

Unit 1 - Lesson 3 - The Universe

Vocabulary





Universe - Vocabulary

mission: (n) an important job, especially a military one, that someone is sent somewhere to do





The spy was given a secret **mission** to gather information from the enemy.

Universe - Vocabulary

classify: (v) to divide things or people into groups according to their type





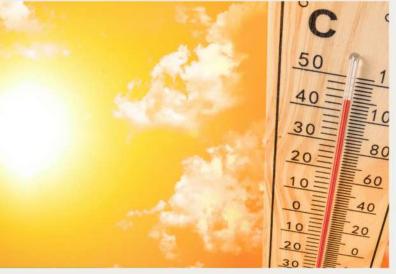
The book store has books classified by genre, making it easier to find what you need.

Universe - Vocabulary



extreme: (n) reaching a point far beyond normal





Extreme weather, like hurricanes and tornadoes, can cause a lot of damage.

Universe - Vocabulary



spectacular: (adj) very beautiful and/or exciting to look at





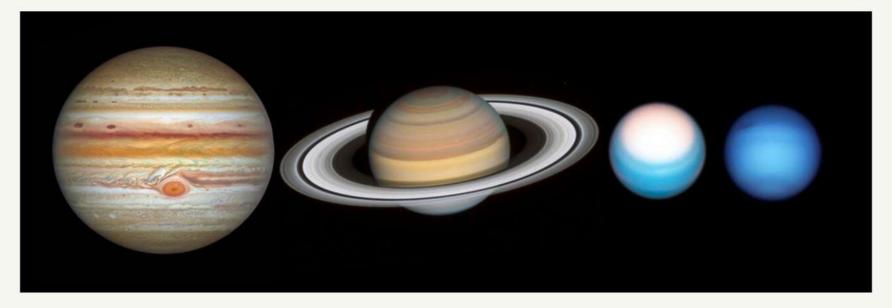
The fireworks display was absolutely **spectacular**, lighting up the entire sky.

Let's Read!



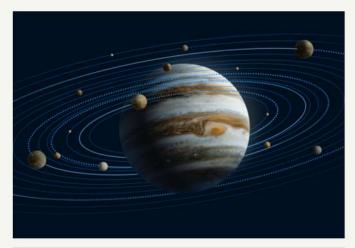


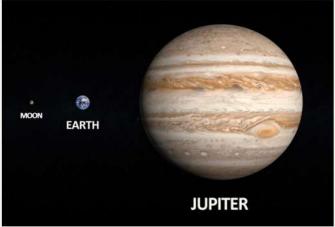
Discovering the Outer Planets: Jupiter, Saturn, Uranus, and Neptune



Welcome back to our journey through the Solar System! Today, we're going to explore the outer planets. These giant planets are much farther from the Sun than the inner planets and are made mostly of gases and ice. Let's explore the worlds of Jupiter, Saturn, Uranus, and Neptune!

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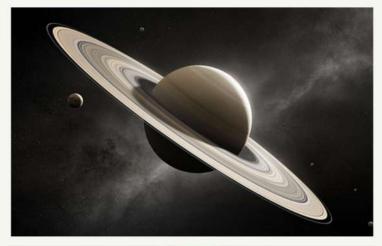
Jupiter: The King of the Planets

Jupiter is the largest planet in our Solar System, so big that all the other planets could fit inside it! It's known as a gas giant because it's made mostly of hydrogen and helium. One of Jupiter's most famous features is the Great Red Spot, a massive storm larger than Earth that has been raging for centuries. Jupiter also has at least 79 moons, with Ganymede being the largest moon in the Solar System. Ganymede is even bigger than Mercury!

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Saturn: The Ringed Beauty

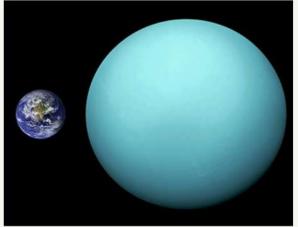
Saturn is famous for its stunning rings, which are made of ice and rock particles. These rings make Saturn one of the most beautiful and recognizable planets. Like Jupiter, Saturn is a gas giant composed mainly of hydrogen and helium. Saturn has more than 80 moons, with Titan being the most intriguing. Titan is the second-largest moon in the Solar System and has lakes and rivers of liquid methane, making it a fascinating place for scientists to study.





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Uranus: The Tilted Giant

Uranus is unique among the planets because it rotates on its side! This strange tilt makes its seasons extreme, with each pole getting around 42 years of continuous sunlight followed by 42 years of darkness. Uranus is classified as an ice giant, made mostly of water, ammonia, and methane ice. The methane in its atmosphere gives Uranus its beautiful blue-green color. Uranus also has faint rings and 27 known moons, with Miranda being one of the most interesting due to its bizarre, varied landscape.

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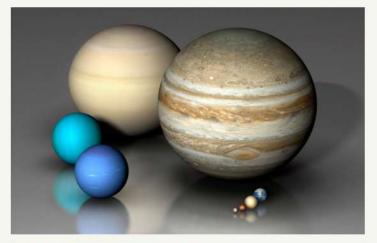
Neptune: The Windy Blue Planet

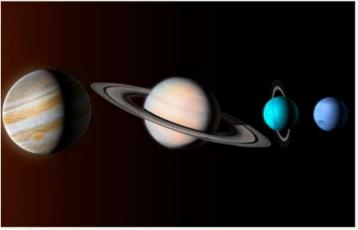
Neptune, the farthest planet from the Sun, is another ice giant. It's known for its striking deep blue color, also due to methane in its atmosphere. Neptune has the strongest winds in the Solar System, with speeds reaching up to 2,100 kilometers per hour (1,300 miles per hour)! It has 14 known moons, and Triton is the largest and most fascinating. Triton orbits Neptune in the opposite direction to the planet's rotation, and it has geysers that spew nitrogen gas.





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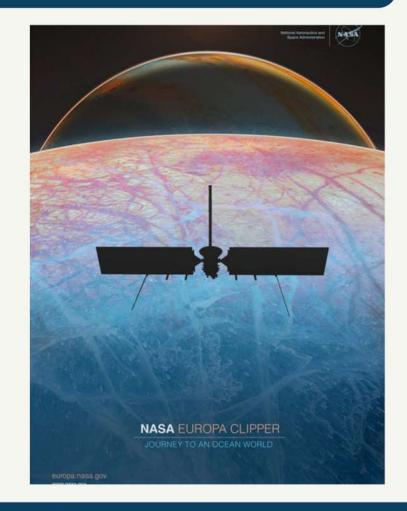
What Makes the Outer Planets Special?

The outer planets are unique because they are mostly made of gases and ices, unlike the rocky inner planets. They are much larger and have many more moons and ring systems. Jupiter and Saturn are gas giants, while Uranus and Neptune are ice giants. These planets also have very dynamic atmospheres with storms, high winds, and extreme weather conditions.

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Fun Facts and Future Missions

Did you know that a day on Jupiter lasts only about 10 hours? Or that Saturn's rings are so wide they could fit between Earth and the Moon? These fun facts make the outer planets even more fascinating! Scientists continue to study these planets with telescopes and spacecraft. Missions like the Voyager probes and the upcoming Europa Clipper, which will study Jupiter's moon Europa, help us learn more about these distant worlds.



Grammar





might / may / could + be

We also use 'could be' to express actions or possibilities that are not happening but were an option.

I could be playing football, but instead, I am stuck in traffic.





He could be working on his project, but he's playing video games.

Let's Talk!





Dialogue - Universe



Jordan: Hey Taylor, imagine if we could take a field trip to Saturn. That would beat a day at the museum, huh?

Taylor: First thing I'd do is grab a selfie with the rings. Talk about a profile picture upgrade!

Jordan: Ha, you'd need a super long selfie stick to get the rings in the background.

Taylor: Right? And we'd better pack some heavy-duty space suits—it's not exactly beach weather out there.

Jordan: No kidding. Negative two hundred degrees is a bit nippy.

Taylor: Just a tad chilly! But think about floating around those rings, dodging ice chunks. Beats dodging balls in gym class.

Jordan: Dodging ice chunks, the new extreme sport. We'd be legends back at school!

Taylor: Champions of the cosmos! But hey, what snack would you bring for a Saturn road trip?

Dialogue - Universe



Jordan: Hmm, something that doesn't freeze. How about space ice cream? It's supposed to be astronaut food anyway.

Taylor: Perfect, it won't melt! And for fun, we could race remote control cars on Titan. It has lakes of methane, right?

Jordan: Yep, the ultimate off-road! Just hope the cars don't sink. That'd be a bummer.

Taylor: True, but imagine the stories we'd tell. "Yeah, lost my car in a methane lake on Titan, no big deal."

Jordan: Epic! But, seriously, if we ever get rich, let's build a spaceship. Saturn, here we come!

Taylor: Deal! Better start saving now; it's going to be one pricey rocket fuel bill.

Jordan: For sure. Until then, guess we'll just have to stick to science class and planetarium visits.

Taylor: Sounds like a plan. Next stop, Saturn... eventually!

Words!







Space words

Practice reading these 'space' words!

Astrobiology
Astronomical
Chandrasekhar
Chromosphere
Circumstellar
Cosmogenesis



Degenerate
Eccentricity
Electromagnetic
Ephemeris
Hubble
Hydrostatic

See You Next time!

