

Why Earth?

Earth is the only planet we know of that has life on it. So what makes Earth so special? There are a lot of different things that mean life can exist on Earth, but we're going to look at four big ones — water, the atmosphere, warmth and light.

Our safety net

The atmosphere is a thin layer of gases that surrounds the planet. One of these gases is oxygen, which we need to breathe.

If you looked at the Earth from outer space, the atmosphere would look like a pale blue bubble around the planet.

The atmosphere is like a shield that protects the Earth from meteors and harmful radiation.

It also helps to keep the Earth at the right temperature for us.

A blue planet

Water is vital to make a planet suitable to live on.

The Earth is mostly covered with water — only about one third of the Earth's surface is land.

Almost all of the water on Earth is in the oceans. It's also stored in glaciers, rocks and lakes.

How many different ways can you think of that we use water?

You light up my life

The Earth is the perfect distance from the Sun, so we get the right amount of heat and light.

HEAT

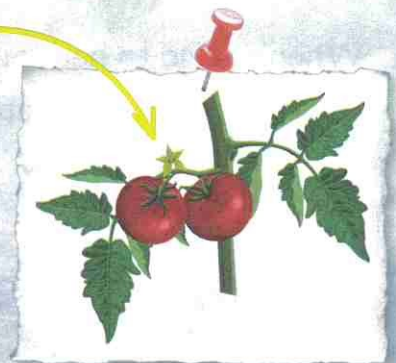
The Sun gives out heat which makes the Earth warm enough to sustain life. The atmosphere traps some of this heat to stop the planet getting too cold at night.

'Life' doesn't just mean humans — it can be anything from the tiniest microbe to the biggest whale.

LIGHT

We also need light from the Sun. The plants we use for food use the light energy for photosynthesis. They couldn't grow without sunlight.

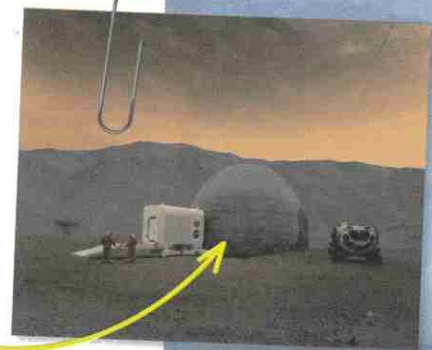
Another reason Earth is so good at supporting life is that it's never dark for too long. The Earth rotates once every 24 hours. That means each side of the planet gets sunlight often enough for plants to grow.



MISSION TO MARS

There are plans to have people living on Mars sometime in the future. Since the atmosphere on Mars is different from Earth's atmosphere, people would have to live inside shelters and wear spacesuits when they went outside.

This is what the shelters might look like when we finally send people to Mars.



Why do you think it might be a good idea to be able to live on another planet?

Is there anybody out there?

A planet needs the perfect atmosphere and temperature, as well as light and water, to be suitable to live on. If one of these things isn't right, life can't exist. That might be why we haven't found any other planets with life yet — because a lot of them just aren't right.