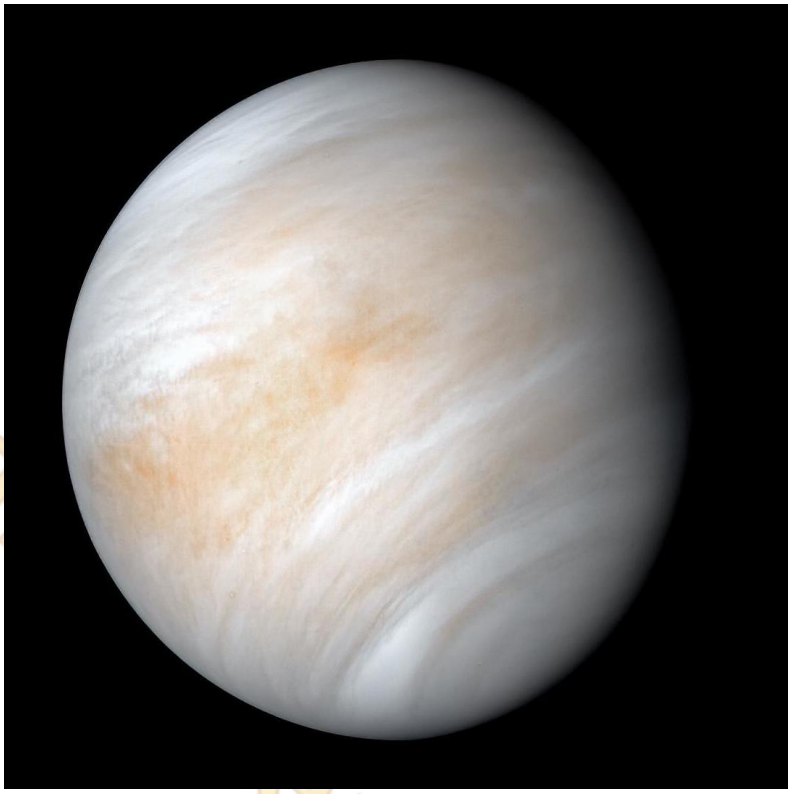
C. Venus

Venus: Earth’s Twin Sister

Venus is an enchanting planet in our solar system and is often called Earth's "sister planet" because of their similar size and composition. However, despite their similarities, Venus is a world of extremes. Let's discover some intriguing facts about this mysterious planet.



The Second Planet from the Sun
Venus is the second planet from the Sun and the closest one to Earth. It is named after the Roman goddess of love and beauty. In the night sky, Venus is one of the brightest objects and can be seen with the naked eye.

The Hottest Planet
Venus holds the title for being the hottest planet in our solar system. Its thick atmosphere traps heat, creating a runaway greenhouse effect. Temperatures on Venus can soar up to a scorching 870 degrees Fahrenheit (465 degrees Celsius), making it hotter than even Mercury, which is closer to the Sun.

A Slow Rotator
Similar to Mercury, Venus rotates very slowly on its axis. It takes about 243 Earth days for Venus to complete one full rotation. Strangely, Venus also rotates in the opposite direction of most planets, including Earth, which means the Sun rises in the west and sets in the east on Venus.

Thick Cloud Cover
Venus is shrouded in a thick layer of clouds composed mostly of sulfuric acid. These clouds reflect sunlight, contributing to the planet's brightness in the sky. Unfortunately, the clouds also prevent us from seeing the surface of Venus with telescopes, making it a challenge to study.

No Water, No Life

Venus is often called Earth's twin because of its similar size and composition. However, despite these similarities, Venus is a very inhospitable place. It has no water and no breathable atmosphere, making it impossible for life as we know it to survive there.

Active Volcanoes
Venus has over 1,600 major volcanoes scattered across its surface. These volcanoes have created vast lava plains and rugged mountain ranges. Some scientists believe that Venus might still be geologically active today.

The Longest Day
Due to its slow rotation, a day on Venus is longer than a year on Venus! One day on Venus (from sunrise to sunrise) takes about 117 Earth days, while one year on Venus (the time it takes to orbit the Sun) is around 225 Earth days.

Spacecraft Exploration
Several spacecraft have visited Venus to study its atmosphere and surface. The first spacecraft to reach Venus was Mariner 2 in 1962, followed by many others, including the Soviet Union's Venera program and NASA's Magellan spacecraft.

A World of Mystery
Despite our advancements in space exploration, Venus still holds many mysteries. Scientists continue to study this intriguing planet to learn more about its atmosphere, geology, and history.

Earth's Twin?
While Venus shares some similarities with Earth, it is essential to remember that it is a vastly different and hostile world. Understanding Venus helps scientists gain insight into planetary processes and the complex nature of the solar system.

1. What is Venus often called because of its similarities to Earth?
    A) Earth's Brother
    B) Earth's Twin
    C) Earth's Cousin
    D) Earth's Neighbor

2. What is the hottest planet in our solar system?
    A) Earth
    B) Mercury
    C) Venus
    D) Mars

3. Why is Venus hotter than Mercury, even though Mercury is closer to the Sun?
    A) Venus has more volcanoes
    B) Venus has a thicker atmosphere
    C) Venus is larger in size
    D) Venus has more water

4. How long does it take Venus to complete one full rotation on its axis?
    A) 24 hours
    B) 117 Earth days
    C) 365 days
    D) 243 Earth days

5. What is the main component of the thick clouds on Venus?
    A) Oxygen
    B) Carbon dioxide
    C) Sulfuric acid
    D) Water vapor

6. How many major volcanoes are there on Venus?
    A) Over 1,600
    B) 100
    C) 500
    D) 10,000

7. What was the first spacecraft to reach Venus?
    A) Mariner 2
    B) Voyager 1
    C) Venera 7
    D) Magellan

8. How long is one day on Venus?
    A) 117 Earth days
    B) 24 hours
    C) 365 days
    D) 225 Earth days

9. Why is Venus difficult to study with telescopes?
    A) Because it has no atmosphere
    B) Because it is too far from Earth
    C) Because of its thick cloud cover
    D) Because it is too bright

10. What do scientists hope to learn by studying Venus?
    A) The presence of water
    B) More about Earth's history
    C) More about planetary processes
    D) The potential for life on other planets

ANSWERS & EXPLANATIONS

1. Earth's Twin
    - Venus is often called Earth's twin because of its similar size and composition.

2. Venus
    - Venus is the hottest planet in our solar system due to its thick atmosphere trapping heat.

3. Venus has a thicker atmosphere
    - Venus has a thick atmosphere that traps heat, making it hotter than Mercury.

4. 243 Earth days
    - It takes about 243 Earth days for Venus to complete one full rotation on its axis.

5. Sulfuric acid
    - The thick clouds on Venus are mostly composed of sulfuric acid.

6. Over 1,600
    - Venus has over 1,600 major volcanoes scattered across its surface.

7. Mariner 2
    - The first spacecraft to reach Venus was Mariner 2 in 1962.

8. 117 Earth days
    - One day on Venus (from sunrise to sunrise) takes about 117 Earth days.

9. Because of its thick cloud cover
    - Venus is difficult to study with telescopes because its thick cloud cover prevents us from seeing its surface.

10. More about planetary processes

- By studying Venus, scientists hope to learn more about planetary processes and the complex nature of the solar system.