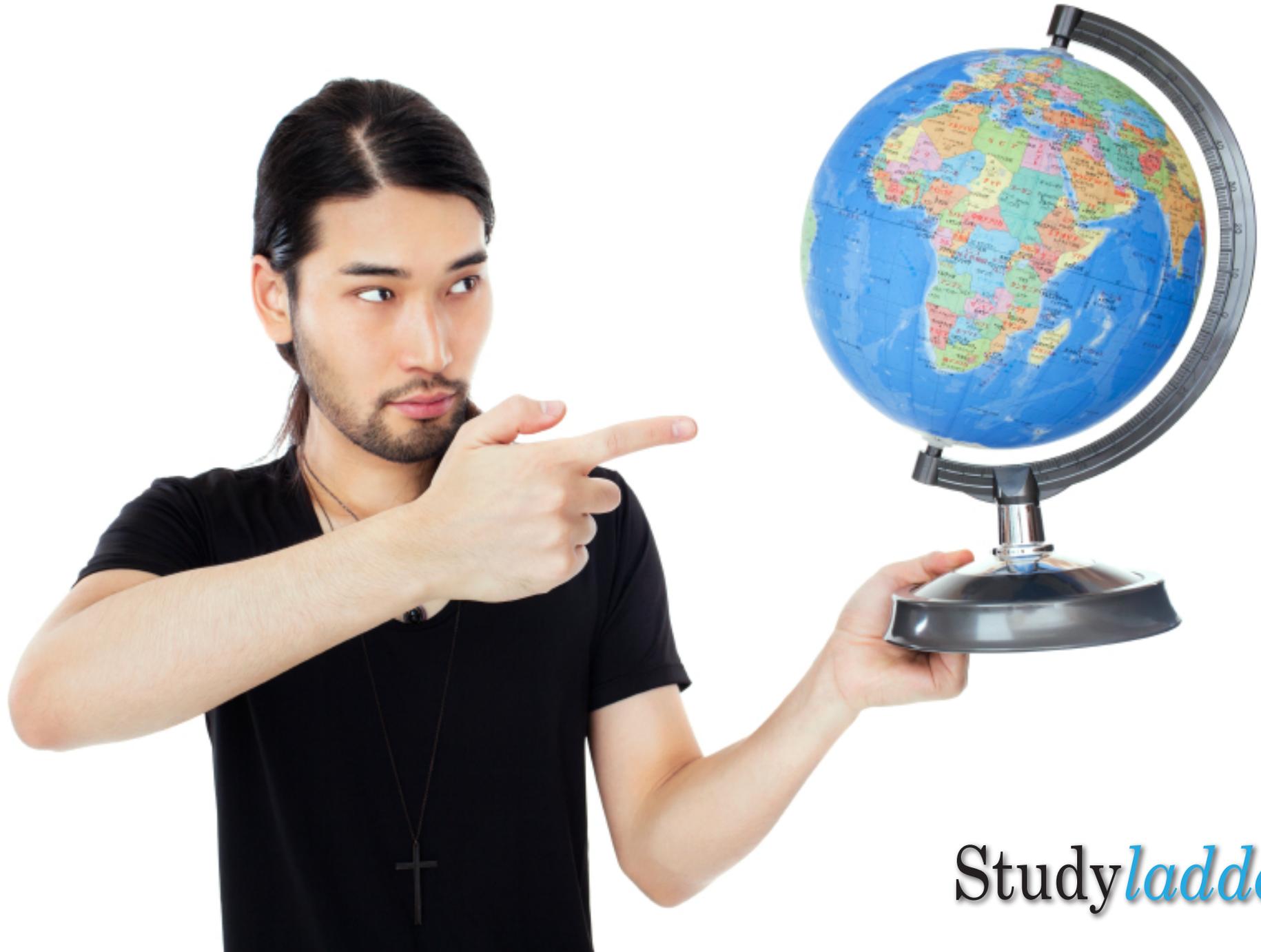


The Axial Tilt of the Earth



Study*ladder*

Is Earth the centre of the universe?

The sun rises in the east sky and tracks its way across to the west where it sets each day.

At night the stars become visible and we can see the Moon rise high into the sky.

You might logically assume from these observations that both the Sun and the Moon orbit around the Earth. This is what most people thought up until the 16th Century.

In 1543 Nicolaus Copernicus suggested that it was not the Earth but the Sun that lay at the centre of the Universe. His view was not well received by people at the time. Many years later Galileo Galilei used the newly invented telescope to expand on Copernicus' work. Then in 1687 Sir Isaac Newton proved without a doubt that the Earth revolves around the Sun.

It took a long while for people to finally accept that the changes we see in the sky are because we are rotating on our axis as we orbit around the Sun.



The Earth is spinning

Imagine you are on a merry go round or carousel. The world appears to be spinning around you.

But it is actually you on the carousel that is rotating, not the world that is spinning.

You see the world as spinning around you because your point of view is moving as you spin.

It is the same with the Earth's view of the sky.

From our point of view, on Earth, the stars in the sky appear to be moving. But it is our Earth that is spinning, changing our point of view of the sky.



The stars appear to rotate around Polaris, the North Star.



This is a map of the stars that can be seen in the night sky from the Northern Hemisphere.

They appear to rotate around the centre star called 'Polaris'. (Polaris is often referred to as the 'North Star')

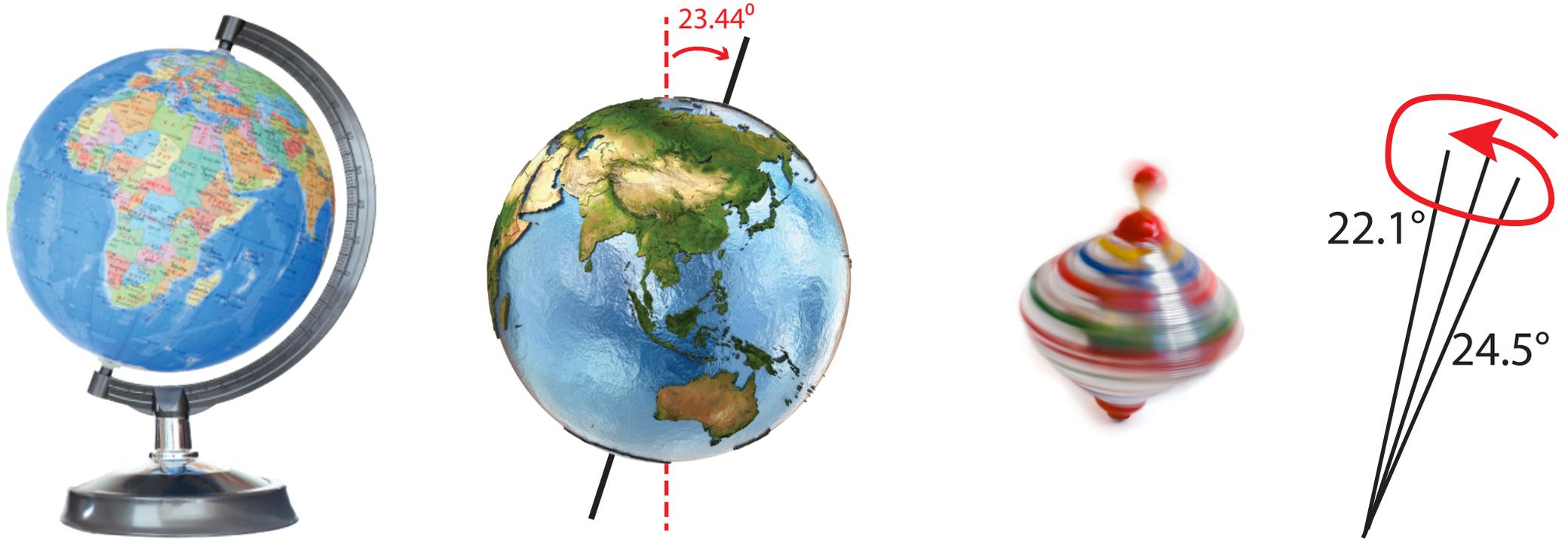
From a person's point of view, on Earth in the Northern Hemisphere, this star remains in a fixed position.

This is because the Earth's axis points toward Polaris.

But the stars are not the ones that are moving! Our earth is rotating.

Our view of the stars changes because our orientation has shifted.

Axial Tilt of the Earth



The Earth is tilted on its axis at about 23.44° .

This tilt changes very slowly with time. Like a spinning top, the Earth's orbit wobbles making the tilt of the Earth vary between 22.1° and 24.5° . At the moment the Earth's axis points at the North Star, Polaris.