

LITTLE EXPLORERS

OUTER SPACE

LIFT THE FLAPS
TO EXPLORE THE
UNIVERSE INSIDE
AND OUT!

VISOR

MIRROR

TETHER

HELMET

CAMERA

CHECKLIST

BACKPACK

CONTROL PANEL

MORE THAN
30 FLAPS!

RUTH MARTIN & ALLAN SANDERS



THE SUN

We are used to seeing the Sun in the sky, but did you know it is actually a star? The Sun is the nearest star to Earth, sitting at the centre of our Solar System. The light and heat from this huge, spinning ball of hot gas is what allows there to be life on Earth.

Stars

There are millions and millions of stars in space, and our Sun is just one. Stars are made when clouds of dust and gas swirl together and heat up.

Great grandad

The Sun is over 4½ billion years old!

fiery giant

The Sun could hold a million Earths. Can you imagine that?

Super star

We live in a galaxy of stars called the Milky Way. The Sun is just one of the stars in the Milky Way. It looks much bigger than the other stars because we are much closer to it.

Don't look!

The Sun is so bright that looking directly at it can damage your eyes. Leave that to the scientists!

Our Earth

Our planet is the only place we know to have life. Earth moves around the Sun in a place known as the Goldilocks Zone, because it's not too hot and not too cold. It's just right – like baby bear's porridge! It is called the Blue Planet because of all the water on the surface.

Jigsaw pieces

The Earth's surface is made up of plates, like pieces of a jigsaw, which can move around.

In a spin

It takes Earth a year to travel around the Sun.

Day and night

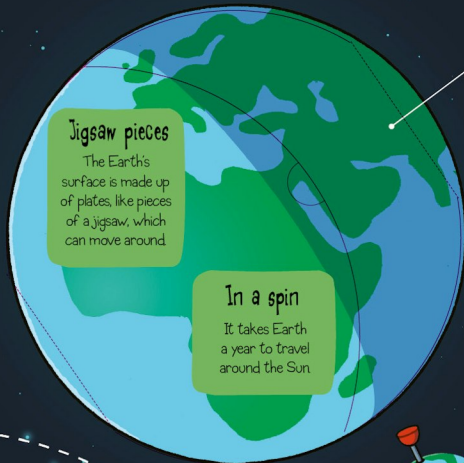
As well as moving around the Sun, Earth itself is always spinning – just like a spinning top! While we face the Sun it's daytime, and on the other side of the world it's night-time.

Seasons

As Earth travels, different parts tilt towards the Sun. This makes the seasons, when some places are hotter or cooler at different times of year.

Down to Earth

We don't feel all this movement of our planet. A force called gravity keeps our feet on the ground and stops us floating into space!

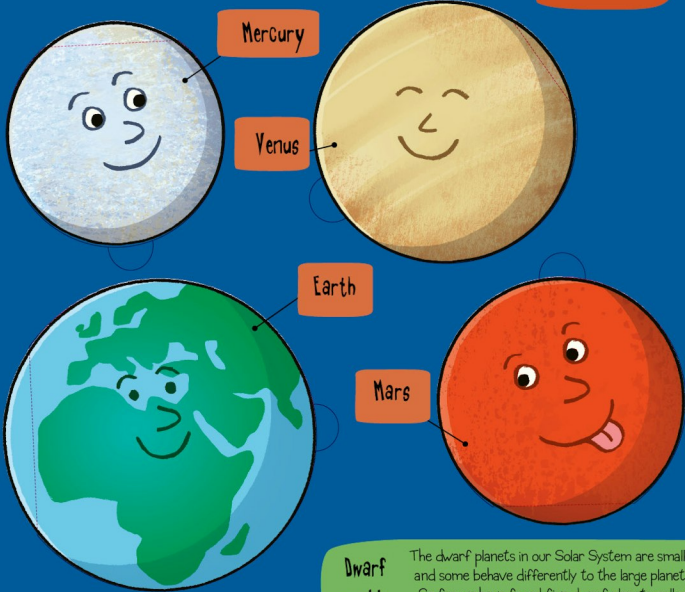


THE PLANETS

A planet is a large, mostly round, object that travels around a star. Our planet, Earth, is one of eight planets that travel around our Sun. Each planet is very different. Let's meet the planets in our Solar System and find out what each one is like.

Rocky worlds

Lift the flaps on the planets on this page to find out about the four rocky planets.



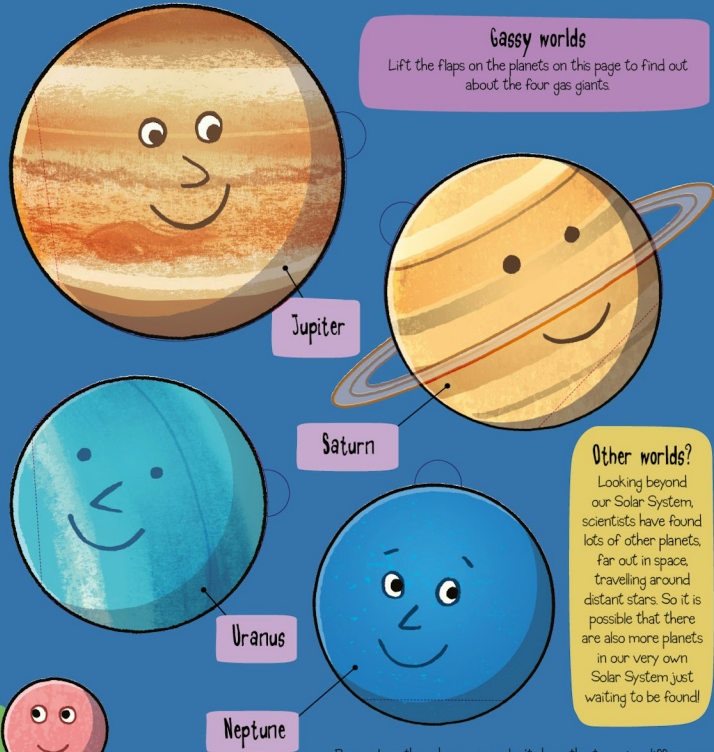
Dwarf worlds

The dwarf planets in our Solar System are smaller and some behave differently to the large planets. So far, we have found five dwarf planets, called Pluto, Ceres, Haumea, Eris and Makemake.



Gassy worlds

Lift the flaps on the planets on this page to find out about the four gas giants.



Other worlds?

Looking beyond our Solar System, scientists have found lots of other planets, far out in space, travelling around distant stars. So it is possible that there are also more planets in our very own Solar System just waiting to be found!

Remember: these happy guys don't show the true size differences or distances between these eight amazing worlds in space.

SMALL WORLDS

In our Solar System, as well as the planets and moons, there are smaller chunks of rock, metal and ice – like mini-worlds going around the Sun. From speeding icy comets to huge rocky asteroids, let's find out about these amazing objects... and how we see them from Earth.

Asteroid belt

Between Mars and Jupiter is an area called the asteroid belt, where there are too many asteroids to count! Scientists think these asteroids could be the pieces of a planet that never came together.

Asteroid

An asteroid is a rocky or metallic lump travelling through space in a big circle around the Sun. Some are small and others are huge. Some even have their own moons!



Comet

Comets can seem like dirty snowballs in space! Some spend hundreds or even millions of years far away, beyond the planets. When they loop near to the Sun, they form a bright tail that we can sometimes see from Earth.



Meteoroid

A meteoroid is a small piece of an asteroid or comet travelling through space. Sometimes, they fall to Earth where they are called meteorites.



Fireball

When a meteoroid falls towards our planet it is called a meteor, as it burns up high above the Earth. Some are called fireballs, if they look even brighter than the brightest planets!



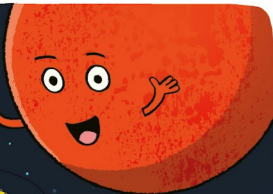
Space junk

Did you know there are hundreds of thousands of pieces of 'space junk' in orbit around Earth? These include pieces of spacecraft and unwanted or lost things from space missions.



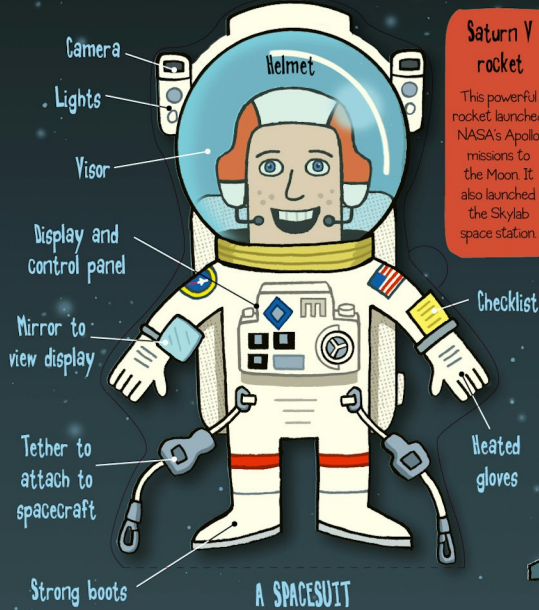
Shooting star

Sometimes, from Earth we can see what looks like a star shooting across the night sky. This isn't a star at all – it's a meteor. Sometimes meteor showers create a wonderful light display in the sky!



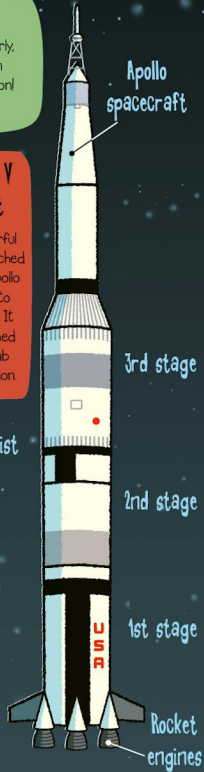
ASTRONAUTS AND SPACECRAFT

There is only so much we can find out about space with telescopes – to explore properly, we have to go there! Since the first human space flight in 1961, astronauts have been going into space and finding out what it's really like. Some have even landed on the Moon! Let's explore some of the amazing things that make space travel possible.



Saturn V rocket

This powerful rocket launched NASA's Apollo missions to the Moon. It also launched the Skylab space station.

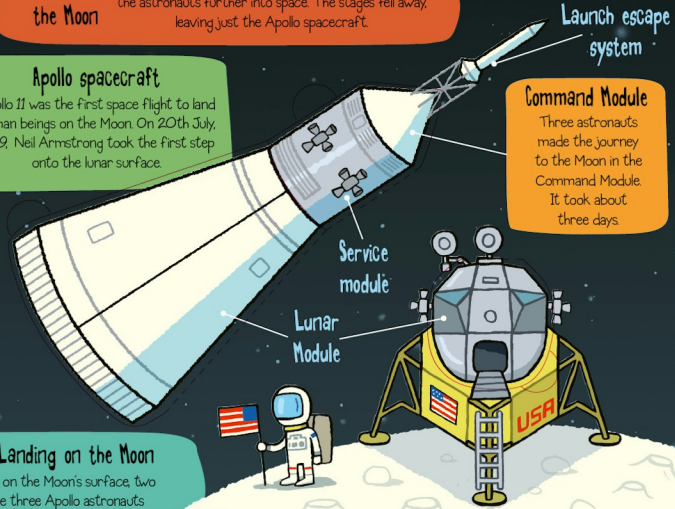


Rocket to the Moon

Each stage of the enormous Saturn V rocket blasted the astronauts further into space. The stages fell away, leaving just the Apollo spacecraft.

Apollo spacecraft

Apollo 11 was the first space flight to land human beings on the Moon. On 20th July, 1969, Neil Armstrong took the first step onto the lunar surface.



Command Module

Three astronauts made the journey to the Moon in the Command Module. It took about three days.

Landing on the Moon

To land on the Moon's surface, two of the three Apollo astronauts used the spider-like Lunar Module. This also launched them back up to the Command Module.

Space race

Around the world, countries including the USA, Russia, China, and Japan are busy trying to invent new rockets and find better ways of exploring space. As we learn more about it, travelling to space becomes easier. Maybe one day it will be quite normal to have a holiday in space!