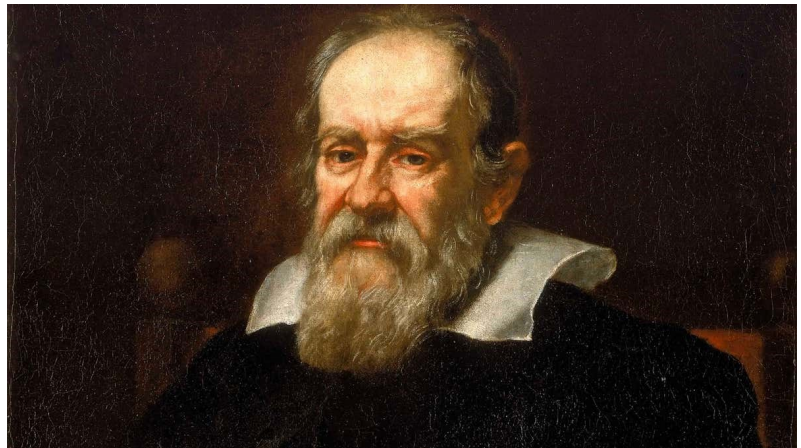# Galileo Galilei

We would like you to research the famous scientist Galileo Galilei.

Could you find out:

- When he was born and when he died

- What he found out/discovered

- What people believed before his discovery and research

- Where he lived

- Any other interesting facts.

You can present your project however you wish. You could do a PPT, poster or anything else you wish to do.

We can't wait to see all of your completed projects about Galileo Galilei!

Below are some websites you might find useful for your research.

http://www.childrensuniversity.manchester.ac.uk/interactives/science/earthandbeyond/

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

http://spaceplace.nasa.gov/

http://starchild.gsfc.nasa.gov/docs/StarChild/StarChild.html

http://www.theschoolrun.com/homework-help/solar-system

Human sundial experiment

You will have hopefully discovered that Galileo Galilei did lots of research into the movement of the sun, moon and the Earth in our solar system.

The experiment below will show you how the planets including our planet Earth move around the Sun.

Human sundial experiment

You will need:

- Some chalk

- A sunny day (come on sunshine!)

- A hoop/skipping rope or something else you can stand in.

Instructions

1. Put your hoop on the ground and ask a member of your family or your pod to draw round your shadow.

2. Repeat every hour throughout the day.

3. Observe what has happened to the length, direction and angle of your shadow.

Why has this happened? What made your shadow change length and direction?

Earth, Sun and Moon follow up Experiments

We really hope you enjoyed carrying out the human sundial experiment. Below are some further experiments you could carry out. Answers will be on the next page so don't peek :)
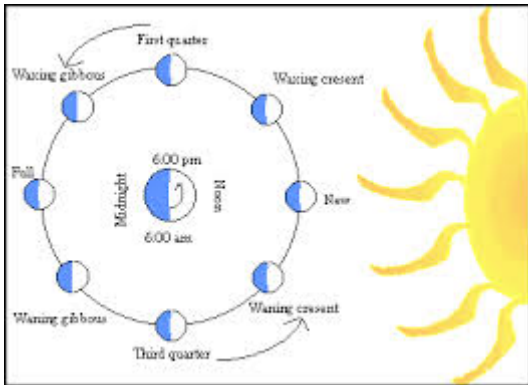
1. Observe the moon during the daytime. The reason we can see the moon during the day is because the light from the sun reflects off the moon and into our eyes. We would like you to draw the moon in a notepad or on a piece of paper, observe where your shadow is pointing and draw an arrow to show the position of the sun, repeat this activity throughout the day and see what you have found out. Do your findings support what you found in the sundial experiment?

2. Gather the following fruit and vegetables. 1 watermelon, 1 grapefruit, 1 large apple, 1 satsuma, 2 cherry tomatoes, 1 blueberry and 1 pepper corn. If you don't have any of these items, substitute for something else of the same size! Now guess which item represents which planet in our solar system. Can you put them in order of MVEMJSUN which is the order of our planets in the solar system. The sun can be represented by 3 umbrellas opened up (although this is still representative of only 1/4 of the sun!

3. Make your own sundial. Follow the instructions in the attached word document to make your own sundial. You can also see photos of real life sundials and different time zones across the world.

Planet Size Comparison

Answers

1. 1 side of the moon is always lit up by the sun so is visible. The only exception is during a lunar eclipse. You will not see a full moon during the day, only a crescent, quarter or gibbous moon. You will see either the waxing or the waning cycle as the other will be through the night.

2. In order from left to right - Mercury = peppercorn, Venus then Earth = cherry tomatoes, Mars = blueberry, Jupiter = watermelon, Saturn = large grapefruit, Uranus = apple, Neptune = orange.

3. Greenwich Mean Time or GMT is clock time at the Royal Observatory in Greenwich, London. It is the same all year round and is not affected by Summer Time (Daylight Saving Time) clock changes.

When the sun is at its highest point exactly above the Prime Meridian, it is 1200 noon at Greenwich.

GMT is also a time zone, used by the United Kingdom of Great Britain and Northern Ireland (UK) when Daylight Saving Time is not in use, from October to March.

The **Greenwich Meridian** (Prime Meridian or Longitude Zero degrees) marks the starting point of every **Time Zone** of the time zone map.