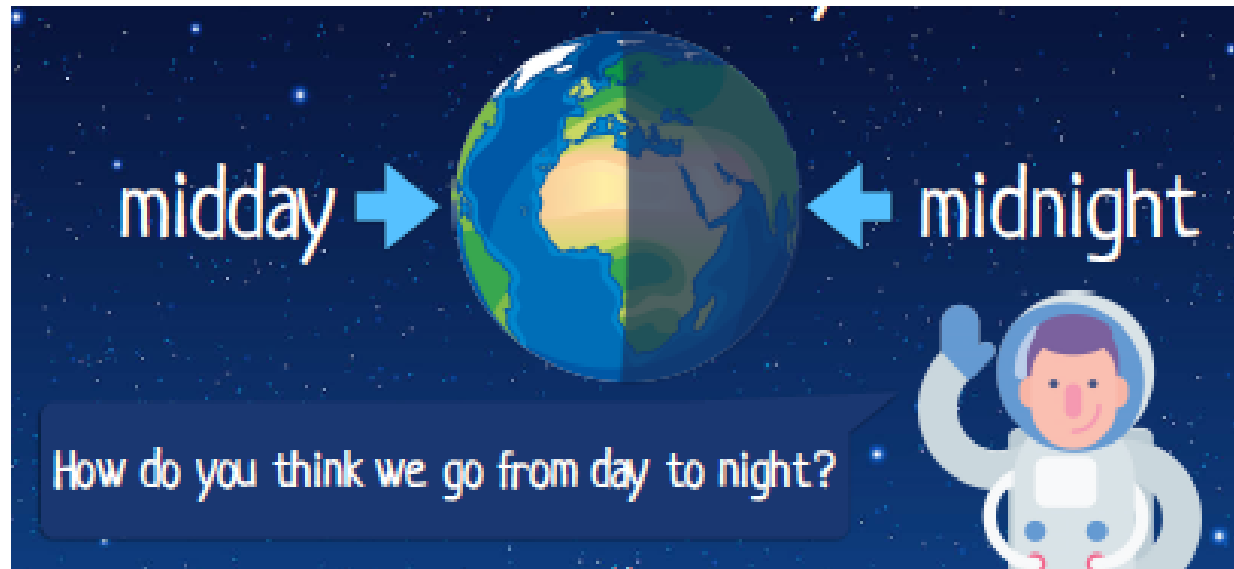


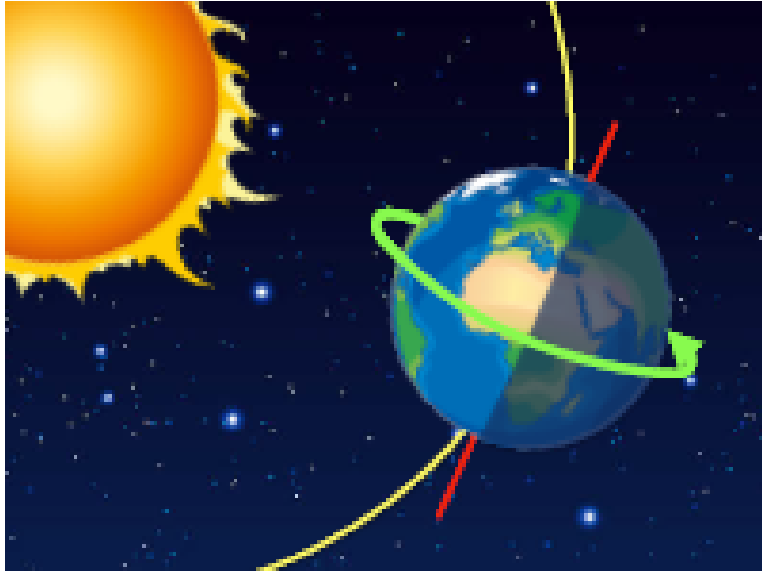
**Why do we have night and day?**

**13.1.21**

**Can I describe why we have night and day?**

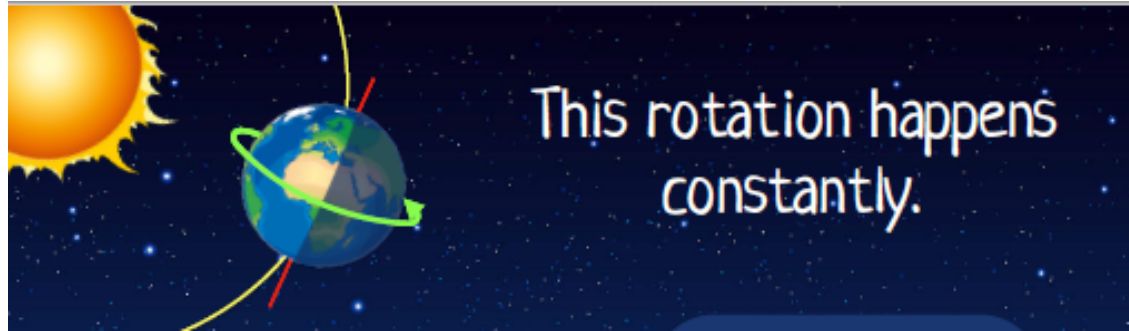
Places on opposite sides of the planet experience different times of the day simultaneously (at the same time).



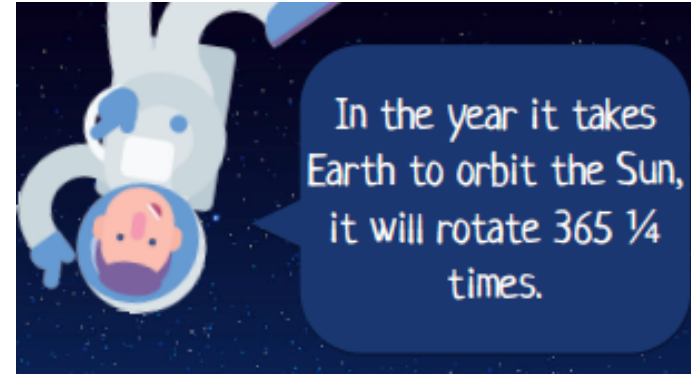


As well as orbiting around the Sun, Earth also **rotates** on its axis.

As Earth rotates, the countries that are experiencing daytime (in the lit section of the planet), slowly move into the shadow and experience night-time



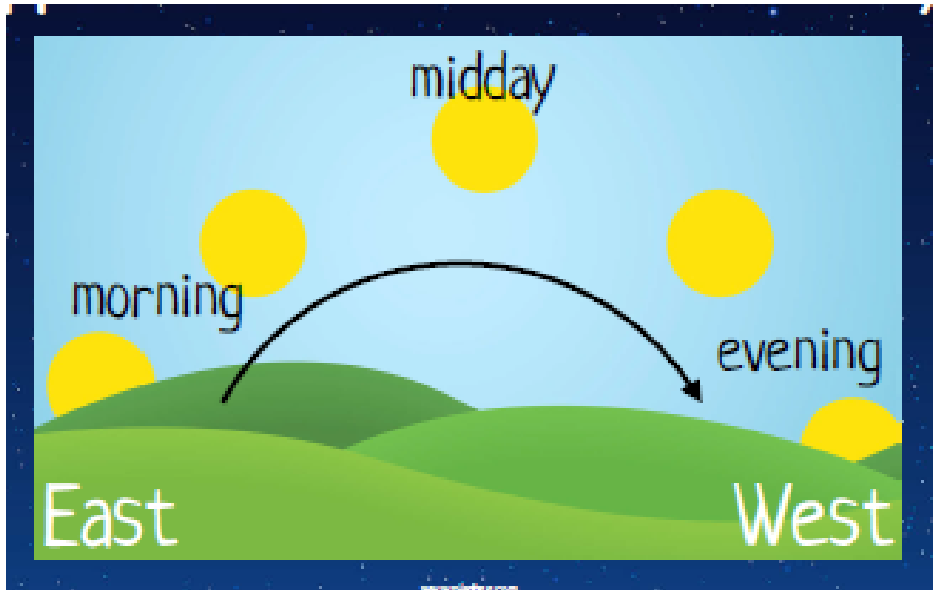
**How long does it take to do a whole rotation?**



**It takes 24 hours or 1 day for Earth to complete one full rotation.**

 <https://www.bbc.co.uk/bitesize/clips/zrd9wmn>

It's because of Earth's rotation that the Sun appears to move across the sky.



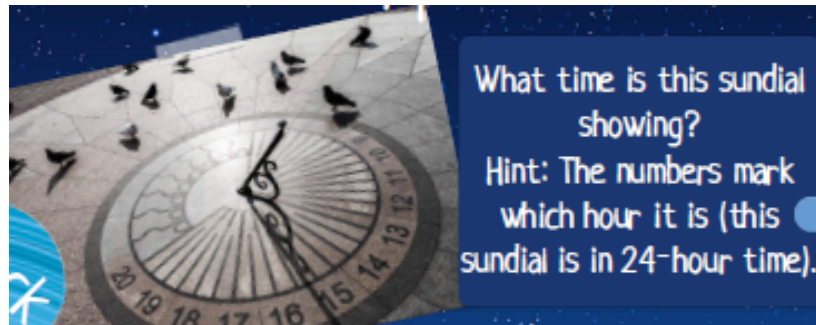
The Sun rises in the east and sets in the west.

Throughout the day the shadows that are created change based on where the Sun is.



It's these changes which mean we can tell the time using sundials.

The specific markings on the sundial correspond to the time it will be when the shadow of the gnomon (the pointy centre of the sundial) points to the marker.

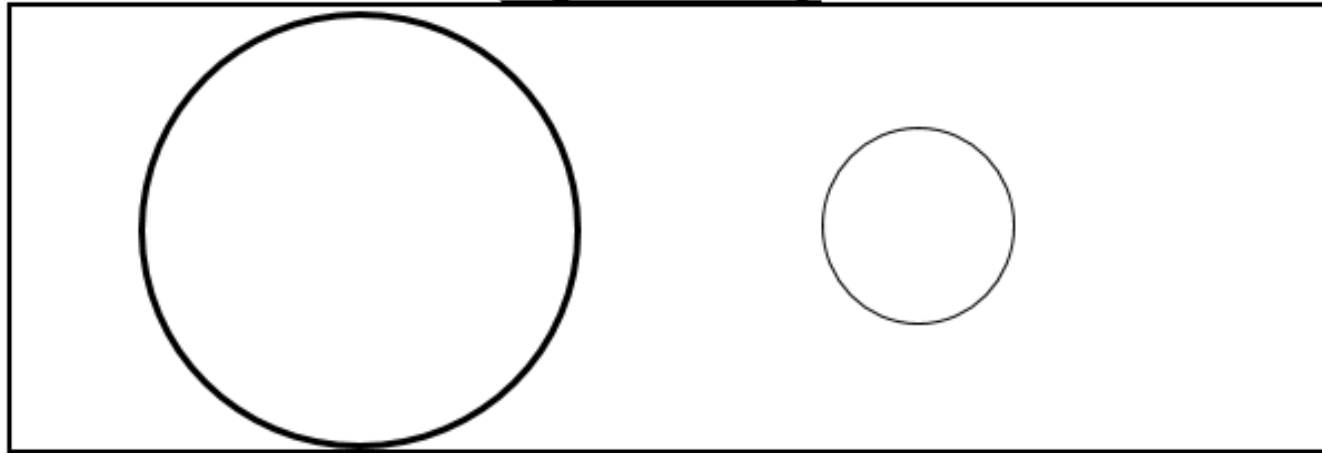


This sundial is showing the time as just past three o'clock in the afternoon (around 15:15 in 24-hour time).

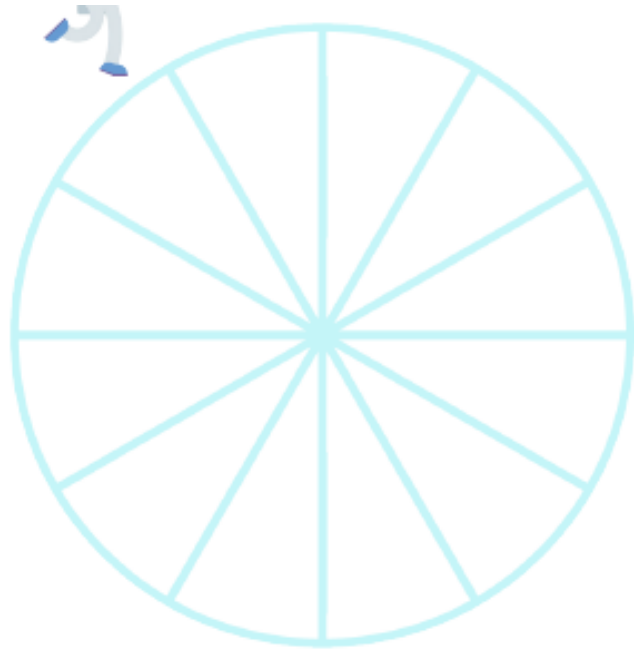
Why do you think the hours marked on this sundial don't show any past 8pm?




## Night and Day



<p><u>Why do we have night and day?</u></p>	<p><u>Why does the Sun look like it is moving across the sky during the day?</u></p>	<p><u>Can we still have shadows at night?</u></p>
---	--	---



 Sundial Investigation

**What we did...**  
 Draw and take a picture of our investigation

What do you notice about the direction of the shadows you recorded?

What do you notice about the length of the shadows you recorded?

How are day and night created? Earth \_\_\_\_\_ the Sun and also rotates on its \_\_\_\_\_ Earth \_\_\_\_\_ orbits every \_\_\_\_\_ hours or one \_\_\_\_\_. The places on Earth which are \_\_\_\_\_ the Sun are lit up and experience \_\_\_\_\_. The parts of Earth which are facing away from the Sun are in shadow and experience \_\_\_\_\_.

24 facing day time no tides  
 night-time orbits axis day