

Distance from Sun	58,000,000 km 0.4 AU
Diameter	4879 km
Gravity	3.7 m/s²
Atmosphere Composition	42% oxygen 22% hydrogen 22% sodium 6% helium 8% other
Day Length	1,408 hours
Year Length	88 Earth days

Mercury is the smallest planet in the solar system – only slightly bigger than Earth's Moon. It also has craters and a thin atmosphere like our Moon.

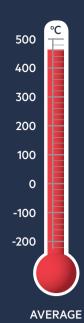
From the surface of Mercury, the Sun would appear more than three times larger than when viewed from Earth, and the sunlight would be as much as 11 times brighter.

While Mercury is the closest planet to the Sun, it is not the hottest (Venus is hotter due to its dense atmosphere).









Distance from Sun	108,000,000 km 0.7 AU
Diameter	12,104 km
Gravity	8.9 m/s²
Atmosphere Composition	96.5% carbon dioxide 3.5% nitrogen <1% other
Day Length	5,832 hours
Year Length	225 Earth days

With an atmosphere of 96% carbon dioxide, Venus is the hottest planet in our Solar System and an example of the Greenhouse effect gone amuck!

Venus is fascinatingly hostile. Future

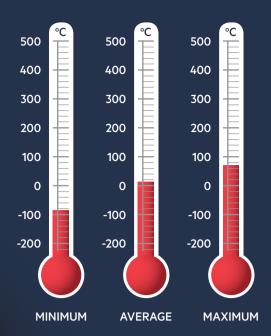
missions will have to contend with not only the heat, but also frequent sulfuric acid rainstorms and very high air pressure. Standing on the surface of Venus would feel like standing under 1 km of water!

Venus is a similar size to Earth and our closest neighbour, but a very different world!









Distance from Sun	149,600,000 km 1 AU
Diameter	12,756 km
Gravity	9.807 m/s²
Atmosphere	78% nitrogen
Composition	21% oxygen
	1% argon
	<1% other
Day Length	24 hours
Year Length	365.2 Earth days

Liquid water is very important for life. The Earth is located in the 'Goldilocks Zone'. This is the habitable zone around a star where the temperature is not too hot and not too cold – instead it is just

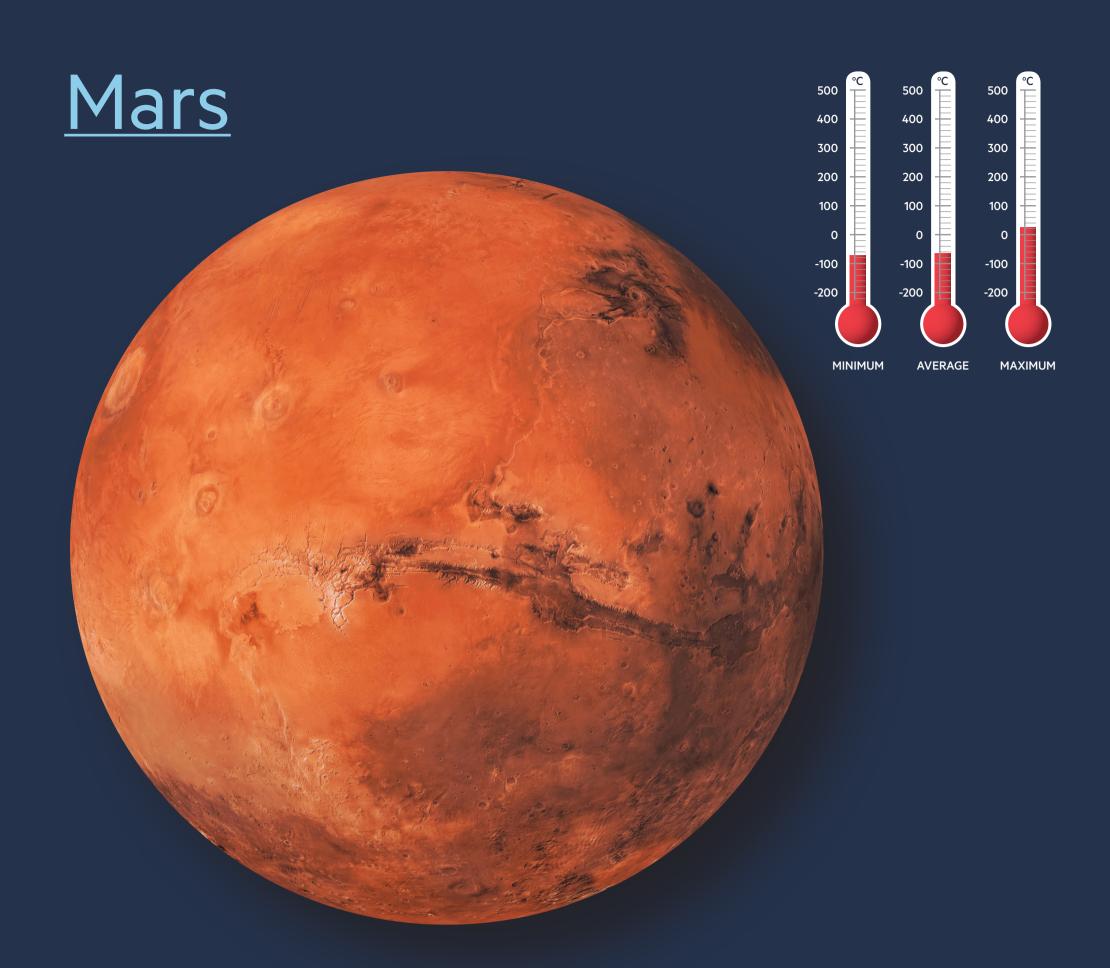
### the right temperature for water to exist as a liquid.

While 70% of the Earth is covered in water only 2.5% is fresh water, and most of this is inaccessible in glaciers and icecaps.

Earth's atmosphere is 160 km thick and composed of 78% nitrogen and 21% oxygen.







Distance from Sun	227,900,000 km 1.5 AU
Diameter	6792 km
Gravity	1.6 m/s²
Atmosphere Composition	95% carbon dioxide 2.7% nitrogen 1.6% argon 0.7% other
Day Length	25 hours
Year Length	687 Earth days

Olympus Mons, an extinct volcano on Mars, is the highest mountain in the Solar System – 2.5 times bigger than Mt Everest! Mars also has the biggest valley (Mariner Valley).

Mars is known as the Red Planet. Iron in the

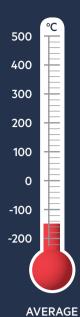
soil and atmosphere oxidises (rusts) giving Mars this distinctive colour.

Similar to Earth, Mars experiences seasons. It also experiences thousands of tornados or 'dust devils' every year which can get up to 2 km wide and 10 km high.





# <u>Jupiter</u>



Distance from Sun	778,600,000 km 5.2 AU
Diameter	142,984 km
Gravity	23.1 m/s <sup>2</sup>
Atmosphere	89.8% hydrogen
Composition	10.2% helium
Day Length	10 hours
Year Length	12 Earth years

### **INTERESTING FACTS**

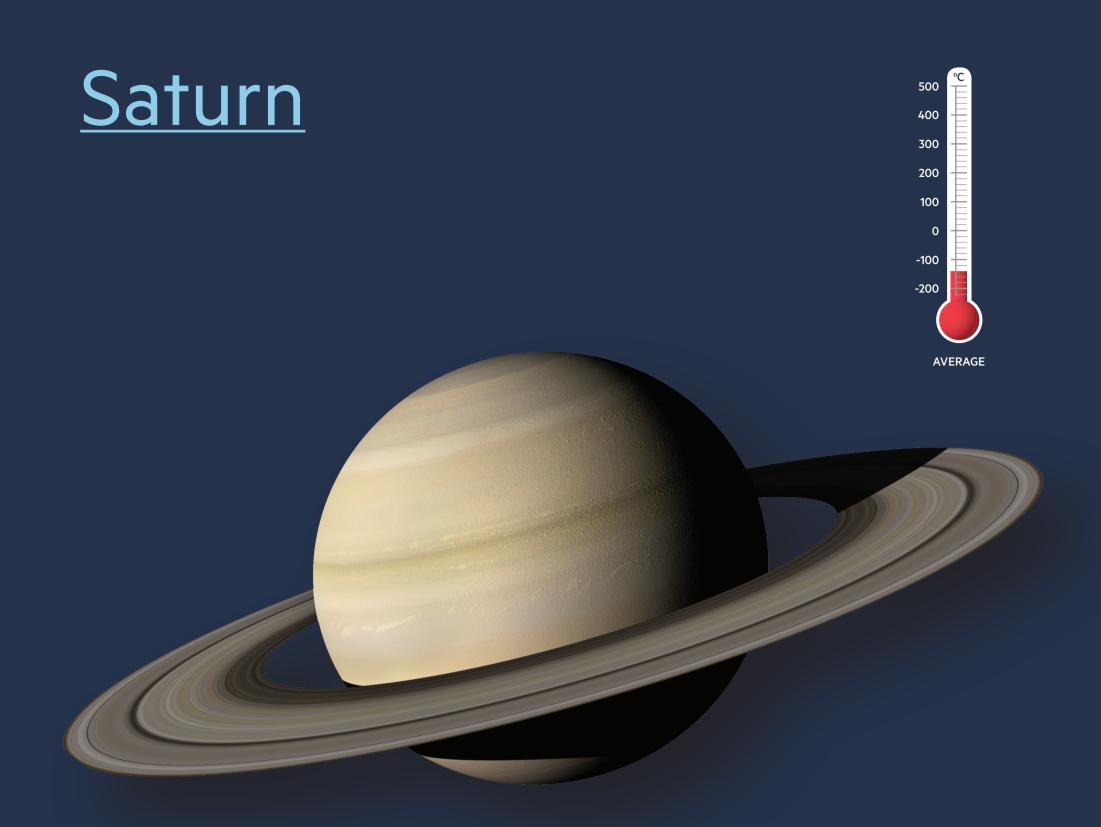
Jupiter is the largest planet in our Solar System – 11 Earths could fit across Jupiter's equator.

Like Saturn, Jupiter is a gas giant. Gas giants do not have a solid surface like Earth and other terrestrial planets.

The Great Red Spot is a giant cyclonelike storm on Jupiter. The storm has been continuously observed since 1830, and is twice the size of Earth. The colour bands on Jupiter are caused by powerful winds that circle the planet at 547 km/h.







Distance from Sun	1,433,500,000 km 9.6 AU
Diameter	120,536 km
Gravity	9.0 m/s²
Atmosphere	96.3% hydrogen
Composition	3.2% helium
	0.5% other
Day Length	11 hours
Year Length	29 Earth years

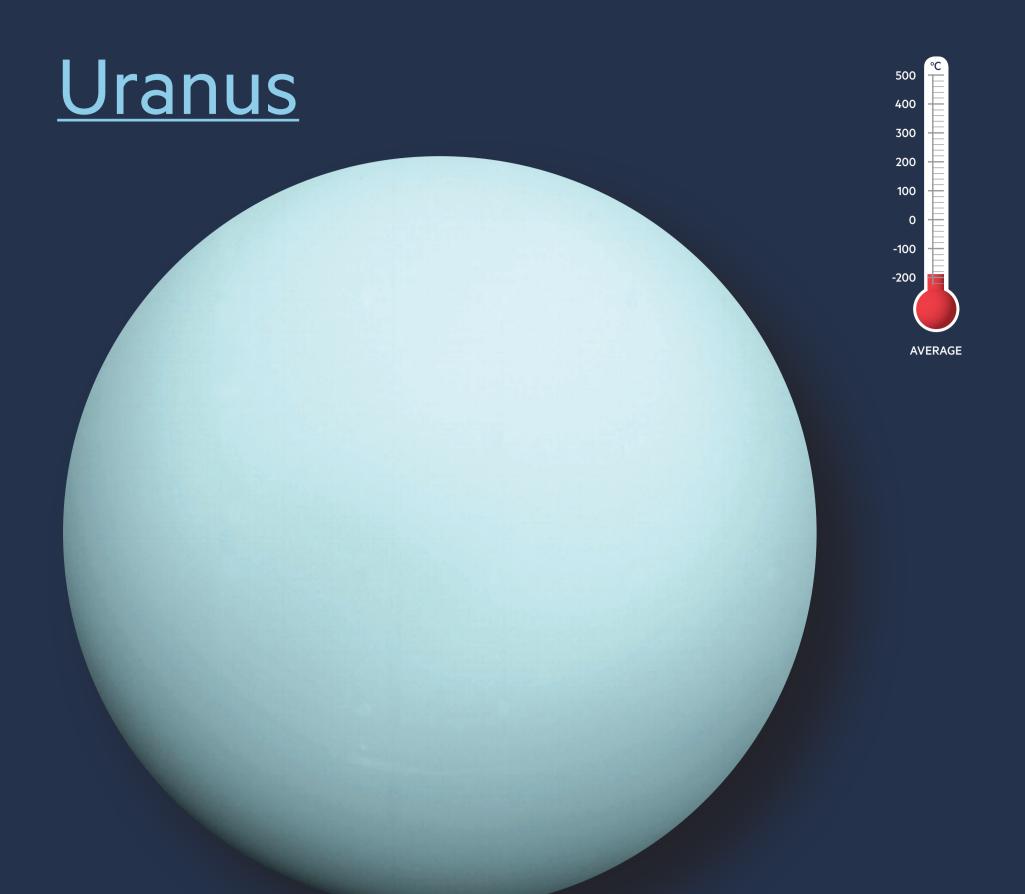
Saturn's iconic rings are made of chunks of rock and ice. However, Saturn is slowly losing these rings as gravity pulls the rock and ice toward the planet.

53 known moons orbit Saturn, and there are more awaiting confirmation. Saturn's largest moon, Titan, is the only known world other than Earth where liquid collects on its surface. Liquid methane and ethane lakes cover the surface.

A monstrous thunderstorm appears on Saturn every 28 to 30 years, called the 'Great White Spot'.







Distance from Sun	2,872,500,000 km 19.2 AU
Diameter	51,118 km
Gravity	8.7 m/s²
Atmosphere	82.5% hydrogen
Composition	15.2% helium
	2.3% methane
Day Length	17 hours
Year Length	84 Earth years

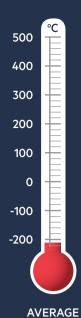
Uranus is the only planet in our Solar System that rotates on its side –it almost appears to 'roll' around the Sun. This sideways rotation – possibly caused by a collision with a large object – causes extreme seasons. Summer for the planet's north consists of 21 Earth years of constant daylight, while winter is 21 years of complete darkness.

The blue-green colour of Uranus is due to the methane in the atmosphere.





## Neptune



Distance from Sun	4,495,100,000 km 30.1 AU
Diameter	49,528 km
Gravity	11.0 m/s²
Atmosphere Composition	80% hydrogen 19% helium 1% methane
Day Length	16 hours
Year Length	165 Earth years

#### **INTERESTING FACTS**

Neptune and Uranus are ice giants – they do not have a solid surface. Instead the gasses of the atmosphere surround liquid methane, ammonia and water. The centre of the planet is a

#### heavier solid core.

There is less friction on Neptune than on Earth and winds speed around the planet at 2000 km/h. These winds are the fastest in the Solar System, and faster than the speed of sound. Earth's most powerful winds only reach 400 km/h.



