

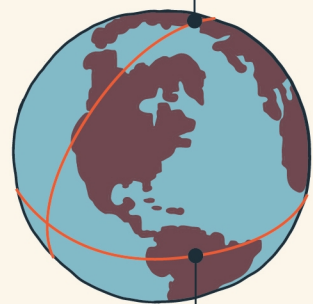
# Introducing Earth

Earth is a unique planet – as far as we know, it is the only place in the solar system that supports life. Life thrives here because of the liquid water on Earth's surface, the abundant oxygen in its atmosphere and a comfortable average temperature.

**71% OF EARTH'S SURFACE IS WATER**  
Water covers almost three-quarters of Earth's surface, and almost all of this is ocean.

Earth is not quite a perfect sphere! It's actually something called an oblate spheroid, a shape that's wider at the equator than at the poles.

**POLAR CIRCUMFERENCE**  
39,941 km



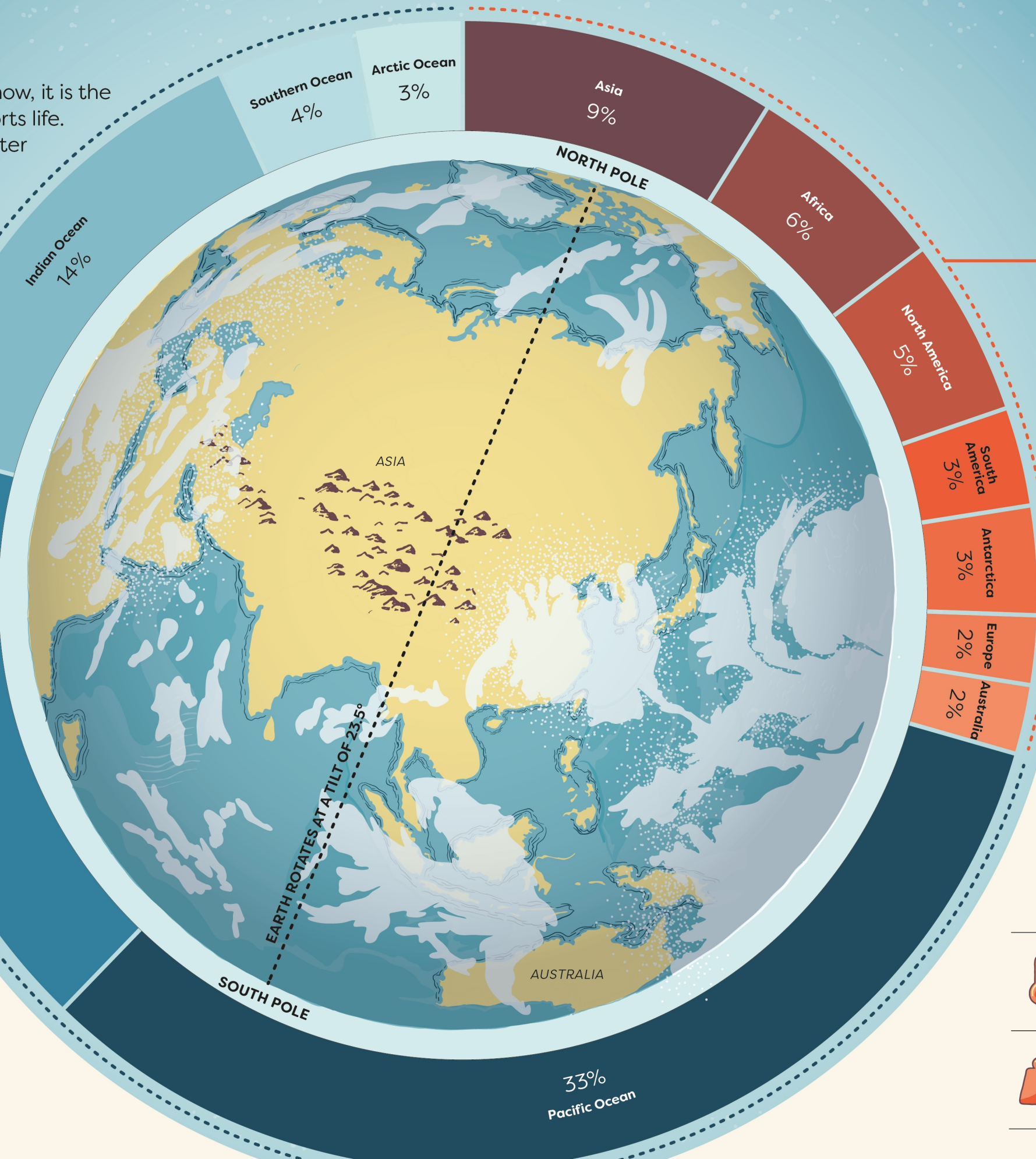
**EQUATORIAL CIRCUMFERENCE**  
40,075 km



**AGE**  
4.4–4.6 billion years



**DIAMETER (POLE TO POLE)**  
12,714 km



**29% OF EARTH'S SURFACE IS LAND**  
Just over a quarter of Earth's surface is land, made up of continents and islands. (See note on page 60.)

**SPEED OF ROTATION AT THE EQUATOR**  
1,670 km/h



**AVERAGE SPEED ORBITING THE SUN**  
29.8 km/s



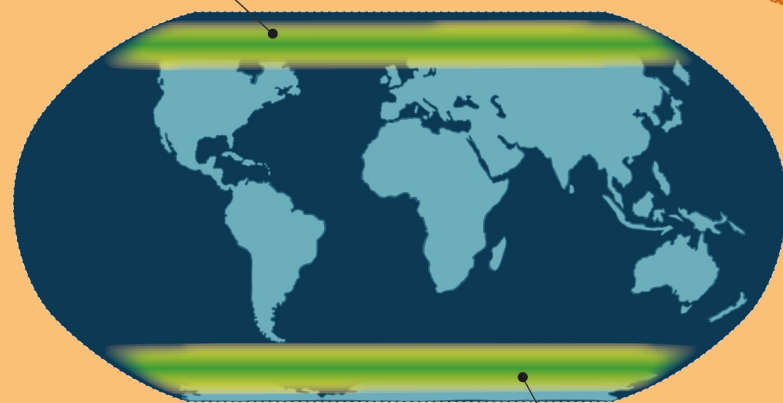
**AVERAGE TEMPERATURE**  
15°C



**MASS**  
5,970,000,000,000,000,000,000,000 kg  
(that's 5.97 septillion kilograms)



*Aurora borealis* (northern lights)



*Aurora australis* (southern lights)

Auroras occur around the Earth's poles, shown in the green banding on the image here.

## Dazzling auroras

An aurora is a display of shimmering, coloured light that sometimes appears in the night sky. Auroras mostly happen in Earth's far northern and far southern regions. In the Northern Hemisphere, these beautiful displays are known as *aurora borealis*, or the northern lights (shown here). In the Southern Hemisphere, they are called *aurora australis*, or the southern lights. Auroras are caused when electrically charged particles from the Sun collide with atoms of gases in the thermosphere, one of the upper layers of Earth's atmosphere.

# Your body's control centre

The brain takes all the information from your different senses and processes it, allowing you to act and decide what to do about... well, everything. For centuries, how the brain worked was largely a mystery to humans. But scientists now know that different areas of the brain are responsible for different things. This illustration shows some of the jobs performed by different parts of your brain.

## STRUCTURE OF THE BRAIN

The brain has three main sections: the **forebrain**, at the front; the **midbrain**, in the middle; and the **hindbrain**, at the back. These are shown in the diagram below. The sections of the brain are divided into smaller regions called lobes. The illustration on the right shows the lobes of the forebrain and hindbrain, with each lobe highlighted in a different colour. The pictures show some of the brain functions that each lobe specialises in.

