

Conduct the following practical experiment:

There are four parts to this experiment. Set up the torch as the sun (centre) and the globe as Earth revolving around the sun. Mark the position of Australia on your Earth with a circle sticker and label east coast (Sydney) and west coast (Perth) with E and W.

1. Model the Earth's orbit. Begin to move the Earth around the sun.

Draw a small diagram here:



What do you think is the shape of the orbit? A perfect circle, almost a circle, or an ellipse?

How long does it take for the Earth to orbit the sun? ____ or ____.

2. Model Day and Night. Shine the torch at the globe as you rotate the Earth around its axis. What is happening? (Hint: look for shadows) Note your observations:

3. Where does the sun rise? _____.

Where does the sun set? _____.

Now begin to rotate the Earth around its axis. Spin your Earth both ways. Can you find out which is the correct direction the Earth is rotating? Towards east or towards west? Clockwise or anticlockwise?

The Earth rotates towards _____ or _____wise.

Now identify which coast of Australia

a) first came into daylight _____

b) was the last to move into night _____

Why did this happen? _____

4. Observe the tilt of the Earth (23.5°) and model its orbit around the sun
(keeping the tilt exactly the same).

a) What is happening to the south and north hemispheres as the Earth orbits around the sun? Stop each 90° and note your observations:

b) Again observe the Earth as it goes through its orbit. Does the sun always shine equally on all parts of the world? Note your observations:

c) How do you think this would effect the people that live in different parts of the world? (think about seasons, concentration of sun rays, length of day and night)

Scientists living in Antarctica

People living in Equatorial Guinea in Africa

People living in England

People living in Melbourne