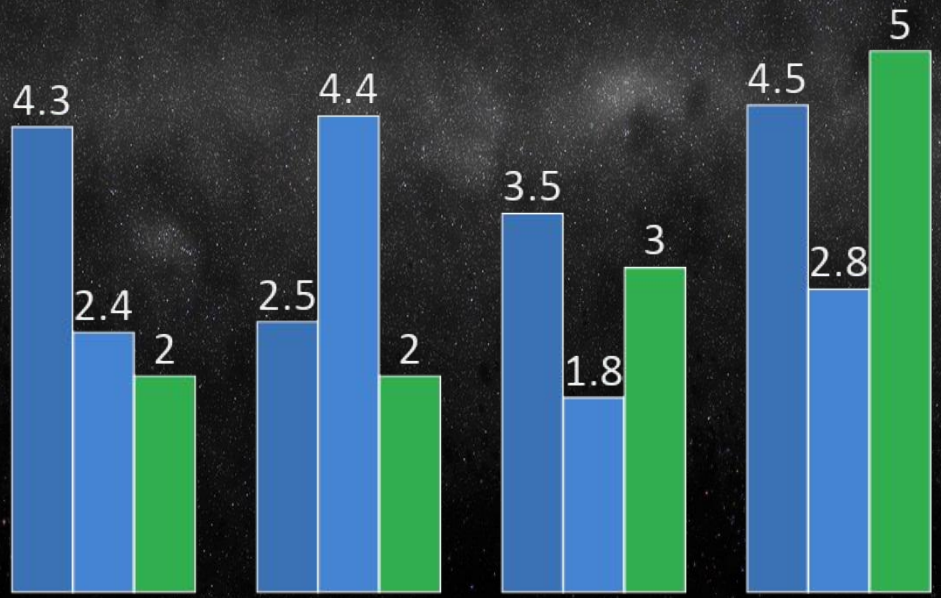
# Bar Graph Page Layout

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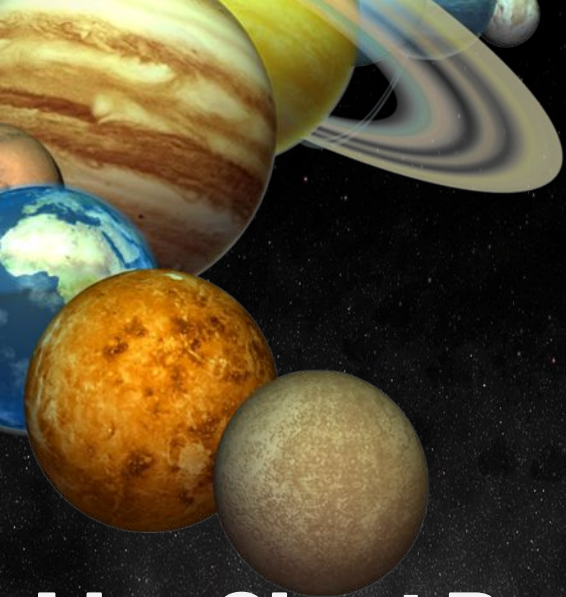
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Chart Title

■ Series 1    ■ Series 2    ■ Series 3







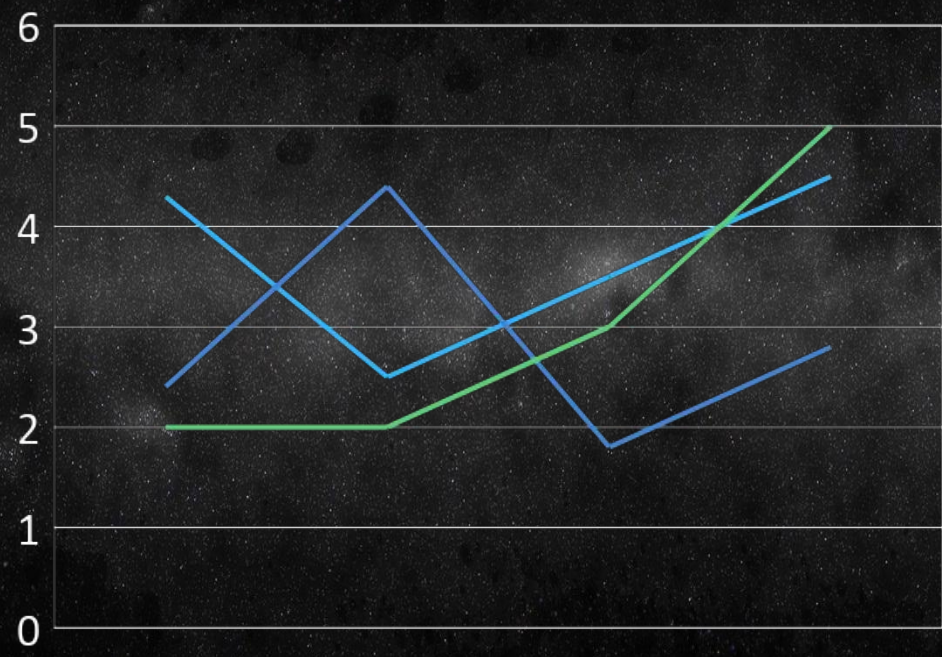
# Line Chart Page Layout

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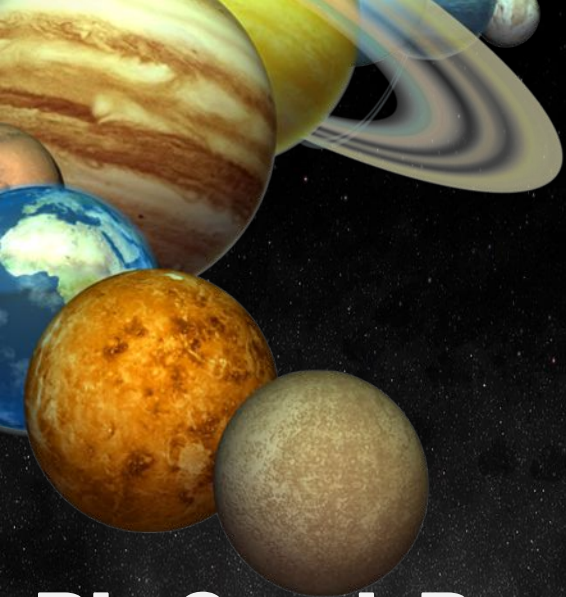
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Chart Title

—Series 1      —Series 2      —Series 3



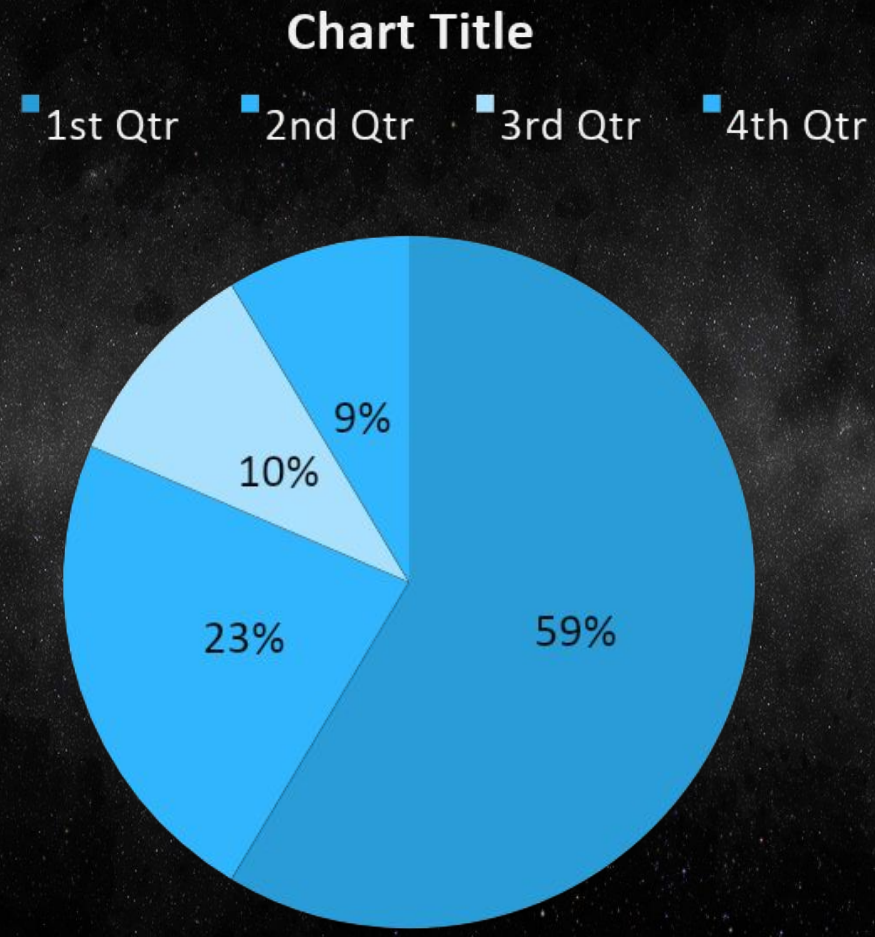




# Pie Graph Page Layout

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# Questions?



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