

Year 5 Science Autumn 1 & 2 Properties and Changes of Materials

Vocabulary



dissolve

transparent

clear solution.



insoluble substances



dissolve



sediment



cloudy



suspended

soluble materials

sieving

filtering

evaporation

Mixing and dissolving are reversible changes

Key Learning:

Exploring properties and uses of materials – To use Carroll diagrams to classify materials by their properties.

Investigating thermal insulators – To investigate how to stop a snowman melting using a comparative test.

Comparing soluble and insoluble materials - To identify and compare soluble and insoluble materials.

To select equipment to separate two or more materials by sieving, filtering and/or evaporating.

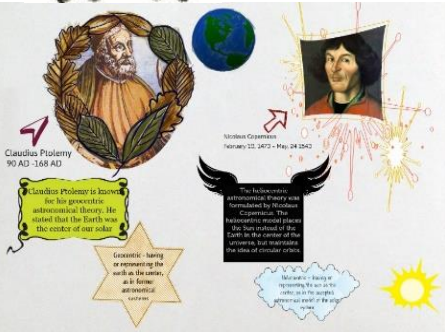
Understanding that changes of state are reversible – To observe and describe changes of state, including melting, freezing, evaporating and condensing.

Exploring irreversible changes – To compare reversible and irreversible changes.



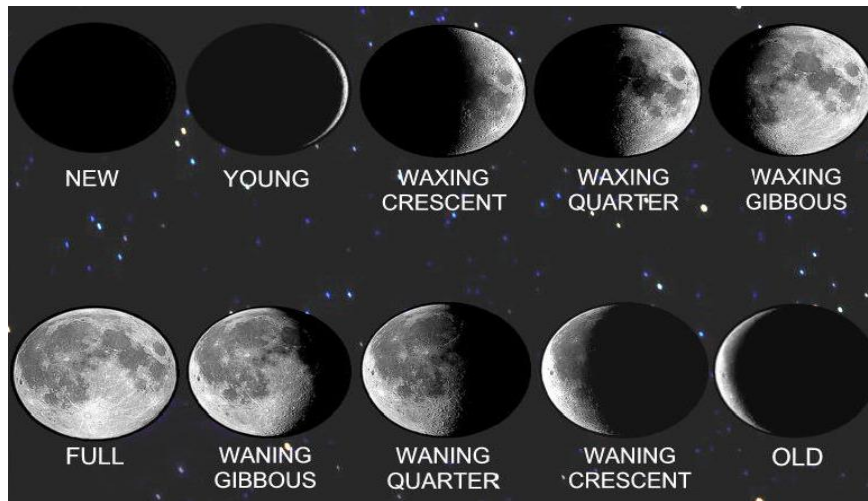


Earth and Space Year 5 Spring 1



Key Learning:

- To describe the movement of the Earth, and other planets, relative to the Sun in the solar system.
- To use the idea of the Earth's rotation to explain day and night.
- To describe the Sun, Earth and Moon as approximately spherical bodies.
- To explore different time zones across Earth explaining why they are used and how they work.
- To research how peoples' thinking about the universe has changed throughout history (Ptolemy, Alhazen and Copernicus).
- To create a model to show my understanding of the solar system.



Asteroid – A small rocky body orbiting the sun

Axis – An imaginary line about which a body rotates

Celestial – Positioned in or relating to the sky, or outer space as observed in the astronomy

Day – A twenty-four hour period, from one midnight to the next, corresponding to a rotation of the earth on its axis

Dwarf planet – A celestial body resembling a small planet but lacking certain technical criteria to be classed as a planet e.g. Pluto

Geocentric – Where people believed the earth was at the centre of the solar system

Heliocentric – Representing the sun as the centre of the solar system, the modern view of the solar system

Moon – A natural satellite of any planet

Night – The period from sunset to sunrise in each twenty-four hours

Orbit – The regularly repeated oval course of a celestial object around a star or planet

Planet – A celestial body moving in orbit round a star

Rotation – The action of rotating about an axis or centre

Solar system – The collection of eight planets and their moons in orbit round the sun

Star – A fixed luminous point in the night sky which is a large, remote body like the sun

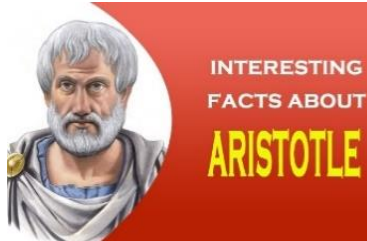
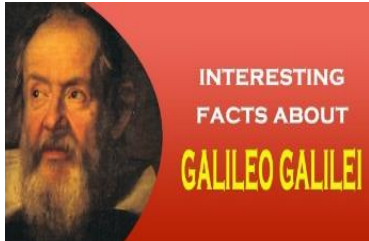
Sun – The star round which planets orbit

Vocabulary



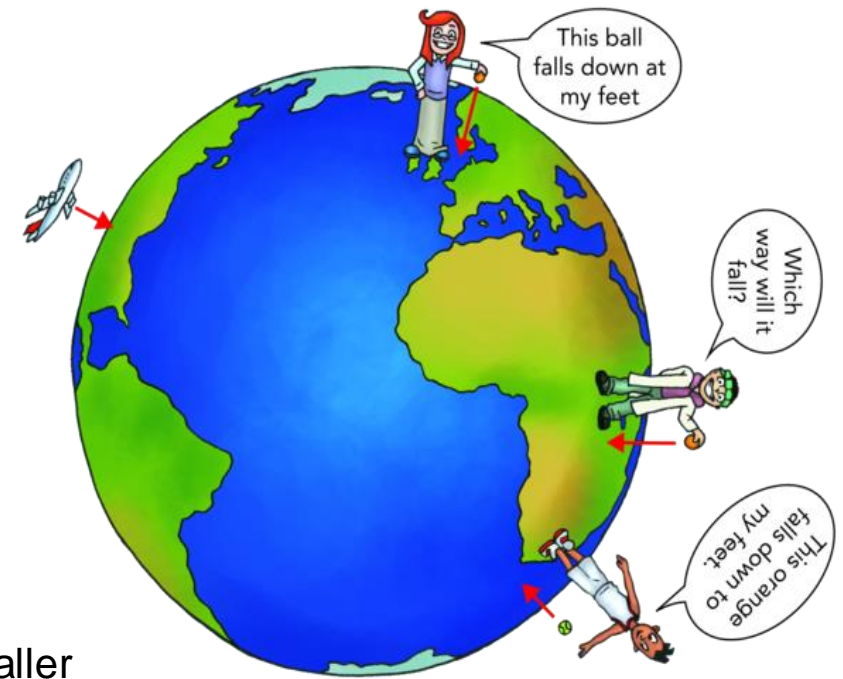
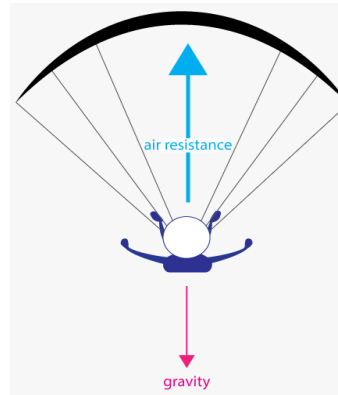
Year 5 Science Spring 2

Forces - Effects on Movement



Key Learning:

- To observe the effects of friction in bike designs.
- To understand that there are different types of forces – gravity.
- To understand that gravity acts to attract masses (which are smaller than the earth) towards the Earth's centre.
- To hypothesize and investigate - Do all things fall at the same rate?
- To test how things move through the air – making parachutes
- To discuss theories of gravity and acceleration -research Aristotle's work to consider early thinking about how things fall and how Galileo and Newton were responsible for altering this view by providing further scientific evidence.
- To design a fair test to measure the effects of air resistance – testing parachutes



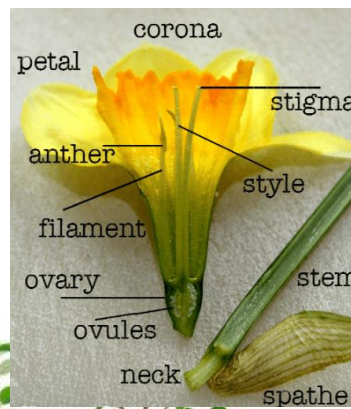
Vocabulary

**Friction,
air resistance,
water resistance,
force-meter,
Newtons,
surface area,
gravity,
movement,
between surfaces**



Year 5 Science Summer 1

Life cycle changes in animals and plants; naturalists (e.g. David Attenborough)



Key Vocabulary:

Lifecycle - the process of adults having young which then grow into adults and in turn produce young.

Life expectancy/average life span - the average number of years that a person or animal can expect to live.

Incubate - to sit on eggs so that they will be kept warm and will hatch.

Metamorphosis - a major change in form or structure that some animals go through to become adults.

Marsupial - a type of mammal that gives birth to babies before they are fully developed; the babies continue to grow in a pouch on their mother's stomach.

Hatchling - a newly hatched young bird.

Nestling - a young bird that is living in the nest and is dependent on its parents.

Fledgling - a young bird that is ready to fly the nest.

Migrate - to move from one region or habitat to another, according to the seasons.

Key Learning:

- To define what a life cycle is. We will celebrate 'Attenborough's Wonderful World' to introduce the children to the many different animals that **David Attenborough** has reported on throughout his long career.
- To describe the life process of **reproduction** in flowering plants.
- To investigate the differences in the life cycles of a **mammal**, an **amphibian**, an insect and a bird.
- To know how animal life cycles differ
- To research the naturalist David Attenborough and describe what he does.
- To know about the life and work of **Jane Goodall** from the Jane Goodall Institute.
- To dissect and compare different flower heads to observe the features responsible for **pollination** and **fertilisation**.



Attenborough's wonderful world

This clip is from

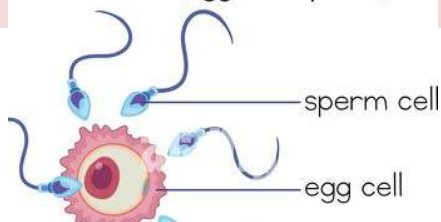


Animals Including Humans

Year 5 Summer 2

Unit Overview: This topic is taught alongside PSHE with careful consideration of the school's Relationship and Sex Education Policy.

Fertilisation (egg and sperm)

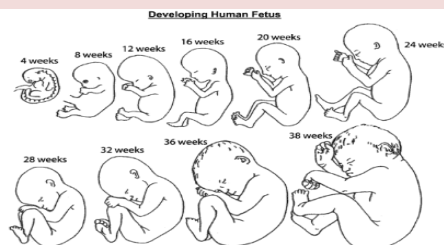


Mammal	Gestation period in days
Cat	63
Chimpanzee	240
Lion	108
Human	266
Rabbit	31
Squirrel	44
African elephant	650
Whale	360
Horse	336
Polar bear	241
Giraffe	435
Mouse	21
Rhinoceros	480
Hamster	16
Dog	61
Camel	400

The gestation period of different animals. Larger animals usually have longer gestation than smaller animals.

Key Learning:

- To understand that animals are alive; they move, feed, grow, use their senses, reproduce, breathe/respire and excrete.
- To research the gestation periods of other animals, comparing them to humans.
- To observe, measure and record the growth (length and mass) of a baby over the period of time.
- To understand physical and intellectual changes in boys and girls.
- To recognise that sexual development is a natural part of human growth.
- To understand the purposes of the menstrual cycle.



Vocabulary

Adolescent – The process of developing from a child into an adult (teenager)

Adult – A person who is fully grown or developed

Asexual reproduction – Offspring get genes from one parent so are clones of their parents

Child – A young human being below the age of puberty or below the legal age of majority

Foetus/ fetus – An unborn or unhatched offspring of a mammal, in particular an unborn human more than eight weeks after conception

Gestation – The process or period of developing inside the womb between conception and birth

Mammal – A warm-blooded vertebrate animal, distinguishable by the possession of hair or fur, females secreting milk for young and typically giving birth to live young

Puberty – The period during which adolescents reach sexual maturity and become capable of reproduction

Reproduction – The production of offspring by a sexual or asexual process

Sexual reproduction – Offspring get genes from both mum and dad, inheriting a mix of features from both

