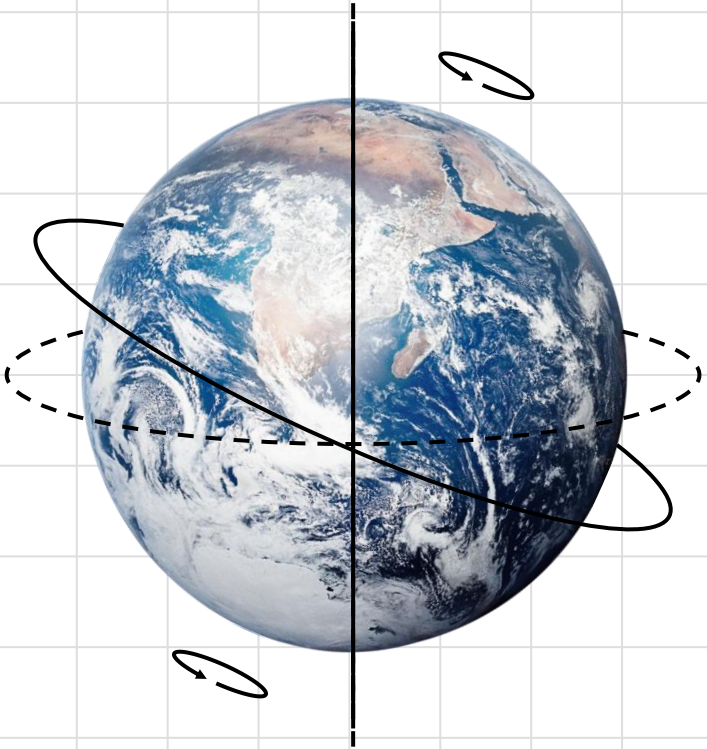
The Earth in Space

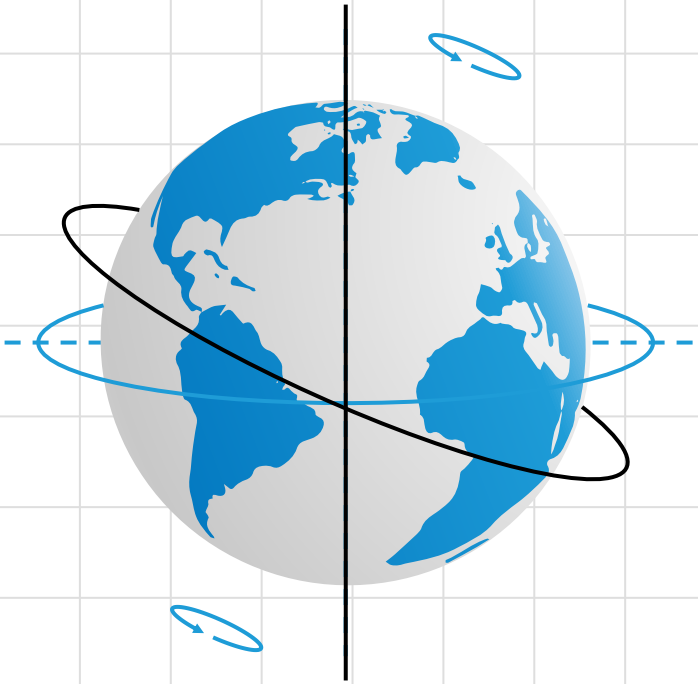


Earth's Rotation

Introduction

For a long time, people believed that the Sun moved around the Earth to give us day and night. In fact, this is an optical illusion.

The Earth rotates (spins) constantly, but the Sun stays still.



The Earth's orbit around the Sun is not a perfect circle.

The correct word to describe the shape is an **ellipse.**

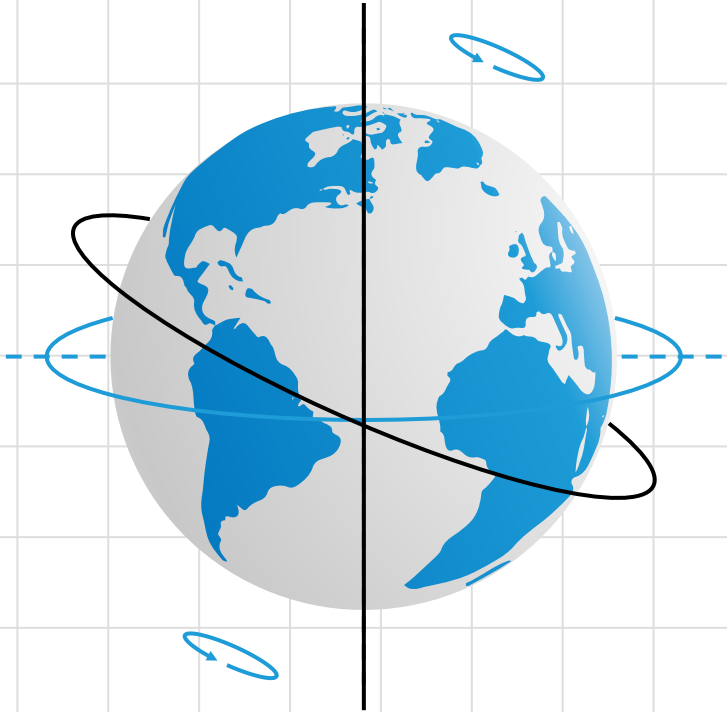
Earth's Rotation

Rotation

Is the rotation of planet Earth around its own axis

Earth's axis

The imaginary line through the Earth from the North Pole to the South Pole.

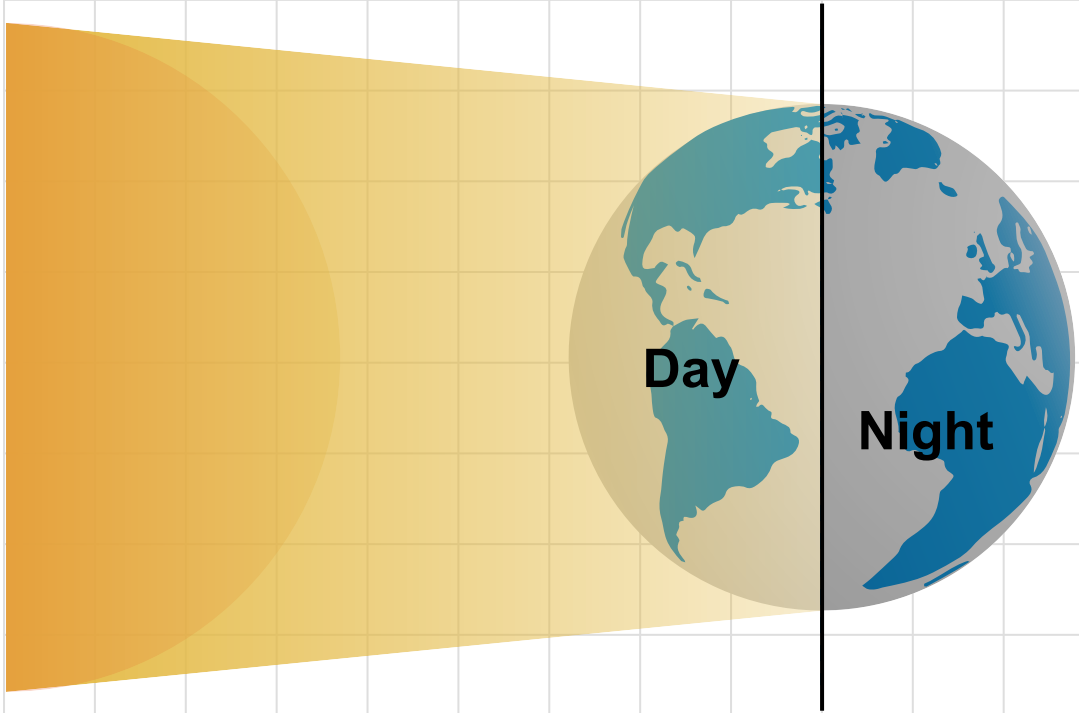


The Earth's axis of rotation is tilted by 23.5 degrees.

One day

It takes 1 day/ 24 hours to finish one rotation around its axis.

Earth’s rotation causes:



Day

The side of the Earth that is facing the sun.

Night

The side of the Earth that’s away from the sun.

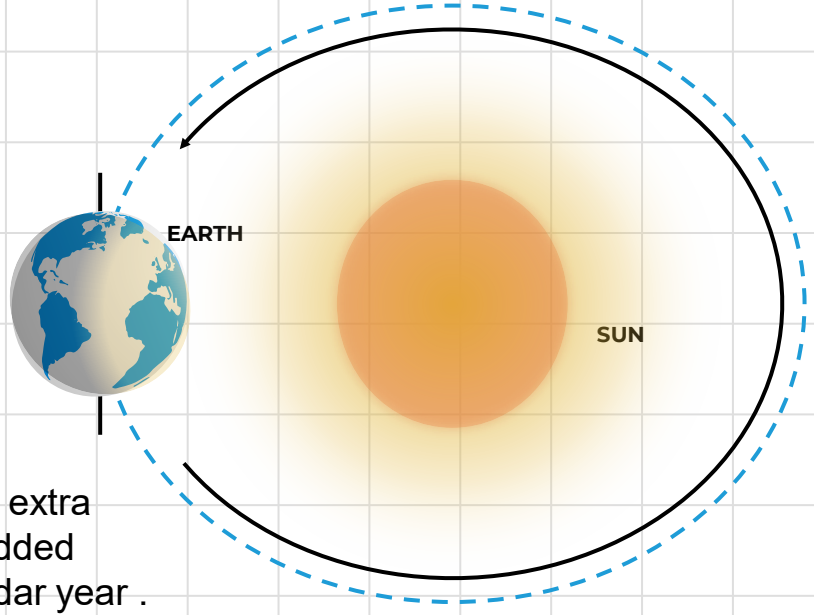
Earth's Revolution

Revolution

The movement of the earth around the sun in a fixed path or orbit .

One year

Earth revolves around the sun in 365 days.



A **leap year** is a year with an extra day- February 29- which is added every four years to the calendar year .

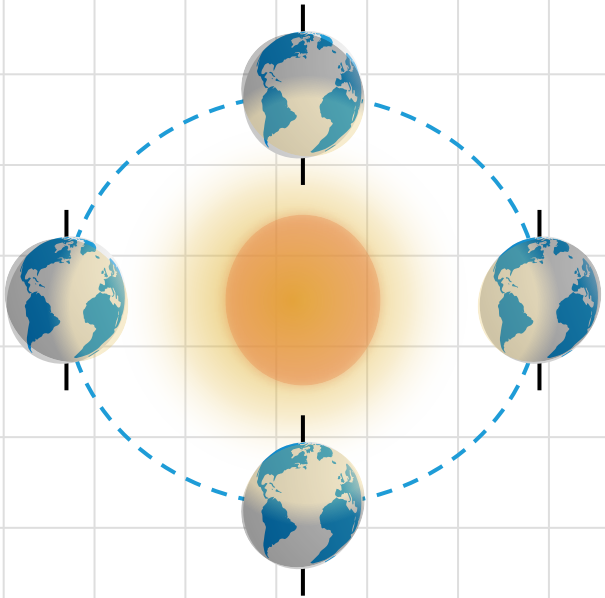
We call this month a **lunar month**.

Revolution and the seasons

Spring **Summer** **Fall** **Winter**

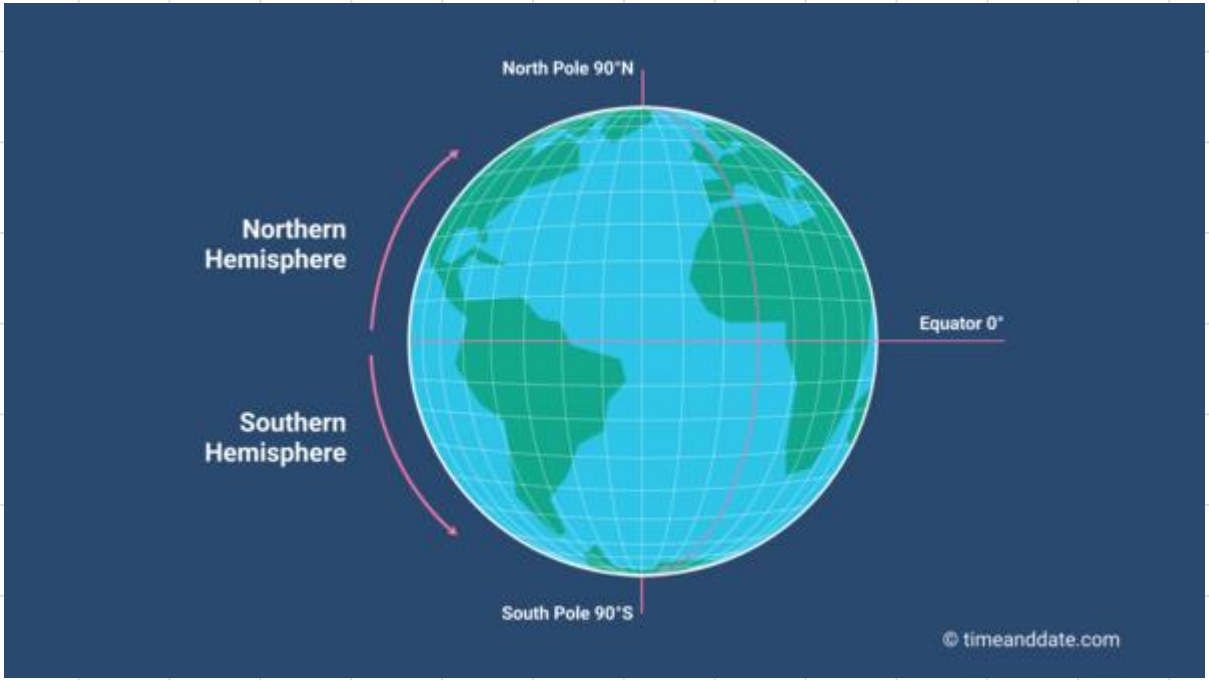
As the Earth moves around the sun, different parts of the Earth are tilted away from or towards the sun.

You can decide which season this is according to the position of the axis.



To know more about seasons, we need to know the difference between the Northern and the Southern hemispheres.

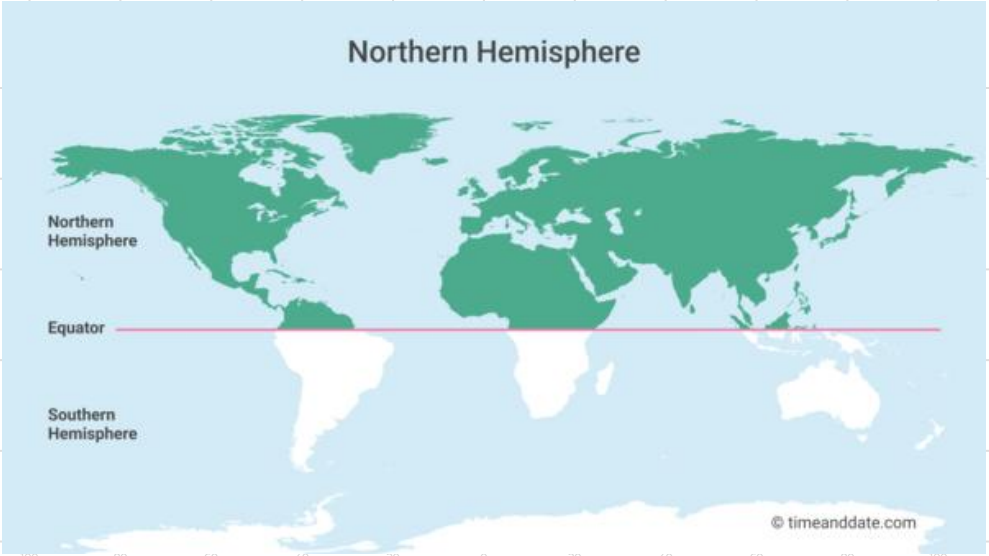
Northern Hemisphere and Southern Hemisphere



Earth is divided into the Northern Hemisphere and the Southern Hemisphere at the equator. The two hemispheres have opposite seasons, and the night sky can look very different.

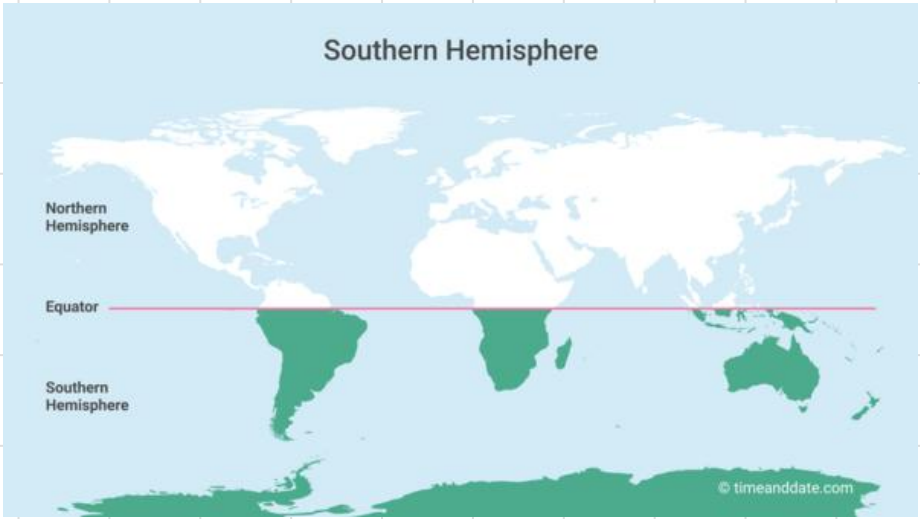
What Is the Northern Hemisphere?

The Northern Hemisphere is the **northern half of the Earth**. It begins at 0° latitude (the equator) and continues north until it reaches 90°N latitude (the North Pole).



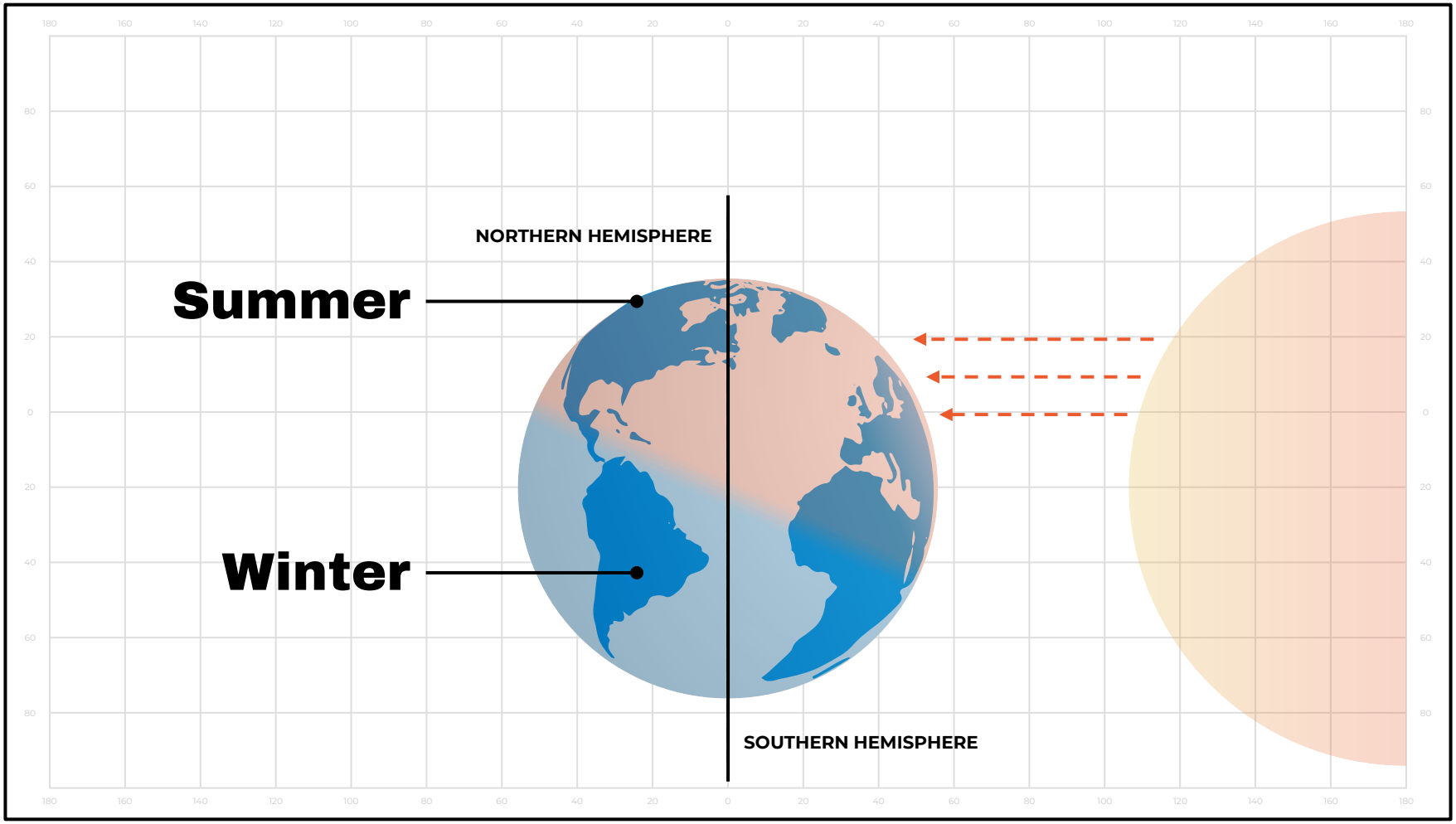
What Is the Southern Hemisphere?

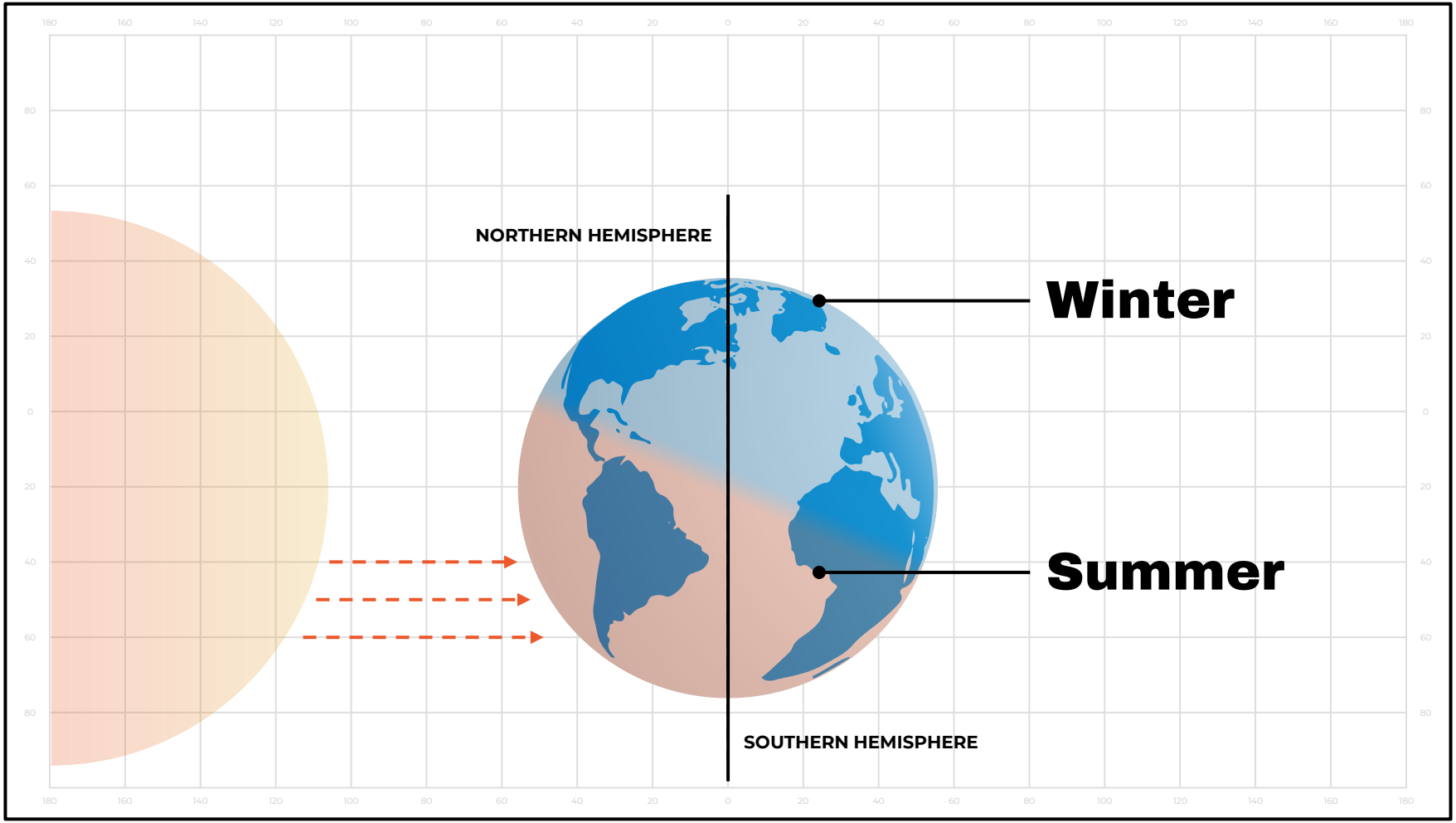
The Southern Hemisphere is the **southern half of the Earth**. It starts at 0° latitude and continues south until it reaches the 90°S latitude (the South Pole).



Opposite Seasons in the North and South

Seasons in the Northern and Southern Hemispheres are opposite. When it is **winter in the Northern Hemisphere, it's summer in the Southern Hemisphere**. This is because Earth's axis is tilted in relation to its orbit around the Sun.


NORTHERN HEMISPHERE
Summer
Winter
SOUTHERN HEMISPHERE

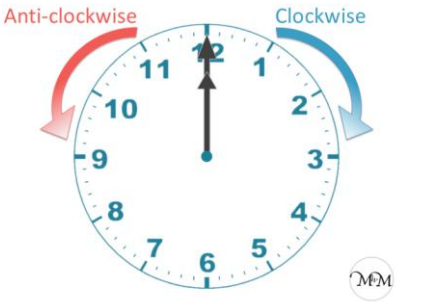

NORTHERN HEMISPHERE
Winter
Summer
SOUTHERN HEMISPHERE

The equator is an imaginary line that divides the Earth into Northern and southern Hemispheres located at 0 degrees latitude.

Some facts about the Earth:

1- The Earth is shaped like sphere.

2- The Earth travels in anticlockwise direction around the sun.



3- There are no seasons at the equator because the Sun strikes at about the same angle every day.