

HIAS MOODLE+ RESOURCE

Science Vocabulary Year 3

**Word lists and classroom prompts to
support the vocabulary taught in the Year 3
Hampshire Science Learning Journeys**

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January 2022
Final version
(Updated April 2022)

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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 3 Key Vocabulary Lists

Magnets

magnet	A piece of iron or other material that attracts other iron objects.
force	A push or a pull action that changes the motion of an object
attraction	The coming together of opposite poles
repulsion	The moving away of like poles
metal	A solid material that is hard and shiny, with good electrical and heat conductivity
non-contact force	A force that acts on an object without coming physically in contact with it.
pole	The ends of a magnet. Either north or south.

Animals, Skeletons and Movement

vertebrates	A group of animals that have a backbone, e.g., humans, elephants, dolphins
invertebrates	A group of animals that do not have a backbone, e.g., Lobsters, woodlice, worms
skeleton	An internal or external framework of bone supporting/containing the body of an animal
exoskeleton	A skeleton that is visible on the outside of the body
vital organs	An organ that is essential for life
support	To hold up or bear the weight of an organism
mass	A quantity of matter measured in kg.
muscles	A band/bundle of fibrous tissue that can contract, producing movement.
connect	To bring together or into contact so a link is established
contract	Become shorter and tighter in order to effect movement of part of the body

Solids, Liquids, and Gases

State	A distinct form in which matter can exist
Solid	A substance or object stays the same shape whether it is in a container or not
Liquid	A substance that flows freely
Gas	A substance that will expand to fill a container, with no fixed shape or volume
Gravity	A force that attracts a body towards the centre of the earth or other objects with mass
Viscous	Having a thick sticky consistency between a solid and a liquid.
Heating	To raise the temperature
Cooling	To lower the temperature
Melting	When an object changes from a solid to a liquid
Boiling	When an object changes from a liquid to a gas
Evaporate	The process of turning liquid into a gas
Freeze	When a liquid becomes a solid
Condense	When a gas becomes a liquid

Plant Food Production

Carbon dioxide	A colourless odourless gas found in the air (0.04%) made up of carbon and oxygen.
Oxygen	A colourless and odourless gas found in the air (21%)
Roots	An organ of a plant that provide anchorage and absorb water and nutrients from the soil
Soil	A mixture of minerals and organic matter
Leaves	An organ of a plant that are green in colour and absorb carbon dioxide from the air as well as sunlight.

Light

Light Source	An object that emits light
Shiny	A smooth surface, usually very clean or polished.
Transparent	A material that allows light to pass through so objects behind can be clearly seen
Opaque	A material that is not able to be seen through
Reflective	A material that allows light rays to be bounced back off of it
Translucent	A material allowing light to pass through but not so an object can be clearly seen.

Rocks and Soils

Rock (from 'Describing Materials' yr 1)	A natural solid material made from minerals which make up the surface of the earth.
Crystal	A uniform material with a symmetrical shape
Mineral	A solid substance made up of a range of different elements, e.g. iron, oxygen, carbon.
Ore	A rock that contains a metal that can be extracted.
Grains	Small pieces of broken-down rock that is moved and placed in a new location
Fossil	The remains of animals or plants persevered in rock
Sedimentary	Rocks made of grains cemented together
Igneous	Rocks made magma or lava from volcanoes or deep underground
Metamorphic	Rocks formed by the heating and crushing of existing rocks
Porosity	How much empty space there is between grains or crystals
Hardness	How resistant a rock is to damage
Soil	A mixture of minerals and organic matter
Humus	Dead plant matter within soil
Silt	Fine sand or clay material

Year 3- Magnets

Magnet noun

Definition: a piece of iron or other material that attracts other iron objects



Example: *Magnets* must be used safely.

Word origin:
From Latin
magnes

Non-example:
copper, wood

Force noun

Definition: a push or a pull action that changes the motion of an object



Example: More *force* is needed to move the object.

Word origin:
From Latin
fortis 'strong'

Non-example:
To be still.

Metal noun

Definition: a solid material that is hard and shiny, with good electrical and heat conductivity



Example: *Metal* is an effective conductor of heat.

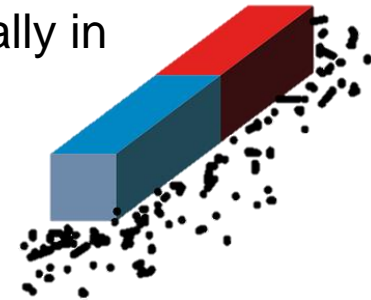
Word origin:
From Greek
metallon

Non-example:
window

Non-contact force

noun

Definition: a force that acts on an object without coming physically in contact with it



Example: Gravity and magnetic are types of *non-contact forces*.

Non-examples:
Pushing, pulling

Pole

noun

Definition: the ends of a magnet. Either north or south



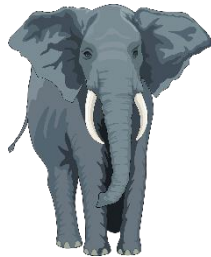
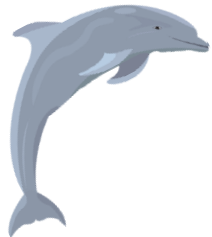
Example: There are two *poles* in a magnet.

Fact: In the 1500s, physician William Gilbert was the first to use the terms electric attraction, electric force, and magnetic *pole*.

Year 3- Animals, Skeletons, and Movement

Vertebrates noun

Definition: a group of animals that have a backbone, e.g. humans, elephants, dolphins



Example: Fish are the oldest known *vertebrates*.

Non-example:
Octopus

Word origin:
from Latin
vertebratus 'jointed'

Invertebrates noun

Definition: a group of animals that do not have a backbone, e.g. Lobsters, woodlice, worms



Example: most of the animals on Earth are *invertebrates*

Non-example:
Snake

Word origin:
from in- 'without'

Skeleton noun

Definition: an internal or external framework of bone supporting/containing the body of an animal



Example: At about thirty years of age, the human ***skeleton*** is as heavy and strong as it will ever get.

Word origin:

from the Greek word *skeletos* meaning 'dried up'.

Non-example:

Octopus

Exoskeleton noun

Definition: a skeleton that is visible on the outside of the body



Example: Insects are the largest group of animals that have an ***exoskeleton***.

Non-example:

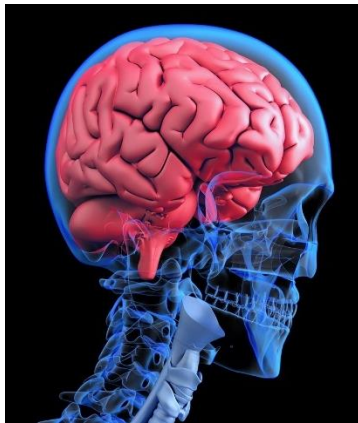
Humans

Word origin:

exo- outer, outside

Vital organ noun

Definition: an organ that is essential for life

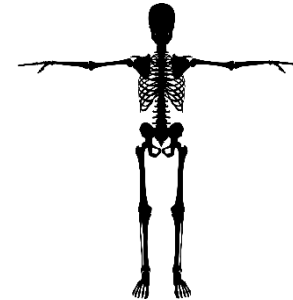


Example: *Vital organs* are also known as major organs.

Vital organs: brain, heart, lungs, liver and kidneys.

Support verb

Definition: to hold up or bear the weight of an organism



Example: Skeletons are joined together to *support* the body.

Synonyms:

Hold up, bear,
keep up

Word origin:

from Latin
supportare to
mean carry

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.

Muscles noun

Definition: a band/bundle of fibrous tissue that can contract, producing movement



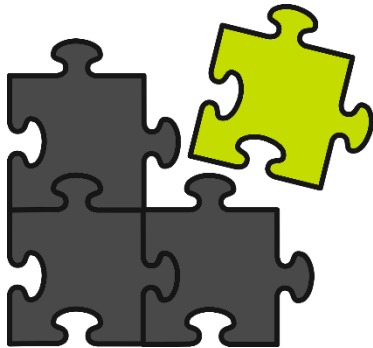
Example: Fibrous tissues connect *muscles* to bones.

Non example: Bones, veins

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

Connect verb

Definition: to bring together or into contact so a link is established

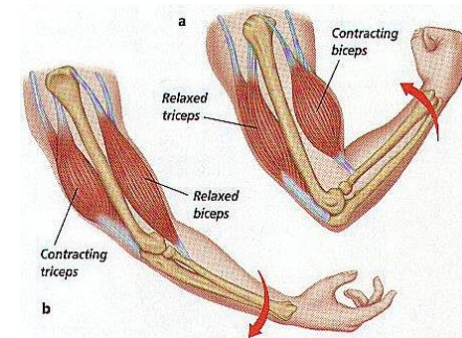


Example: Muscles *connect* to bones.

Word origin: from Latin *connectere*, from *con-* 'together' + *nectere* 'bind'.

Contract verb

Definition: become shorter and tighter in order to effect movement of part of the body



Example: When muscles *contract*, it pulls the bone it is attached to

Word origin: from Latin *contractus*, from *contract-* 'drawn together, tightened'

Year 3- Solids, Liquids and Gases

State noun

Definition: a distinct form in which matter can exist



Example: **States** of matter are used to describe physical properties.

Word origin:

from Latin *status* 'manner of standing, condition'

Solid noun

Definition: a substance or object stays the same shape whether it is in a container or not



Example: A **solid** is firm and stable in shape.

Non-example:
water

Word origin:

from Latin *solidus*
firm

Liquid noun

Definition: a substance that flows freely



Example: A *liquid* will take up the space of the container it is in.

Non-example:
sand

Word origin:
from Latin *liquidus*
to be fluid

Gas noun

Definition: a substance that will expand to fill a container, with no fixed shape or volume

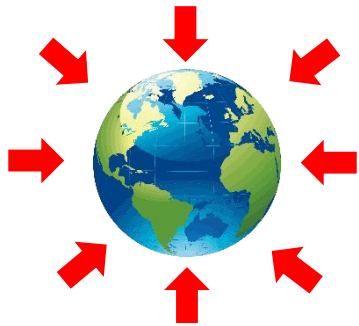


Example: most of the animals on Earth are *invertebrates*

Word origin:
coined by J. B. van Helmont
(1577–1644), Flemish chemist

Gravity noun

Definition: a force that attracts a body towards the centre of the earth or other objects 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

Viscous adjective

Definition: having a thick sticky consistency between a solid and a liquid



Example: Tar is one of the most **viscous** liquids.

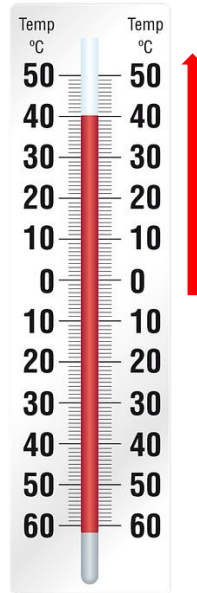
Non-example:
lemonade

Synonyms:
glue-like, gluey,
adhesive, tack,
syrupy

Heat(ing) verb

Definition: to raise the temperature

Example: *Heat* is measured using a thermometer.



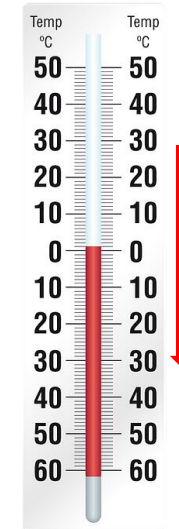
Word origin:
Old English

Synonym:
warm up

Cool(ing) verb

Definition: to lower the temperature

Example: Fans can be used to *cool* a room.



Word origin:
Old English

Synonyms: chill,
make colder

Melt(ing) verb

Definition: when an object changes from a solid to a liquid



Example: Ice *melts* back into water when it is left out at temperatures above the freezing point of 32 degrees.

Word origin:

Latin *mollis*
'soft'

Synonyms:

Unfreeze, soften,
thaw

Boil(ing) verb

Definition: when an object changes from a liquid to a gas



Example: Water *boils* at 100°C.

Word origin:

from Latin *bullire*
'to bubble'

Synonyms:

bubble, heat

Evaporate verb

Definition: the process of turning a liquid into a gas



Example: An example of **evaporation** is water turning into steam.

Word origin:

Latin *mollis*
'soft'

Synonym:

become vapour

Freeze verb

Definition: when a liquid becomes a solid



Example: When magma (lava) **freezes** it forms igneous rock.

Word origin:

Old English
frēosan

Synonyms:

harden, solidify

Condense

verb
(condensation noun)

Definition: when a gas becomes a liquid



Example: Dew forming on grass in the early morning is an example of ***condensation***.

Word origin:

Latin *condensus*
'very thick'.

Synonyms:

become liquid,
liquefy

Year 3- Plant food production

Carbon Dioxide noun

Definition: a colourless, odourless gas found in the air (0.04%) made up of carbon and oxygen



Example: *Carbon dioxide's* chemical formula is CO₂.

Word origin:

coined around 1630 by J. B. van Helmont, Flemish chemist.

Oxygen noun

Definition: a colourless and odourless gas found in the air (21%)



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

Synonyms:

O₂, air

Roots noun

Definition: an organ of the plant that provides anchorage and absorbs water and nutrients from the soil



Example: **Roots** can grow deep in soil to find water and nutrients.

Word origin:

Late Old English *rōt*

Soil noun

Definition: a mixture of minerals and organic matter



Example: **Soil** provides plants with water and nutrients.

Word origin: from Latin *solum* meaning ground.

Leaves noun

Definition: an organ of a plant that are green in colour and absorb carbon dioxide from the air, and sunlight



Example: **Leaves** are attached to the plant stem at areas called nodes

Word origin: Old English lēaf

Nutrients noun

Definition: a substance that provides the essential material needed by the body to live

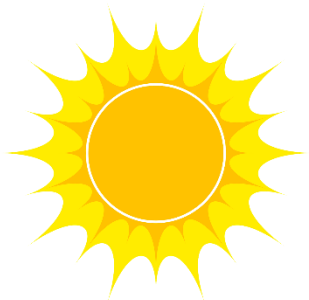


Word origin: from Latin nutrient- 'nourishing'

Year 3- Light

Light Source noun

Definition: an object that omits light



Example: A *light source* is anything that makes light, whether natural and artificial

Non-examples:
moon

Synonyms:
origin

Shiny adjective

Definition: a smooth surface, usually very clean or polished



Example: *Shiny* things are bright and reflect light.

Non-examples:
Cork noticeboard

Synonyms:
glossy, gleaming, lustrous

Transparent adjective

Definition: a material that allows light to pass through so that objects behind can be clearly seen

Example: Air, water, and clear glass are *transparent*.



Word origin: from Latin *transparere*, from *trans-* 'through' + *parere* 'appear'

Non-examples:

Cork noticeboard

Synonyms:

see-through,
clear

Opaque adjective

Definition: a material that is not able to be seen through



Example: Concrete, wood, and metal are *opaque* materials.

Non-examples:

Glass window

Synonym:

Non-transparent

Reflective adjective

Definition: a material that allows light rays to be bounced back off of it



Example: Pedestrians and cyclists are encouraged to wear **reflective** armbands and light-coloured clothing.

Non-examples:

Sandpaper, brick

Synonyms:

O₂, air

Translucent noun

Definition: a material allowing light to pass through but not so an object behind can be clearly seen

Example:

The building is roofed entirely with **translucent** corrugated plastic.



Word origin:

From Latin translucent- 'shining through'

Year 3- Rocks and Soils

Rock noun

Definition: a natural solid material made from minerals which make up the surface of the earth.



Example: *Rocks* are used for many purposes in our daily life.

Non-examples: glass
Synonyms: stone, pebble, slab, gravel, rubble

Crystal noun

Definition: a uniform material with a symmetrical shape

Example: Some *crystals* are clear, and some have bright colours.



Non-examples: opals
Types: diamond, quartz, salt

Mineral noun

Definition: a solid substance made up of a range of different elements e.g., iron, oxygen, carbon



Example: *Minerals* are elements found in the earth and in foods.

Non-examples: coal
Types: gold, iron, sodium, copper

Ore Noun

Definition: a rock that contains a metal that can be extracted



Example: All metals come from **ore** deposits found in the Earth's crust.

Word origin:
1600s | 'aureus- a gold coin

Grains Noun

Definition: small pieces of broken-down rock that is moved and placed in a new location



Example: Some types of rock have interlocking **grains** that fit tightly together.

Non-examples:

Sandpaper, brick

Synonyms:

O₂, air

Fossil noun

Definition: the remains of animals or plants preserved in rock

Example:

Scientific testing has determined that the oldest dinosaur **fossils** are hundreds of millions of years old.



Word origin:

from Latin *fossilis* 'dug up'

Sedimentary adjective

Definition: rocks made of grains cemented together



Example: *Sedimentary* are the most common rocks that we see across the Earth's surface.

Non-examples:

Slate, marble

Types:

Sandstone, flint
limestone, coal,

Igneous adjective

Definition: rocks made from magma or lava from volcanoes or deep underground

Example:

Igneous rock is formed through the cooling and solidification of magma or lava.



Word origin:

from Latin *igneus*
(from ignis 'fire')

Types:

Pumice, basalt,
obsidian

Metamorphic Adjective

Definition: rocks formed by the heating and crushing of existing rocks

Example:
Metamorphic rocks were once igneous or sedimentary rocks.



Word origin:

Early 19th century from meta- (denoting a change of condition) + Greek morphē 'form'

Types:

Slate, marble

Porosity noun

Definition: how much empty space there is between grains or crystals

Example:

The more space between the grains, the greater the porosity.



Word origin:

From Latin porus 'pore'

Hardness Noun

Definition: how resistant a rock is to damage



Example: The Mohs **Hardness** Test compares the resistance of a mineral to being scratched by ten reference minerals.

Non-examples:

Sandpaper, brick

Synonyms:

O₂, air

Soil noun

Definition: a mixture of minerals and organic matter



Example: **Soil** is formed of fine rock particles mixed with air, water and particles from dead plant and animal matter.

Synonyms: earth, loam, dirt, mud

Humus Noun

Definition: dead plant matter within soil



Example: *Humus* contains many useful nutrients for healthy soil

Synonyms:

Topsoil, leaf litter

Silt noun

Definition: fine sand or clay material



Example:

Silt is made up of rock and mineral particles that are larger than clay but smaller than sand.

Origin: related to Danish and Norwegian *sylt* 'salt marsh'

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