

Y5 Knowledge Organiser Geography: Time Zones

Time in different parts of the world

As the Earth rotates on its axis, the Sun only shines on the side of the Earth that it is facing. This means:

it is daytime for the parts of the Earth that have the Sun shining on them

it is night-time for places that are on the opposite side of the Earth and are in the shade

As it is night in some parts of the world while it is day in other parts, different places in the world have different times. This is why the world is divided into 24 different time zones. One for each hour in a day.

Very large countries that are spread out across many time zones, such as Russia or the USA, are divided into separate time zones. Most smaller countries keep to the same time zone even if part of them falls outside a meridian line.



Time zones in the USA

What are time zones?

Time zones are divided by imaginary lines called meridians which run from the North Pole to the South Pole. There is an imaginary line running through the UK called the Prime Meridian. It runs through a place in London called Greenwich.

The Prime Meridian splits the world into eastern and western hemispheres.

Time in countries to the east of the Prime Meridian is always in front of that in the UK. Time in countries to the west of the Prime Meridian is always behind that of the UK

Greenwich Mean Time

Greenwich Mean Time is an internationally standard time format. It is the main time zone in several countries, including the United Kingdom and Portugal.

When the sun is at its highest point exactly above the Prime Meridian, it is 1200 noon at Greenwich.

Greenwich Mean Time is now called UTC (Coordinated Universal Time). UTC is the time standard of the world

Time differences are generally written as UTC /GMT plus or minus a number of hours

Since the late 19th century, the Prime Meridian at Greenwich has divided the eastern and western hemispheres of the earth - just as the equator divides the northern and southern hemispheres.

Key Vocab

Time zone	A time zone refers to any region where the same standard time is kept
North Pole	the northern end of Earth's axis
South Pole	the southern end of Earth's axis
Prime Meridian	an imaginary line running through Greenwich in London which splits the world into eastern and western hemispheres
Eastern Hemisphere	Countries to the east of the Prime Meridian
Western Hemisphere	Countries to the west of the Prime Meridian



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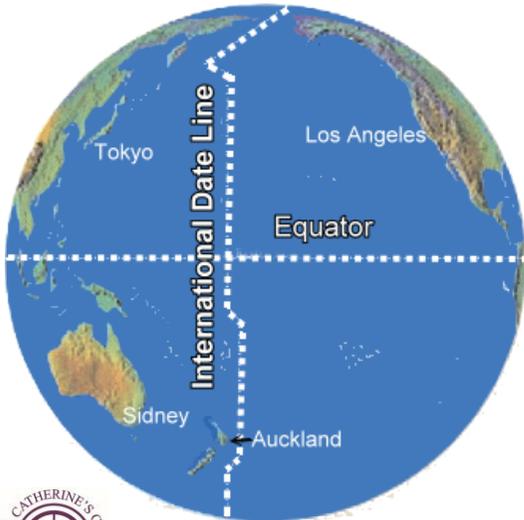
International Date Line

The International Date Line is an imaginary line on the opposite side of the world-from the Prime Meridian. When it is noon along the Prime Meridian, it is midnight along the International Date Line.

The date becomes one day later as one travels across it in western direction, and one day earlier as one travels across it in eastern direction.

It is possible to travel back in time... 🤔

If you flew from Apia, **Samoa** (on the Western side of the International Date Line) to Pago Pago, **American Samoa** (on the Eastern side) it would take less than an hour. But because you have crossed the IDL, you would arrive 23 hours before you left!



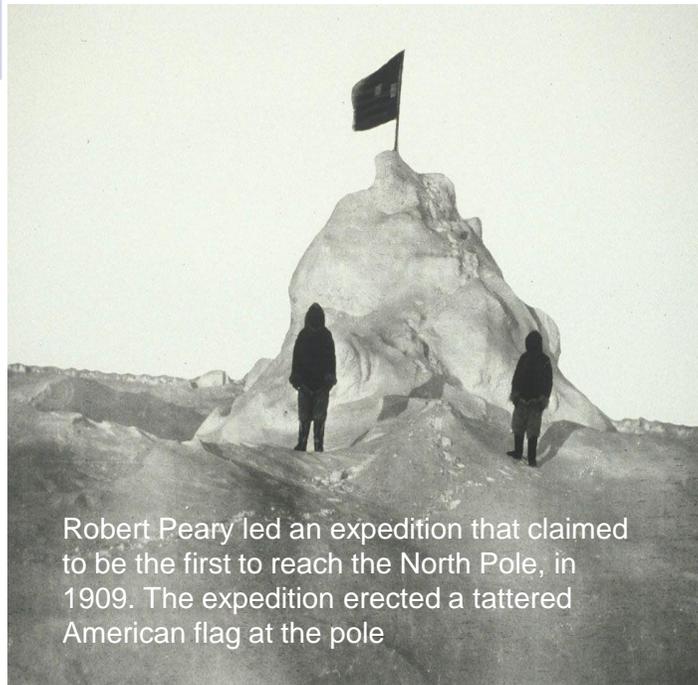
North and South Poles

Because the Earth rotates on a tilted axis as it revolves around the sun, sunlight is experienced in extremes at the poles.

For six months of the year, the Sun never rises over one pole, and never sets over the other.

Compared to the North Pole, the South Pole is relatively easy to travel to and study. The North Pole is in the middle of the Arctic Ocean, while the South Pole is on a stable piece of land.

The North Pole is much warmer than the South Pole. But it's not exactly beach weather. In the summer, the warmest time of year, the temperature is right at the freezing point: 0 degrees Celsius



Robert Peary led an expedition that claimed to be the first to reach the North Pole, in 1909. The expedition erected a tattered American flag at the pole

South Pole

The South Pole is the southern end of Earth's axis. The axis is an imaginary line through the centre of Earth around which the planet rotates.

The South Pole is located in Antarctica, one of the 7 continents

The South Pole is claimed by seven nations: Argentina, Australia, Chile, France, New Zealand, and the United Kingdom



Sunrise begins at the Geographic South Pole after the long winter

North Pole

The North Pole is the northern end of Earth's axis. The North Pole is located in the Arctic Ocean, which is covered by a large sheet of floating ice.

The North Pole is not on any continent because it is on sea ice, not land. There is no land at the North Pole.

The North Pole is not part of any nation, although Russia placed a titanium flag on the seabed in 2007.