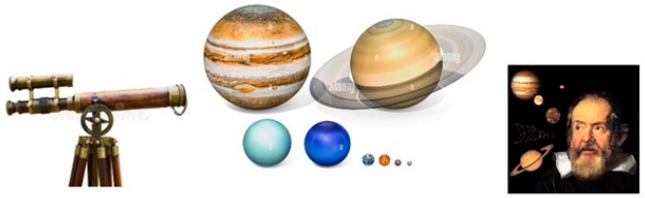
In this unit we will

1. Look at evidence for the shape of the Earth, Moon & Sun
2. Understand the relative sizes of Earth, Moon & Sun and learn about the heliocentric model of our solar system
3. Develop an understanding of the planets in our solar system
4. Understand how the rotation of the Earth causes night and day
5. Understand how the movement of the Earth in its orbit causes the seasons



Earth and Space

Science Skills that we will develop:

Explaining Science

1. I use complex science words correctly
2. I use a science model to describe and explain
3. I draw & annotate diagrams to help describe/explain

Data, Table & Graphs

1. I join plotted coordinates with straight lines

Re-cap of last lesson - Explain how we know that the Earth is a sphere

↓

Compare the sizes of the Earth, Moon and Sun

↓

Understand how far apart the earth Moon and Sun are

↓

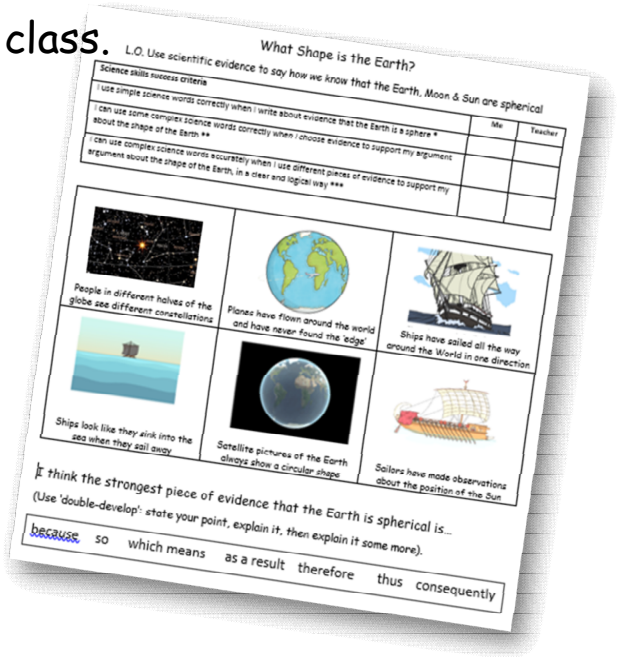
Compare the planets of the solar system

Can you explain why the Earth is a spherical shape, using the evidence we studied last week? Work with your partner to practice an explanation that uses at least one of the conjunctions below. Share it with the class.

because so which means

thus therefore

as a result consequently



What Shape is the Earth?

L.O. Use scientific evidence to say how we know that the Earth, Moon & Sun are spherical

Science skills success criteria	Me	Teacher
I use simple science words correctly when I write about evidence that the Earth is a sphere *		
I can use some complex science words correctly when I choose evidence to support my argument about the shape of the Earth **		
I can use complex science words accurately when I use different pieces of evidence to support my argument about the shape of the Earth, in a clear and logical way ***		

People in different halves of the globe see different constellations

Planes have flown around the world and have never found the 'edge'

Ships have sailed all the way around the World in one direction

Ships look like they sink into the sea when they sail away

Satellite pictures of the Earth always show a circular shape

Sailors have made observations about the position of the Sun

I think the strongest piece of evidence that the Earth is spherical is...

(Use 'double-develop': state your point, explain it, then explain it some more).

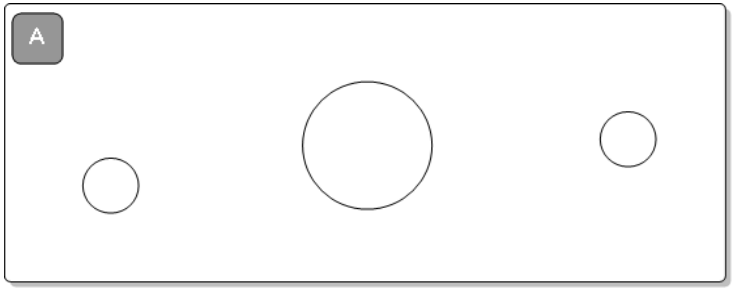
because so which means as a result therefore thus consequently


L.O. Name and describe the planets of our solar system

Let's start with our own little corner of the Solar System.

How much do you know about how big the Earth and Moon are, compared with the Sun? Are they all the same size, like this?

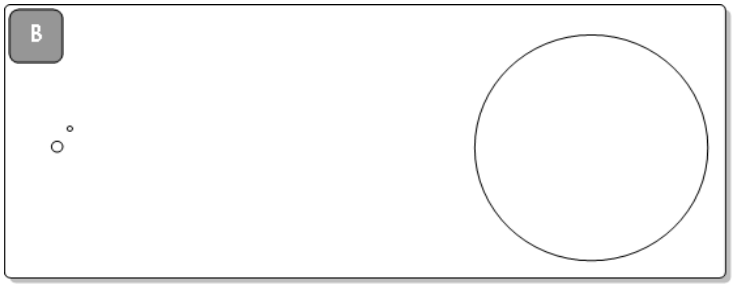
A



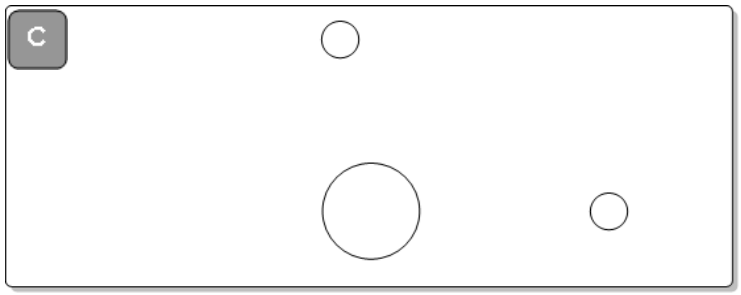
Which picture represents the relative **sizes** of the Earth, Moon and Sun?

Work with your partner to discuss & label the diagram that you think is correct. Don't worry about the **positions** of the circles - it's the **sizes** we are thinking about.

B



C



Label your diagram and write a couple of sentences underneath to explain why you think it's correct.

Which three of these best represent the relative **sizes** of the Earth, Moon and Sun? Discuss and decide, giving your reasons.

Space Hopper

small white bead

marble

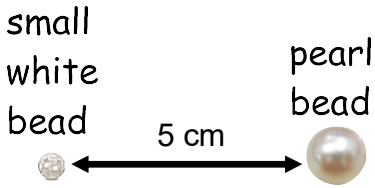
airflow ball

tennis ball

football

pearl bead

These three are about right, but what about the relative **distances** apart?



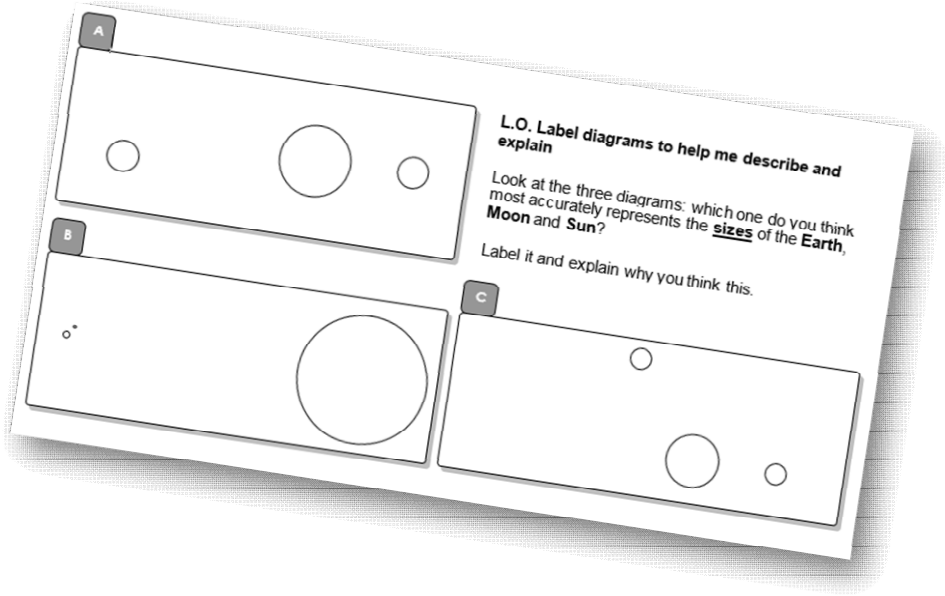
Your teacher will hold on to the 'Earth' and 'Moon', while you decide where to stand on the field, to show where the 'Sun' should go.

Were you surprised at how far away the 'Sun' was from the 'Earth' and 'Moon'?

Here's another way to show just how far away we are on Earth from the Sun.

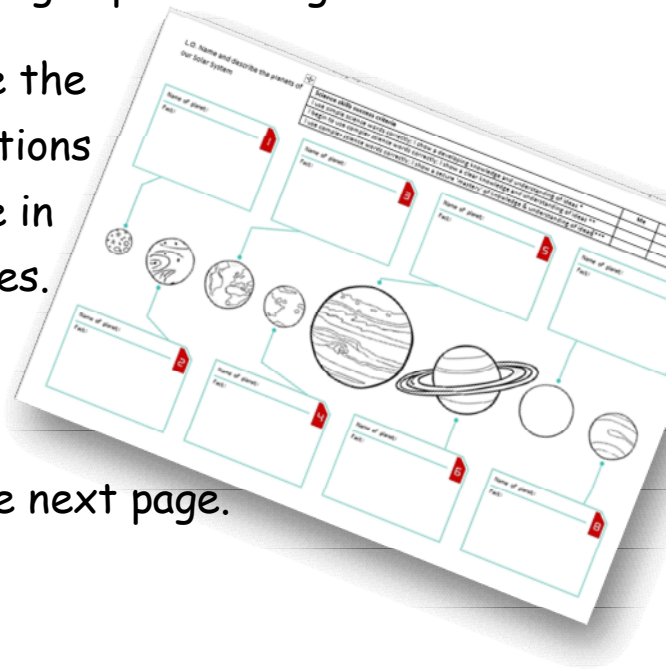
Aut1'19-Science-2-relative sizes document.docx

Go back to your book and check what you have written; do you need to change or add anything to your ideas?

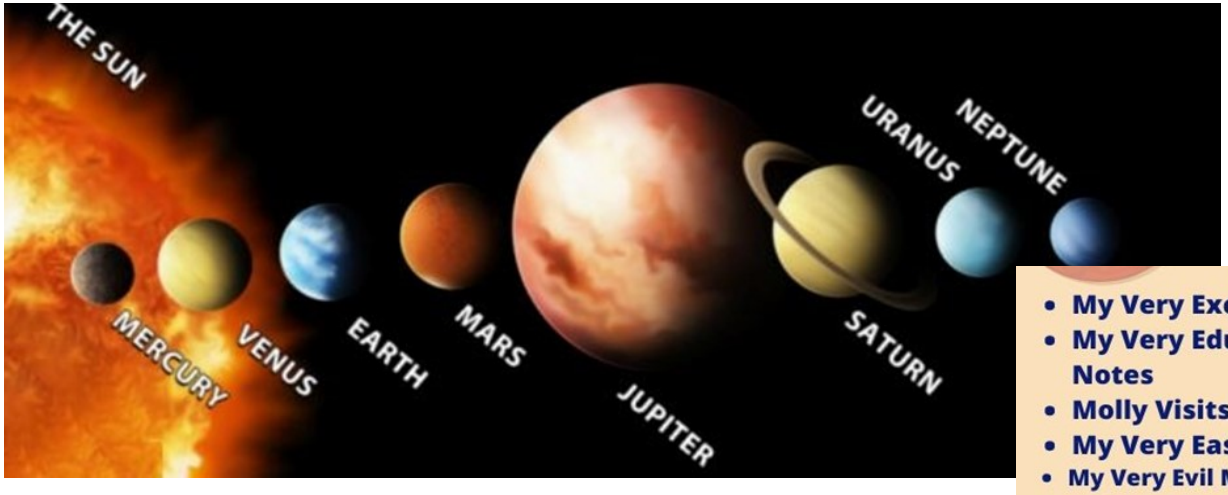


In our computing lessons, we have been researching about some of the other planets of the solar system, so you will know quite a lot about them already; however, it is still important that we compare all eight planets together.

Use the fact sheets to name the correct planets in their positions and choose one fact to write in each of the information boxes.



Quick finisher challenge on the next page.



- My Very Excited Mother Just Served Us Noodles
- My Very Educated Monster Just Showed Us Notes
- Molly Visits Every Monday, Just Stays Until Noon
- My Very Easy Method Just Speeds Up Naming
- My Very Evil Monster Just Sent Us North

Can you think of a **mnemonic** to help remember the order of the planets? A mnemonic is a silly sentence in which all the words start with the same letters and in the same order as the words you are trying to remember. Here are some examples...

So, you think the Earth is a big place? Watch this video - it compares the sizes of the planets in our Solar System as if we could line them all up in size order. They are **not** lined up as they really are in space, and none of them are anywhere near each other, but the sizes **are** correct. The video then goes on to compare our Sun to other stars in our galaxy.

Prepare to get brain freeze....

Comparison_of_planets_and_stars.mp4