Earth and Space

You can learn to and have fun at the same time.

♣ describe the movement of the Earth, and other planets, relative to the Sun in the solar system

♣ describe the movement of the Moon relative to the Earth

♣ describe the Sun, Earth and Moon as approximately spherical bodies

♣ use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Top Facts

1. In our Solar System our sun is at the centre and everything revolves around it.
2. **Sun is a star** – a massive ball of Sun - This includes the eight planets and their natural satellites (such as our moon), dwarf planets and their satellites, as well as asteroids, comets and countless particles of smaller debris.
3. The closest planet to the Sun is Mercury, and the farthest away is Neptune.
4. **The biggest planet is Jupiter, and the smallest planet is Mercury.**
5. The Earth is the only planet that we know has creatures living on it.
6. The Earth rotates as it orbits the Sun. It takes one day to complete a rotation.
7. It takes 365 days for the Earth to complete one circuit around the Sun. We call this a year.
8. **The Sun is just one of hundreds of billions of stars in the galaxy that we live in, which is called the Milky Way. The whole Universe has at least 100 billion galaxies in it.**
9. You are held onto the surface of the Earth by a force called gravity. This is the same force that keeps the Earth and the other planets orbiting around the Sun.
10. Not everything in the Solar system orbits directly around the Sun. The Moon orbits around the Earth.

Literacy/ICT

Research information (use the internet and follow some of the links below to find interesting information about our Solar System)

Make a presentation of facts. (You could use Power Point to do this.)

Find out what's happening right now in LIVE SCIENCE on this website https://www.livescience.com/topics/planets

Write a diary about your trip to the planet Mars. Or pretend you are from Mars visiting Earth – write a diary about your visit.

Art/Craft

Make models of our Solar System to hang up (use balloons to make paper Mache planets but remember to make them different sizes and paint them different colours.

Make some Solar System art, You can follow the ideas on this website (http://www.pbs.org/parents/crafts-for-kids/solar-system-art/)

Design your own space suit then go to the NASA website to find out how they do it.

History

Research the history of space flight. When did man first leave the planet Earth?

Maths

How long will it take to travel to the moon?

How long will it take to travel to Mars?

Compare the size of the planets and our Sun.

How much would you weigh on the Moon? Why would it be different?

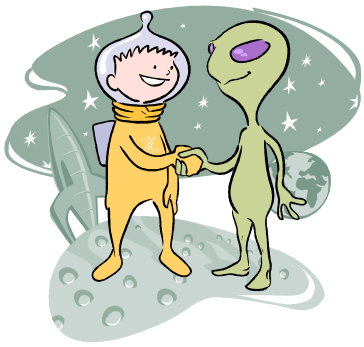
How much would I weigh if I lived with Martians?

1. Use the scales to measure your mass:

   My mass is …… kg.

2. Gravity on Earth is 10 N/kg. This means that every kilogram = 10 newtons on Earth.

   mass X gravity = weight



On Earth my weight is: …… kg X 10 = …… N.

3. Gravity is different on different planets.
   On Mars, gravity is 4 N/kg.
   If I lived on Mars my MASS would be …… kg.
   If I lived on Mars my WEIGHT would be …… N.

4. Fill in the table for all the planets (you've already done Earth and Mars!)

Planet	My mass		Gravity	My weight
Mercury	kg	X	4 N/kg	= N
Venus	kg		9 N/kg	N
Earth	kg		10 N/kg	N
Mars	kg		4 N/kg	N
Jupiter	kg		25 N/kg	N
Saturn	kg		10 N/kg	N
Uranus	kg		9 N/kg	N
Neptune	kg		11 N/kg	N

5. Does your mass change? …… Does your weight change? ……
6. Where would you weigh more than you do on Earth?

   ……

   ……

7. Where would you weigh less than you do on Earth?

   ……

   ……

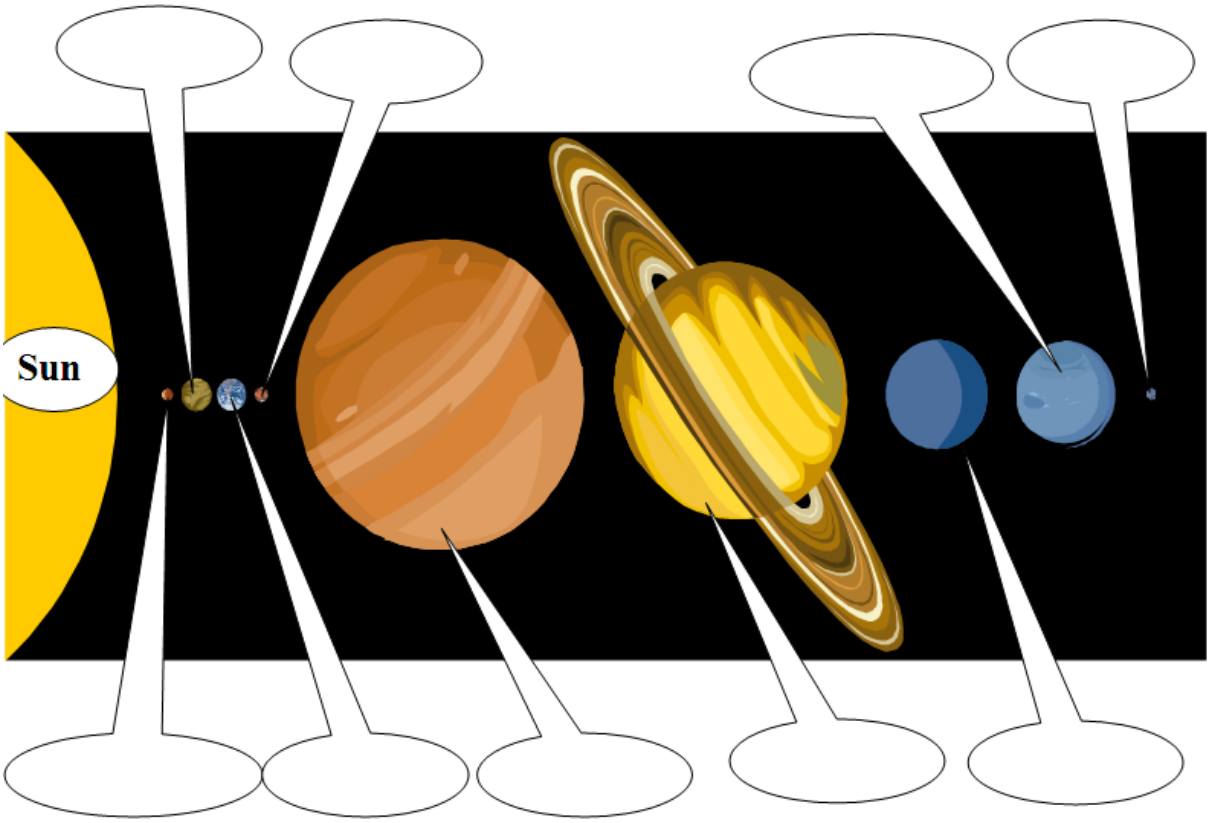
Name Date

Planet Information gap

	Average distance from the sun (million km)	
	2870	51 800
Neptune		49 500
		142 200
Saturn		
	5900	
Earth	149.6	
	227.9	
	57.9	4 880
Venus		12 100

The Solar System

Use the information to name the planets.



Here are some links to fantastic websites – check them out for loads of information (I'm sure you can find many more – if you do make a note of them at the bottom of the page)

Download the Space Pack to find lots of facts for your file that you can print out.
http://www.tachingideas.co.uk/earth-and-beyond/the-space-pack

https://www.rmg.co.uk/discover/teacher-resources/space-rocks

https://www.bbc.co.uk/education/topics/zkbbkqt

http://www.kidsastronomy.com/earth.htm

http://www.planetsforkids.org/planet-earth.html

http://www.esa.int/esaKIDSen/Earth.html

https://www.nationalgeographic.com/science/space/our-solar-system/