

UFO Planet

Vocabulary:

UFO, orbit, kilometers, carbon dioxide, crescent, greenhouse gas

Sneaky Preview! True or False??

Venus is bright because it is bigger than Earth. T. F.

The surface of Venus is hot enough to melt lead. T. F.

Venus looks like a fat gray banana. T. F.

Venus is so bright it can cast shadows. T. F.

Venus is the 4th planet from the Sun. T. F.

You be the scientist!

When it gets dark tonight, go outside and look west (that's where the sun sets). You'll see Venus; it looks like a super-bright star. How can you tell that Venus is not a UFO? List three reasons.

Picture this: You're in a car riding along a country road at night. The sky is clear; the stars are twinkling. The silhouettes of moonlit trees glide by the side window. Flash! A blue-white light beams through a gap in the forest. Flash! It happens again. And again, and again. It's following you.

In the movies, this is when the spaceship lands. A door opens. Eerie-green lights flood the roadside. Something alien steps out ... and you have a Close Encounter. Time to dial 9-1-1!

Relax. It's only Venus, the second planet from the Sun.

Venus is the brightest of all planets. It makes Sirius--the brightest star in the night sky--look feeble. At sundown Venus materializes close to the western horizon where it can beam through trees and make you think you're being chased by something from outer space. No wonder so many people call 9-1-1 to report a UFO when they see it!

This week Venus is at maximum brightness. It is 8 times brighter than the planet Jupiter, 23 times brighter than Sirius, and 275 times brighter than the planet Mars. Venus can actually cast faint shadows. Only the Sun and Moon outshine Venus.

Why is Venus so bright? It's a cloudy world, only slightly smaller than Earth, and those clouds reflect almost all the sunlight that hits them. The reflection seems especially intense this week because Venus is getting close to Earth: it's only 72 million kilometers away--just a hop, skip and a jump on the vast scale of the solar system.

Venus' clouds hide the planet's surface. Even the biggest telescopes on Earth can't see what lies below. But if you have a telescope or binoculars, take a look at Venus anyway. There *is* something to see: Venus looks like a fat gray banana.

Just like the Moon, Venus has phases. Venus can be full, half, gibbous or a crescent. These phases occur for the same reason that Moon phases do: geometry! One side of Venus is sunlit (the "dayside"). The other side is dark (the "nightside"). As Venus orbits the Sun, the planet turns. First we see the nightside, then we see the dayside. At the moment, Venus is turning its nightside toward us. We can see only a sliver of the dayside--a bright crescent.

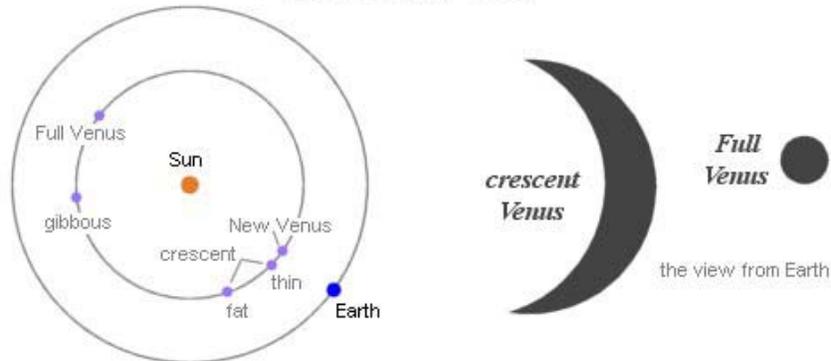
Here's something to think about while you're looking at Venus: that delicate, beautiful crescent is a nasty world. The planet's bone-dry surface is hot enough to melt lead. Venus' atmosphere, 90 times heavier than Earth's, is almost pure carbon dioxide--a greenhouse gas that traps solar heat. The thick blanketing clouds don't help; they trap heat, too, and they're made of sulfuric acid. Robot-spaceships sent to Venus have landed, but they never last long. Russia's Venera 13 lander operated for 127 minutes--the all-time record--before being overwhelmed by the acid, the heat, and the crushing pressure of Venus' atmosphere.

9-1-1! 9-1-1!

And you thought Venus was scary when it was just a UFO.

Strange, but true: A full Moon is bright. A crescent Moon is dimmer. Everybody knows that! But Venus is just the opposite. Venus is brightest when it's a crescent and dimmer when it's full. Look at the diagrams below. Can you figure out why a crescent Venus is brighter than a full Venus?

Phases of Venus



Make your own Constellation: A constellation is a group of stars that makes an imaginary picture in the sky, for example: Orion the Hunter. You can make your own constellations. Here is what the western sky will look like any evening this week after sunset. Use your imagination. Connect the dots. What will you call your constellations? When you're done, ask your teacher for a sky map showing the official constellations. Which ones are better, your constellations or the official ones?

