



Image courtesy: ESA

## VENUS FACT FILE

**Venus** is the second planet from the Sun. It has often been called Earth's Evil Twin. It is also called 'The Morning Star' or 'The Evening Star'. This is because it often appears in the sky for a few hours before sunrise or after sunset. After the Sun and the Moon it is the brightest object in the sky. Its brightness is due to its proximity to the Earth and its thick atmosphere that **reflects 76% of the sunlight falling on it.**

As it is impossible for ordinary telescopes to look through the clouds that envelop the entire planet, people used to speculate about life on the surface. We now know that that is **virtually impossible**. It is called Earth's Evil Twin because, though in size and composition the actual planet is quite similar to Earth, it is the most **volcanically active** of the planets, is utterly without water and the atmosphere is incredibly hostile. The atmosphere is 96% carbon dioxide.

The yellow clouds are rich in sulphur and form a dense layer in the atmosphere. The clouds are formed from concentrated sulphuric acid. The average temperature on the surface is **480 degrees Celsius**. The atmospheric pressure is 90 times greater than that of the Earth. Anyone visiting the planet would need an incredible amount of protection otherwise they would be baked, fried, suffocated and crushed. **Radar imaging** from radio telescopes and spacecraft have shown that the surface of Venus is made up of rolling hills, solidified lava flows, two large continents and large, flattened volcanoes. There are relatively few impact craters compared to any other solid surface in the solar system and the whole surface is **less than 500 million years old.**

**Did you know that...?** Venus actually **spins backward** compared to the other planets and its day is longer than its years.

### VENUS STATISTICS

Distance of Venus from the Sun:	108,200,000 km (average)
Distance from the Sun compared to Earth:	0.723 X
Length of Year:	224.70 days
Length of Day:	243.01 days
Diameter:	12,104 km
Diameter compared to Earth:	0.949 X

#### Missions:

The Soviet Union had a strong programme of Venus exploration.

They sent probes called **Veneras** to explore the planet, **including orbiters and landers**. Some of the landers returned a few images of the surface before they were destroyed by the harsh conditions.

The Americans have had many **spacecraft fly past**. There have been close up missions from **Pioneer Venus 1 - 4 and Magellan**. These spacecraft orbited the planet, radar mapping the

surface and studying the clouds. **Venus Express** is the first Venus mission by the **European Space Agency (ESA)**. The spacecraft was **built in Britain** and launched from Russia in 2005.

It arrived at Venus on the **11th April 2006**. Built to a very similar design to the successful Mars Express, it will orbit Venus for 500 days, studying the **atmosphere** and looking for **volcanic and tectonic activity** that has so far gone undetected.