

# Visit Trail



Astronomer Trail

## Scout Trail

Name:  Troop:

Date:



To begin the trail, go to the **Our Solar System** gallery, as well as the Stellarium in **The Universe** Gallery.

## Question 1

**Explain why the stars that we can see in the night sky change throughout the year**

*Hint: think about the way in which the Earth spins on its axis, and orbits the Sun - The Tellurion Orrey demonstrates this well.*

The Earth is in constant orbit around the sun, and also spins on it's axis.

The Earth takes 365 and 1/4 days to make it around the sun, and so the position of the Earth is different between January and July. This means the stars that we can see are different, as we are looking at them from a different position in our solar system at different times of year.

The Earth also is constantly spinning. While we may be looking at the stars from the same position on Earth every night, the Earth itself spins, meaning what we see changes throughout the night, and in turn throughout the year.



# Question 2

**Match each of these words to their correct definition.**

*Hint: start by matching the definitions which you definitely know, and then move onto the ones you aren't so sure about!*

1

**Celesitial sphere**

4 This describes an object close to one of the Earth's poles, such that it never appears to set or rise in the sky. For example, the constellation Ursa Major is circumpolar over the United Kingdom.

2

**Equator**

1

This describes an imaginary sphere surrounding the Earth, which has a centre the same as the centre of the Earth.

3

**Poles**

3

This describes two points on the surface of a rotating planet about which the planet will spin on its axis.

4

**Circumpolar**

5

This describes an imaginary belt running across the sky in which the Sun, Moon and all planets are always found.

5

**Zodiac**

2

This describes an imaginary line on the Earth's surface going around the middle of the Earth, splitting the Earth into North and South halves.



Now look at the **Moon** exhibit in **Our Solar System** Gallery.

## Question 3

**Explain how the Moon affects the tides on Earth.**

*Hint: think about the way the Moon orbits the Earth.*

The Moon's gravity affects the Earth's oceans.

The slight gravitational pull of the Moon on the Earth's oceans causes the ocean to bulge slightly on both the side closest to the Moon, but also the side furthest from the Sun.

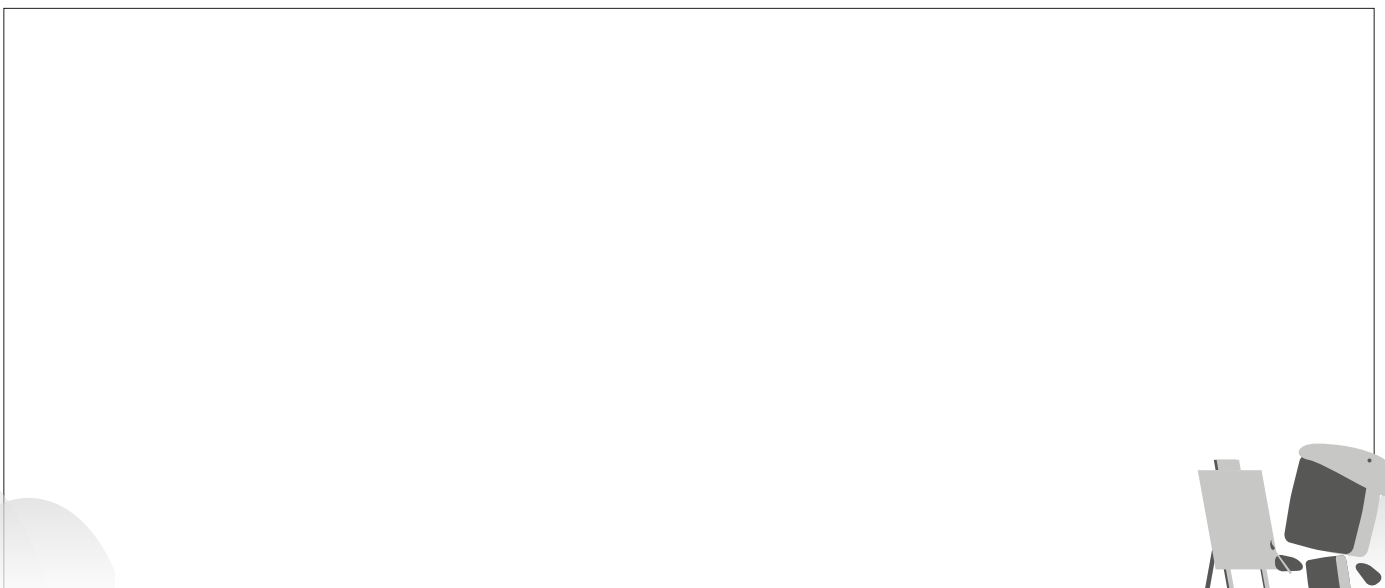
These bulges cause the oceans to move, causing waves and tides.

## Question 5

Have a go at using Professor Clegg's Observatorium.

**Can you identify three constellations in our night sky? Can you draw them?**

**Why not look online and find out their stories when you get home?**





# Question 6

Continue to explore the National Space Centre

**What satellites can you find around the galleries? Draw three of them below, and use their info panels to write a mini fact-file about them. *Hint: look up!***

