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Science Vocabulary Year 5

Word lists and classroom prompts to support the vocabulary taught in the Hampshire Science Learning Journeys

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www.hants.gov.uk

Overview

This document contains…
Classroom prompts to support the teaching of the key vocabulary in the Hampshire Science Learning Journeys.

Points to consider when using this resource
The words that children are exposed to within science can be split into two categories: the technical and non-technical. Technical words which are specific to a science subject or discipline: respiration and genes in biology; resistance and voltage in physics; mass and substance in chemistry. Non-technical words, when used in science, can have a meaning specific to the context in which it is being used. It is no wonder then, why children can find understanding of vocabulary within science challenging and sometimes confusing if a word they already know means a different thing within science.

It is therefore vital, that the language used within science lessons is appropriate. Vocabulary needs to be carefully considered and leaders should decide on how easy and accessible the meaning, of such vocabulary that will be shared with children, is.

Teacher will need to be mindful of how some words change their meaning within a science context and will need to carefully explain these words and their varied meanings.

This set of classroom prompts aim is to support children's understanding of the meaning of key words within the Learning Journeys.

Year 5 Key Vocabulary Lists

Fossils, Geological time and classification

Million	A number that is equivalent to the product of a thousand and a thousand e.g., 1,000,000 (106)
Billion	A number that is equivalent to the product of a thousand and a million e.g., 1000,000000 (109)
Evolution	The process by which different kinds of living organisms have developed from early forms over time
Extinct	A species, family or group having no living members in existence.
Fossil	The remains or impression of prehistoric animals or plants preserved in rock
Palaeontologist	A scientist who specialised in life forms that existed in prehistoric times
Organism	A living thing, e.g., animal, plant, fungi or bacteria
Microorganism	A very small organism that cannot be seen with the naked eye
Bacteria	A specific type of microorganism present in huge numbers across most of the earth
Microscope	An instrument for looking at very small objects

Space & Gravity

Solar System	A collection of planets and moons in orbit around the sun, along with asteroids and comets
Planets	A body moving in an elliptical orbit around a star
Orbit	A curved path of a celestial object round a star or planet
Star	A giant ball of gas in the centre of a solar system that all planets orbit around.
Moon	A natural satellite that orbits a planet
Rotating	To move or cause to move around an axis or centre
Day	A complete rotation of a planet on its axis, on Earth equal to 24 hours
Year	A complete orbit by a planet around its star, on Earth equal to 365.25 days
Galaxy	A system of millions or billions or stars with gas and dust held together by gravity
Universe	All existing matter and space as a whole. Contains all galaxies and has been continually expanding since its formation 13.9 billion years ago
Asteroid	A small rocky body orbiting the sun. Many are found between Mars and Jupiter.
Comet	An object consisting of rock and ice orbiting the sun.
Gravity	The force that attracts a body towards the centre of the earth or any other body with mass.
Mass	A quantity of matter measured in kg.

Making New Substances

Matter	A physical substance which occupies space.
Mass	A quantity of matter measured in kg.
React	The process of transformation from one set of substances to another
Irreversible	Not able to be undone or altered.

Forces that Oppose Motion

Water resistance	A type of force that uses friction to slow things down moving through water, often called drag
Air resistance	A type of force that uses friction to slow things down moving through air.
Friction	The force resisting the motion of a moving object when in contact with another.
undulations	The appearance of up and down structure or motion.
Interlock	Two or move objects fitting together.
Gears	A toothed wheel that works with others to alter the relation between the speed of a driving mechanism and the speed of a driven part, e.g., the speed of the engine in relation to the speed of the wheels
Pulley	A wheel with a grooved rim around which a cord passes which acts to change the direction a force acts to lift heavy objects
Lever	A rigid bar resting on a pivot, used to move heavy objects with one end when downward force is applied to the other end

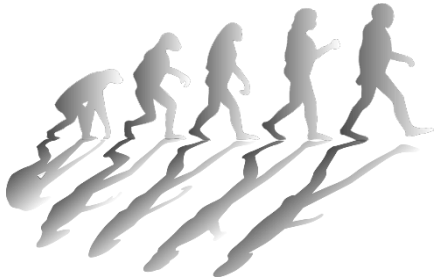
Circulation

Oxygen	A colourless, odourless, reactive gas found in the air.
Sugar (Glucose)	A simple type of sugar which is an important energy source in organisms.
Lungs	Organs located either side of the breastbone. Responsible for removing CO^2 from the blood and adding O^2 to it.
Muscles	A band/bundle of fibrous tissue that has the ability to contract producing movement.
Circulation	Movement of a fluid in a closed system
heart	A hollow, muscular organ that pumps the blood though the circulatory system.

Year 5 Fossils, Geological Time and Classification

Million noun

Definition: A number that is equivalent to the product of a thousand and a thousand e.g., 1,000,000 (10^6)



Example: Over **millions** and millions of years life became more complex through the process of evolution.

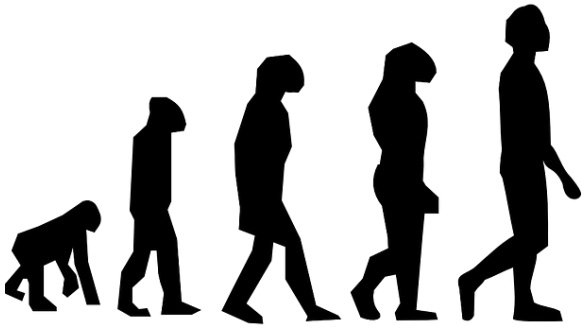
Billion noun

Definition: A number that is equivalent to the product of a thousand and a million e.g., 1000,000000 (10^9)

Example: The Earth is around 4.2 **billion** years old.

Evolution noun

Definition: the process by which different kinds of living organisms have developed from early forms over time



Example: **Evolution** is change happening over time.

Synonyms: Darwinism

Extinct adjective

Definition: a species, family or group having no living members in existence

Example: The flightless bird, the dodo, was **extinct** by 1681 due to habitat loss and competition with newly introduced animals.

Synonym: died out

Fossil noun

Definition: the remains or impression of prehistoric animals or plants preserved in rock

Example: Stromatolites are the oldest known **fossils**, representing the beginning of life on Earth**.**

Palaeontologist noun

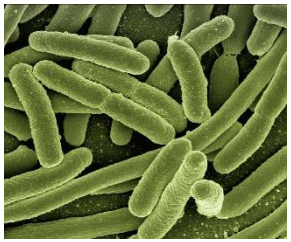
Definition: A scientist who specialised in life forms that existed in prehistoric times

Example: Palaeontologists study the relationship between extinct plants and animals and their living relatives today.

Organism noun

Definition: a living thing, e.g. animal, plant, fungi or bacteria





Example: **Organisms** are classified into groups based upon their physical features.

Synonyms:
being, creature, animal, plants, life form

Microorganism noun

Definition: a very small organism that cannot be seen with the naked eye

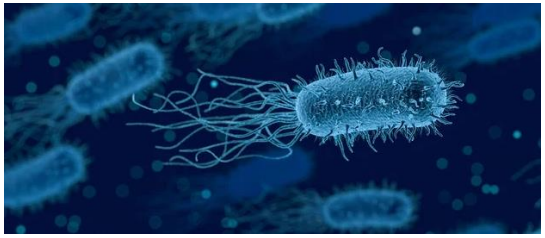
Example: **Microorganisms** include bacteria, protozoa, algae, and fungi.

Etymology: ‘micro’ meaning *small* and ‘organism’ *living animal or plant, body exhibiting organic life*

Non-example: viruses

Bacteria noun

Definition: a specific type of microorganism present in huge numbers across most of the earth



Example: **Bacteria** are also used in making healthy foods like yogurt and cheese.

Microscope noun

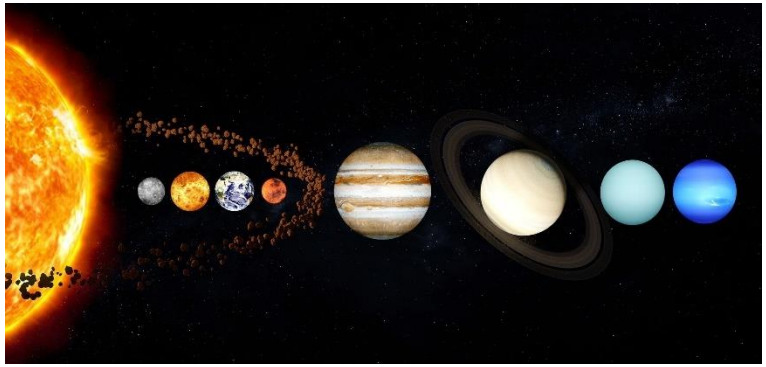
Definition: an instrument for looking at very small objects

Example: The most familiar kind of **microscope** is the optical **microscope**, which uses visible light focused through lenses.

Year 5- Space and Gravity

Solar System noun

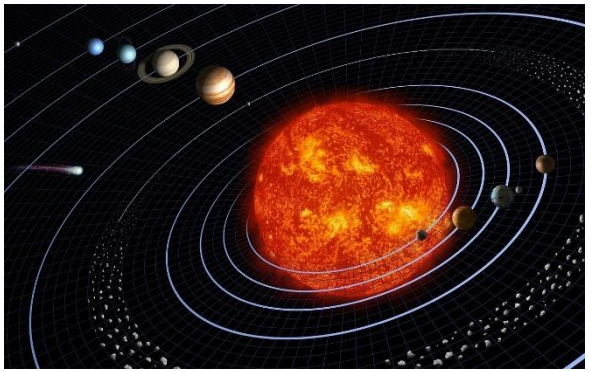
Definition: A collection of planets and moons in orbit around the sun, along with asteroids and comets



Example: Jupiter is the largest planet in the **solar system** and is easily visible in the night sky.

Planets noun

Definition: a body moving in an elliptical orbit around a star

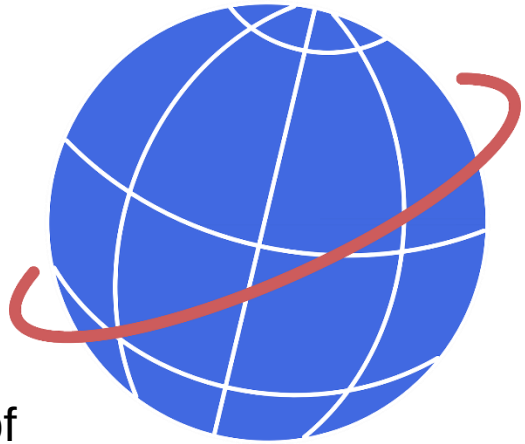


Example: There are eight **planets** in the solar system. Beginning with the **planets** closest to the sun, the **planets** are called: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

Orbit noun

Definition: A curved path of a celestial object round a star or planet

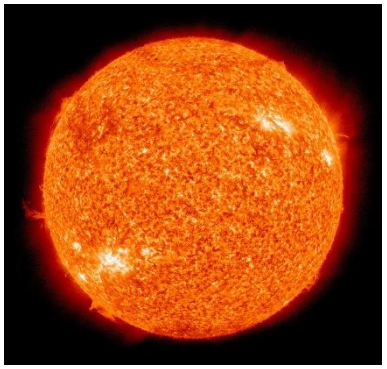
Example: **Orbits** are determined by gravity, and are often 'elliptical', the shape of an oval.



Word origin: from Latin *orbita* ‘course, track’

Star noun

Definition: a giant ball of gas in the centre of a solar system that all planets orbit around



Example: Our closest star, the sun, produces great amounts of energy in the form of light and heat that provide the perfect conditions for life on Earth.

Types: solar-type, hot blue, red dwarf, red giant, white dwarf and neutron

Moon noun

Definition: a natural satellite that orbits a planet

Example: The **Moon** is about as wide as Australia.

Facts: Earth's only natural satellite. It takes 27.3 days for the Moon to travel all the way around the Earth and complete its orbit.

Rotating adjective

Definition: to move or cause to move around an axis or centre

Example: Star trails reflect Earth's **rotation**, or spin, around its axis.

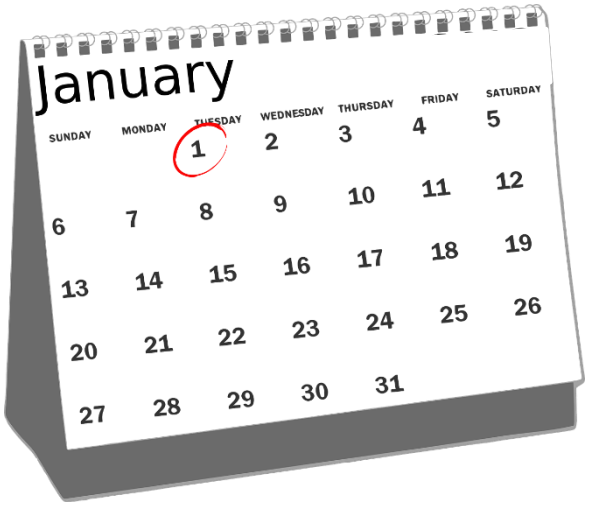
Day noun

Definition: a complete rotation of a planet on its axis, on Earth equal to 24 hours

Example: Due to the Earth's rotation, at any time during a **day** part of Earth (half) is facing the Sun and will have daylight and the other half is facing away and will not see daylight.

Year noun

Definition: A complete orbit by a planet around its star, on Earth equal to 365.25 days



Example: We usually round the days in a calendar **year** to 365.

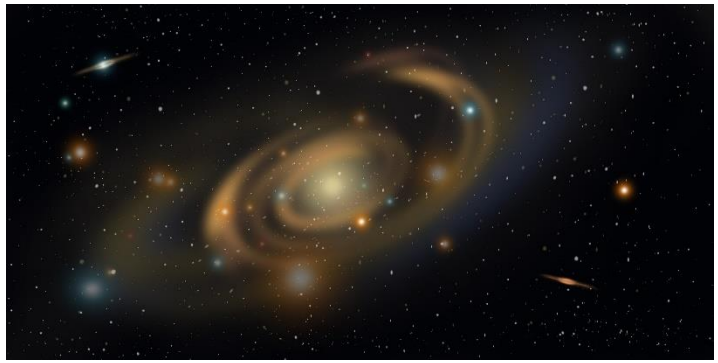
Galaxy noun

Definition: a system of millions or billions or stars with gas and dust held together by gravity

Example: Our galaxy is called the Milky Way.

Universe noun

Definition: all existing matter and space as a whole.



Example: The **universe** contains all galaxies and has been continually expanding since its formation 13.9 billion years ago

Asteroid noun

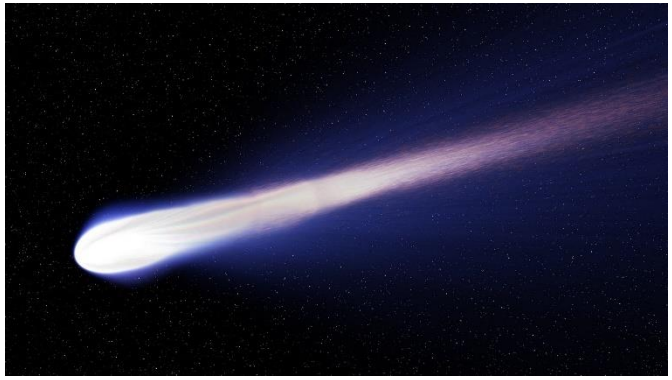
Definition: a small rocky body orbiting the sun.

Example: Many **asteroids** are found between Mars and Jupiter.

Facts: created when other bodies in space collide and break apart. Some asteroids become moons of planets.

Comet noun

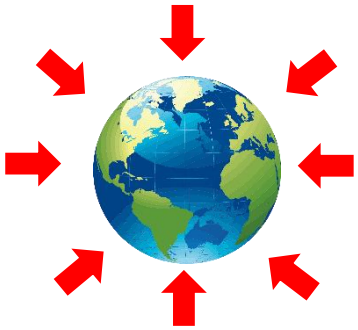
Definition: an object consisting of rock and ice orbiting the sun.



Example: When a comet gets near the sun, the ice begins to melt which gives is a tail.

Gravity noun

Definition: the force that attracts a body towards the centre of the Earth or any other body with mass



Example: The ball will fall to the floor due to the force of ***gravity*** pulling it down.

Word origin:

from Latin *gravitās* weight

Mass noun

Definition: a quantity of matter measured in kg

Example: The **mass** of an object is the same everywhere, even on the moon where the gravity is less.

Remember: Weight and mass are not the same thing. Weight depends on the effect of gravity and could measure 0 if no gravity is acting on it.

Year 5- Making New Substances

Matter noun

Definition: a physical substance which occupies space

Example: Matter is all around us. It is the air we breathe and the water we drink as well as the books we read.

Mass noun

Definition: a quantity of matter measured in kg

Example: The ***mass*** of something is the same no matter where you are.

Word origin: from the Greek word *maza* meaning lump of dough.

React **verb**

Definition: the process of transformation from one set of substances to another

Example: When substances **react**, they go through a chemical of physical change.

Word origin: from late Latin *react-* 'done again'

Irreversible **adjective**

Definition: not able to be undone or altered

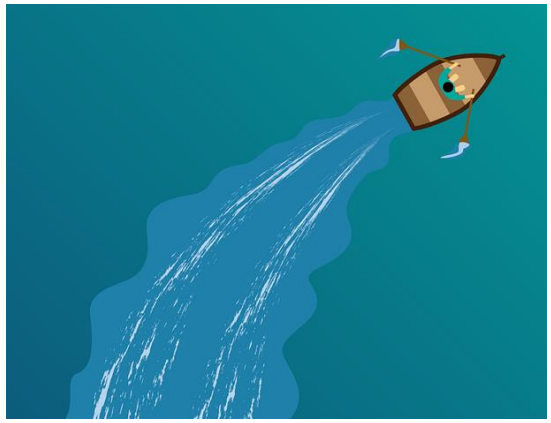
Example: Changes that result in the formation of new materials, are usually irreversible

Year 5- Forces that Oppose Motion

Water resistance

noun

Definition: a type of force that uses friction to slow things down moving through water, often called drag



Example: **Water resistance** depends on the surface area facing the direction of motion.

Air resistance **noun**

Definition: a type of force that uses friction to slow things down moving through air

Example: The faster an object is moving through the air, the greater the **air resistance** will be.

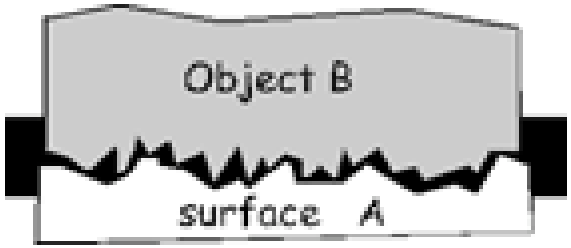
Friction noun

Definition: the force resisting the motion of a moving object when in contact with another.

Example: The harder two surfaces are pressed together, the more force it takes to overcome the **friction** and get them to slide.

Undulations noun

Definition: the appearance of up and down structure or motion



Example:. Friction occurs because no surfaces are perfectly smooth; they have bumps and undulations that can interlock when placed on top of each other

Interlock verb

Definition: two or move objects fitting together

Example: Different surfaces can interlock causing greater friction.

Synonyms: join, link, fit together

Gear noun

Definition: a toothed wheel that works with others to alter the relation between the speed of a driving mechanism and the speed of a driven part, e.g., the speed of the engine in relation to the speed of the wheels

Lever noun

Definition: a rigid bar resting on a pivot, used to move heavy objects with one end when downward force is applied to the other end

Example: A lever has a long arm and a fulcrum, which is where the arm pivots

Pulley noun

Definition: a wheel with a grooved rim around which a cord passes which acts to change the direction a force acts

Example: Pulleys systems can help to reduce the force needed to lift heavy objects.

Year 5- Circulation

Oxygen noun

Definition: a colourless, odourless, reactive gas found in the air

Example: We need to breathe in ***oxygen*** to live.

Synonyms:
O_2, air

Sugar (Glucose)
noun

Definition: a simple type of sugar which is an important energy source in organisms

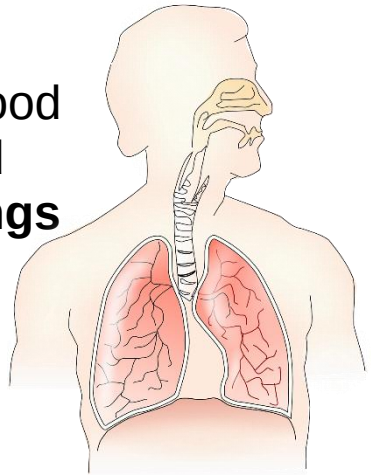
Example: The amount of glucose in one litre of blood is called your blood sugar level.

Word origin: from Greek *gleukos* 'sweet wine'.

Lungs noun

Definition: organs located either side of the breastbone. Responsible for removing CO^2 from the blood and adding O2 to it

Example: Blood moves in and out of the **lungs** through the pulmonary arteries and veins that connect to the heart



Muscles noun

Definition: a band/bundle of fibrous tissue that has the ability to contract producing movement

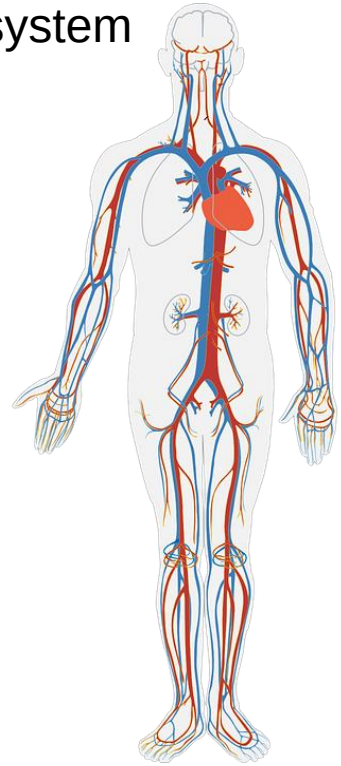
Example: Fibrous tissues connect ***muscles*** to bones.

Non example: Bones, veins

Word origin: from medical Latin *musculus* little mouse, from the imagined resemblance of some muscles to mice

Circulation noun

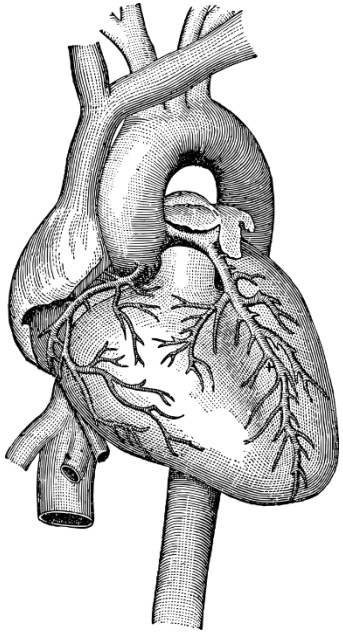
Definition: movement of a fluid in a closed system



Example: The body's **circulatory** system is responsible for transporting materials throughout the entire body.

Heart noun

Definition: a hollow, muscular organ that pumps the blood though the circulatory system



Example: The **heart** beats about 3 billion times during an average lifetime.

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