

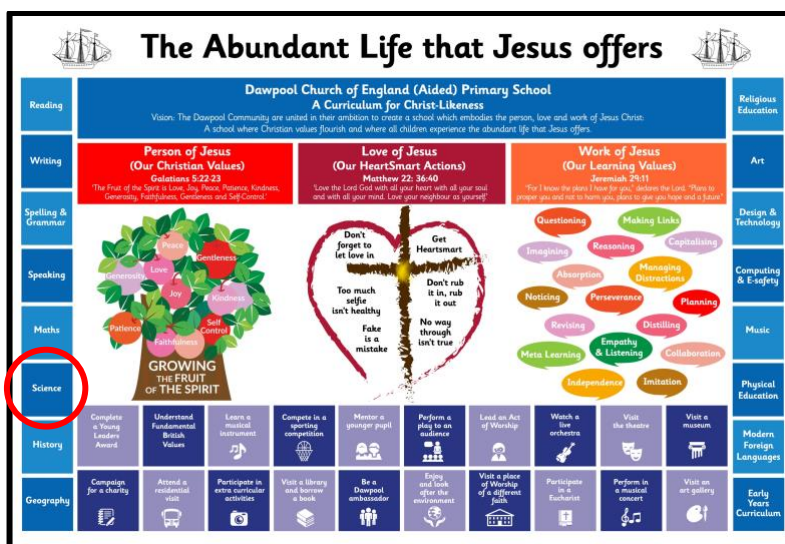


Dawpool C.E. (Aided) Primary School

DAWPOOL

A Dawpool Scientist

Science



Vision Statement

'The Dawpool community are united in their ambition to create a school which embodies the **person, love and work of Jesus Christ**: a school which enables **Christian values to flourish** and where all children may experience the **abundant life that Jesus offers**.'

'The Fruit of the Spirit is Love, Joy, Peace, Patience, Kindness, Generosity, Faithfulness, Gentleness and Self-Control' (Galatians 5: 22-23).

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Why is Science Important?	4
Dawpool's Vision for Science	4
National Curriculum for Science	4
Education Recovery in Science	5
A Foundation Stage Scientist	6
A Year 1 Scientist at Dawpool	7
Year 1 Working Scientifically	7
Year 1 Biology	7
<i>Plants</i>	7
<i>Animals, including humans</i>	7
Year 1 Chemistry	8
<i>Everyday materials</i>	8
Year 1 Physics	8
<i>Seasonal changes</i>	8
Year 1 Greater Depth in Science	8
A Year 2 Scientist at Dawpool	9
Year 2 Working Scientifically	9
Year 2 Biology	9
<i>Living things and their habitats</i>	9
<i>Plants</i>	10
<i>Animals, including humans</i>	10
Year 2 Chemistry	10
<i>Uses of everyday materials</i>	10
Year 2 Greater Depth in Science	10
A Year 3 Scientist at Dawpool	12
Year 3 Working Scientifically	12
Year 3 Biology	12
<i>Plants</i>	12
<i>Animals, including humans</i>	13
Year 3 Chemistry	13
<i>Rocks</i>	13
Year 3 Physics	13
<i>Light</i>	13
<i>Forces and magnets</i>	13
Year 3 Greater Depth in Science	14
A Year 4 Scientist at Dawpool	15
Year 4 Working Scientifically	15
Year 4 Biology	15
<i>Living things and their habitats</i>	15
<i>Animals, including humans</i>	16
Year 4 Chemistry	16
<i>States of matter</i>	16

'For I know the plans I have for you,' declares the Lord. 'Plans to prosper you and not to harm you, plans to give you hope and a future.' (Jeremiah 29:11)



Year 4 Physics	16
<i>Electricity.....</i>	16
<i>Sound</i>	17
Year 4 Greater Depth in Science.....	17
A Year 5 Scientist at Dawpool	18
Year 5 Working Scientifically.....	18
Year 5 Biology	19
<i>Living things and their habitats</i>	19
<i>Animals, including humans</i>	19
Year 5 Chemistry	19
<i>Properties and changes of materials</i>	19
Year 5 Physics	19
<i>Earth and space</i>	19
<i>Forces</i>	20
Year 5 Greater Depth in Science.....	20
A Year 6 Scientist at Dawpool	21
Year 6 Working Scientifically.....	21
Year 6 Biology	22
<i>Living things and their habitats</i>	22
<i>Animals, including humans</i>	22
<i>Evolution and inheritance</i>	22
Year 6 Physics	22
<i>Light</i>	22
<i>Electricity.....</i>	23
Year 6 Greater Depth in Science.....	23



Why is Science Important?

Science stimulates and excites pupils' curiosity about phenomena and events in the world around them. It also satisfies this curiosity with knowledge. Because science links direct practical experience with ideas, it can engage learners at many levels. Scientific method is about developing and evaluating explanations through experimental evidence and modelling. This is a spur to critical and creative thought. Through science, pupils understand how major scientific ideas contribute to technological change – impacting on industry, business and medicine and improving quality of life. Pupils recognise the cultural significance of science and trace its worldwide development. They learn to question and discuss science-based issues that may affect their own lives, the direction of society and the future of the world.

Dawpool's Vision for Science

On completion of the Science curriculum at Dawpool, pupils will have developed:

- *Curiosity and the ability to ask scientific questions.*
- *Confidence and competence in a range of practical skills: observing, questioning, planning, collecting, recording, concluding, communicating, reflecting and responding.*
- *The ability to plan and carry out scientific investigations and report findings.*
- *Good scientific knowledge and understanding across a range of topics which is demonstrated in written and verbal explanations.*
- *An interest in science and its application in past, present and future technologies.*

National Curriculum for Science

The National Curriculum for Science at Key Stages 1 and 2 can be downloaded from the 'Curriculum' tab of the Dawpool school website.



Education Recovery in Science

In response to the COVID-19 pandemic, we have identified 3 overarching improvement priorities for education recovery:

- *Reading across the curriculum*
- *Teachers' subject, pedagogical and pedagogical content knowledge*
- *Quality First Teaching*

A focus on these 3 priorities will ensure that all pupils can access the full curriculum which is central to the '**Abundant Life that Jesus offers.**'

In addition to these 3 priorities, we have taken a **subject-specific approach** when prioritising what to teach.

In determining what to prioritise in the **Science** curriculum, we have focused on our vision for Science which outlines our aspirations for pupils in this subject. We have also considered the [guidance](#) produced by the DfE. The main aim of education recovery at Dawpool is to teach pupils what they need in order to make sense of later work in the curriculum. We have therefore identified the following priorities for the Science curriculum.

Pupils will:

- *Recap relevant prior knowledge as a starter activity in lessons (refer to 'learning journey' in science medium term plans)*
- *Practice their practical skills in science: observing, questioning, planning, collecting, recording, concluding.*
- *Revise vocabulary so they can so they can communicate, reflect and respond scientifically.*
- *Carry out investigations using a range of scientific equipment, e.g. thermometer, measuring cylinders, magnifying glass, electrical circuits, magnets, scales, etc.*



A Foundation Stage Scientist

A Foundation Stage Scientist	
Class	Development Matters Statements Understanding the World – The Natural World
Foundation 1	<ul style="list-style-type: none"> Explore and talk about different forces they can feel. Talk about the differences between materials and changes they notice. Explore how things work.
Foundation 2	<ul style="list-style-type: none"> Describe what they see, hear and feel whilst outside
Early Learning Goals	<ul style="list-style-type: none"> Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Term	Topic	Activities which may be included. Please note the nature of the EYFS means planning changes daily.
Autumn Term	Getting to Know You	<ul style="list-style-type: none"> Discuss seasonal change, go on learning walks to see visible changes.
Spring Term	Superheroes	<ul style="list-style-type: none"> Use the forest school area, secret garden and other outdoor areas to observe and discuss observations.
Summer Term	Disney Around the World	<ul style="list-style-type: none"> Go on learning walks to look at signs of new life. How do plants grow? What things do they need? Plant their own bean seeds, sunflower seeds and wildflower seeds and observe them as they grow. Make porridge, bread, crispy cakes and toast. Discuss the changes they can see during the process. What is happening to the ingredients as they go along? During winter, discuss ice. How is it made? Where does it come from? Can they make their own ice? How could they do it? Next discuss melting. How does ice disappear? Where does it go? Can they make their own ice disappear?

'For I know the plans I have for you,' declares the Lord. 'Plans to prosper you and not to harm you, plans to give you hope and a future.' (Jeremiah 29:11)



A Year 1 Scientist at Dawpool

Year 1 Working Scientifically

- I can ask simple scientific questions.
- I can use simple equipment to make observations.
- I can carry out simple tests.
- I can identify and classify things.
- I can suggest what I have found out.
- I can use simple data to answer questions

Year 1 Biology

Plants

- I can name a variety of common wild and garden plants.
- I can name the petals, stem, leaf and root of a plant.
- I can name the roots, trunk, branches and leaves of a tree.

Animals, including humans

- I can name a variety of animals including fish, amphibians, reptiles birds and mammals.
- I can classify and name animals by what they eat (carnivore, herbivore and omnivore).
- I can sort animals into categories (including fish, amphibians, reptiles, birds and mammals).
- I can sort living and non-living things.
- I can name the parts of the human body that I can see.
- I can link the correct part of the human body to each sense.

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Year 1 Chemistry

Everyday materials

- I can distinguish between an object and the material it is made from.
- I can explain the materials that an object is made from.
- I can name wood, plastic, glass, metal, water and rock.
- I can describe the properties of everyday materials.
- I can group objects based on the materials they are made from.

Year 1 Physics

Seasonal changes

- I can observe and comment on changes in the seasons.
- I can name the seasons and suggest the type of weather in each season.

Year 1 Greater Depth in Science

- I can find out by watching, listening, tasting, smelling and touching.
- I can talk about similarities and differences.
- I can explain what I have found out using scientific vocabulary.
- I can make accurate measurements.
- I can classify animals according to a number of given criteria.
- I can point out differences between living things and non-living things.
- I can say why certain animals have particular characteristics
- I can sort some plants by those that can be eaten and those that cannot.
- I can sort some animals on a simple branching diagram with features such as meat eaters and non meat eaters; can swim and cannot swim.
- I can explain what happens to certain materials when they are heated or cooled, for example, bread, ice, chocolate, jelly, etc.



sight	hearing	touch	taste
smell	mammals	amphibians	birds
fish	reptiles	invertebrate	humans
carnivore	herbivore	omnivore	seasons
spring	summer	autumn	winter
daylight	weather	year	Object
material	hard	soft	stretchy
shiny	dull	rough	smooth
bendy	not bendy	waterproof	not waterproof
absorbent	Not absorbent	transparent	opaque
paper	brick	metal	fabric
stone	glass	wild plants	garden plants
weed	deciduous	evergreen	flower
root	stem	leaves	petal
fruit	seed/bulb		

A Year 2 Scientist at Dawpool

Year 2 Working Scientifically

- I can ask simple scientific questions.
- I can use simple equipment to make observations.
- I can carry out simple tests.
- I can identify and classify things.
- I can suggest what I have found out.
- I can use simple data to answer questions

Year 2 Biology

Living things and their habitats

'For I know the plans I have for you,' declares the Lord. 'Plans to prosper you and not to harm you, plans to give you hope and a future.' (Jeremiah 29:11)



- I can identify things that are living, dead and never lived.
- I can describe how a specific habitat provides for the basic needs of things living there (plants and animals).
- I can identify and name plants and animals in a range of habitats.
- I can match living things to their habitat.
- I can describe how animals find their food.
- I can name some different sources of food for animals.
- I can explain a simple food chain.

Plants

- I can describe how seeds and bulbs grow into plants.
- I can describe what plants need in order to grow and stay healthy (water, light & suitable temperature).

Animals, including humans

- I can explain the basic stages in a life cycle for animals, including humans.
- I can describe what animals and humans need to survive.
- I can describe why exercise, a balanced diet and good hygiene are important for humans.

Year 2 Chemistry

Uses of everyday materials

- I can identify and name a range of materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard.
- I can suggest why a material might or might not be used for a specific job.
- I can explore how shapes can be changed by squashing, bending, twisting and stretching.

Year 2 Greater Depth in Science

- I can say whether things happened as I expected and if not why not.
- I can suggest more than one way of grouping animals and plants and explain my reasons.
- I can use information from books and online sources to find things out.

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- I can name some characteristics of an animal that helps it to live in a particular habitat.
- I can describe what animals need to survive and link this to their habitats.
- I can describe what plants need to survive and link it to where they are found.
- I can classify living things into groups according to a range of criteria I have been given.
- I can describe the properties of different materials using words like transparent or opaque, flexible, etc.
- I can say which materials are natural and which are man made.
- I can tell which materials cannot be changed back after being heated, cooled, bent, stretched or twisted.

<u>Humans and other Animals</u>	<u>Materials</u>	<u>Plants</u>	<u>Living things and their habitats</u>
Carnivores, herbivores, omnivores, egg, larva, pupa, adult, invertebrates, amphibians,	Types of materials: wood, plastic, glass, metal, water, rock, brick, fabric, sand, paper, flour, butter, milk, soil.	Trees - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine, holly, Garden plants – crocus, daffodil, bluebells.	Habitat, micro habitat-Pond, meadow, log pile, woodland, river, lake, beach, cliff Organism – plant, animal
Stages of life, baby, toddler, child, teenager, adult	Properties of materials: hard/soft, stretchy/not stretchy, shiny/dull, rough/smooth, bendy/not bendy, transparent/not transparent, sticky/not sticky	Wild flowering plants - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow.	Invertebrates – snail, slug, woodlouse, spider, beetle, fly
Life processes, growth, nutrition, feeding, respiration, breathing, healthy,	Verbs associated with materials: crumble, squash, bend, stretch, twist.	Parts of plants – roots, branch, trunk, stalk, leaf, flower,	Pond animals – pond skater, water slater, ramshorn snail, pond snail,

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grow, strong, energy		petal, seeds, bulbs and twigs	leech, common frog, smooth newt
Hygiene, clean, wash, germs	Senses: touch, see, hear, smell and taste. Survey, test, classify, investigate, secondary source	Need of plants – water, light, heat, temperature	

A Year 3 Scientist at Dawpool

Year 3 Working Scientifically

- I can ask relevant scientific questions.
- I can use observations and knowledge to answer scientific questions.
- I can set up a simple enquiry to explore a scientific question.
- I can set up a test to compare two things.
- I can set up a fair test and explain why it is fair.
- I can make careful and accurate observations, including the use of standard units.
- I can gather, record, classify and present data in different ways to answer scientific questions.
- I can use diagrams, keys, bar charts and tables; using scientific language.
- I can use findings to report in different ways, including oral and written explanations, presentation.
- I can draw conclusions and suggest improvements.
- I can make a prediction with a reason.
- I can identify differences, similarities and changes related to an enquiry.

Year 3 Biology

Plants

- I can describe the function of different parts of flowering plants and trees.
- I can explore and describe the needs of different plants for survival.
- I can explore and describe how water is transported within plants.
- I can describe the plant life cycle, especially the importance of flowers.

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Animals, including humans

- I can explain the importance of a nutritious, balanced diet.
- I can explain how nutrients, water and oxygen are transported within animals and humans.
- I can describe and explain the skeletal system of a human.
- I can describe and explain the muscular system of a human.
- I can describe the purpose of the skeleton in humans and animals.

Year 3 Chemistry

Rocks

- I can compare and group rocks based on their appearance and physical properties, giving a reason.
- I can describe how fossils are formed.
- I can describe how soil is made.
- I can describe and explain the difference between sedimentary and igneous rock.

Year 3 Physics

Light

- I can describe what dark is (the absence of light).
- I can explain that light is needed in order to see.
- I can explain that light is reflected from a surface.
- I can explain and demonstrate how a shadow is formed.
- I can explore shadow size and explain.
- I can explain the danger of direct sunlight and describe how to keep protected.

Forces and magnets

- I can explore and describe how objects move on different surfaces.
- I can explain how some forces require contact and some do not, giving examples.
- I can explore and explain how objects attract and repel in relation to objects and other magnets.
- I can predict whether objects will be magnetic and carry out an enquiry to test this out.

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- I can describe how magnets work.
- I can predict whether magnets will attract or repel and give a reason.

Year 3 Greater Depth in Science

- I can record and present what I have found using scientific language, drawings, labelled diagrams, bar charts and tables.
- I can use my findings to draw a simple conclusion.
- I can explain how the muscular and skeletal systems work together to create movement.
- I classify living things and non-living things by a number of characteristics that I have thought of.
- I can explain how some living things depend on one another to survive.
- I can explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal
- I am beginning to relate the properties of rocks with their uses
- I can investigate the strengths of different magnets and find fair ways to compare them.
- I can explain why lights need to be brighter or dimmer according to need.
- I can explain why a shadow changes when the light source is moved closer or further from the object.

Dark	Dull	Bright	Opaque
Translucent	Transparent	Block	Absence of light
Bounce	Mirror	Reflection	Light source
Sunset	Sunrise	Position	Magnet
Attract	Repel	North and south poles	Magnetic
Magnetic field	Nutrition	Diet	Vitamins
Minerals	Fats	Proteins	Carbohydrates
Skeleton	Protect	Support	Aid movement
Trees	Wild flowering plants	Garden plants	Roots
Branch	Trunk	Stalk	Leaf
Flower	Petal	Seeds	Bulbs

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Twigs	Stamen	Carpel	Pollination
Fertilisation	Germination	Hard/soft	Permeable/impermeable
Heat	Pressure	Erosion	Transportation
Deposition	Melt	Solidify	Layers
Crystals	Grain	Pebbles	Plates
Mountains	Valleys	Volcanoes	

A Year 4 Scientist at Dawpool

Year 4 Working Scientifically

- I can ask relevant scientific questions.
- I can use observations and knowledge to answer scientific questions.
- I can set up a simple enquiry to explore a scientific question.
- I can set up a test to compare two things.
- I can set up a fair test and explain why it is fair.
- I can make careful and accurate observations, including the use of standard units.
- I can use equipment, including thermometers and data loggers to make measurements.
- I can gather, record, classify and present data in different ways to answer scientific questions.
- I can use diagrams, keys, bar charts and tables; using scientific language.
- I can use findings to report in different ways, including oral and written explanations, presentation.
- I can draw conclusions and suggest improvements.
- I can make a prediction with a reason.
- I can identify differences, similarities and changes related to an enquiry.

Year 4 Biology

Living things and their habitats

- I can group living things in different ways.
- I can use classification keys to group, identify and name living things.

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- I can create classification keys to group, identify and name living things (for others to use).
- I can describe how changes to an environment could endanger living things.

Animals, including humans

- I can identify and name the parts of the human digestive system.
- I can describe the functions of the organs in the human digestive system.
- I can identify and describe the different types of teeth in humans.
- I can describe the functions of different human teeth.
- I can use food chains to identify producers, predators and prey.
- I can construct food chains to identify producers, predators and prey.

Year 4 Chemistry

States of matter

- I can group materials based on their state of matter (solid, liquid, gas).
- I can describe how some materials can change state.
- I can explore how materials change state.
- I can measure the temperature at which materials change state.
- I can describe the water cycle.
- I can explain the part played by evaporation and condensation in the water cycle.

Year 4 Physics

Electricity

- I can identify and name appliances that require electricity to function.
- I can construct a series circuit.
- I can identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers).
- I can draw a circuit diagram.
- I can predict and test whether a lamp will light within a circuit.
- I can describe the function of a switch in a circuit.
- I can describe the difference between a conductor and insulators; giving examples of each.



Sound

- I can describe how sound is made.
- I can explain how sound travels from a source to our ears.
- I can explain the place of vibration in hearing.
- I can explore the correlation between pitch and the object producing a sound.
- I can explore the correlation between the volume of a sound and the strength of the vibrations that produced it.
- I can describe what happens to a sound as it travels away from its source.

Year 4 Greater Depth in Science

- I can plan and carry out a scientific enquiry by controlling variables fairly and accurately.
- I can use test results to make further predictions and set up further comparative tests.
- I can record more complex data and results using scientific diagrams, classification keys, tables, bar charts, line graphs and models.
- I can report findings from scientific enquiries through written explanations and conclusions.
- I can explain how people, weather and the environment can affect living things.
- I can group and classify a variety of materials according to the impact of temperature upon them.
- I can relate temperature to the change of state of materials.
- I can work out which metals can be used to connect across a gap in a circuit.

moving	growing	teeth	skeleton
bones	organs	circulatory	system
lungs	heart	veins	oxygenated
oxygen	bacteria	canine	molar
premolar	wisdom	incisor	gum
decay	hygiene	blood	muscles
cells			

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circuit	open	closed	insulator
conductor	experiment	battery	motor
buzzer	wire	electricity	positive
negative			
decibels	vibrate	conduct	travel
loud	quiet	sensor	ear
pitch	anvil	canal	echo
amplify	waves	deaf	
solid	liquid	gas	matter
state	change	reversible	irreversible
soft	hard	flexible	mixture
heat	cool	transparent	translucent
opaque	metal	plastic	wood
burn	flame	air	

A Year 5 Scientist at Dawpool

Year 5 Working Scientifically

- I can plan different types of scientific enquiry.
- I can control variables in an enquiry.
- I can measure accurately and precisely using a range of equipment.
- I can record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- I can use the outcome of test results to make predictions and set up a further comparative fair test.
- I can report findings from enquiries in a range of ways.
- I can explain a conclusion from an enquiry.
- I can explain causal relationships in an enquiry.
- I can relate the outcome from an enquiry to scientific knowledge in order to state whether evidence supports or refutes an argument or theory.
- I can read, spell and pronounce scientific vocabulary accurately.

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Year 5 Biology

Living things and their habitats

- I can describe the life cycle of different living things, e.g. mammal, amphibian, insect bird.
- I can describe the differences between different life cycles.
- I can describe the process of reproduction in plants.
- I can describe the process of reproduction in animals.

Animals, including humans

- I can create a timeline to indicate stages of growth in humans.

Year 5 Chemistry

Properties and changes of materials

- I can compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical & thermal], and response to magnets).
- I can describe how a material dissolves to form a solution; explaining the process of dissolving.
- I can describe and show how to recover a substance from a solution.
- I can describe how some materials can be separated.
- I can demonstrate how materials can be separated (e.g. through filtering, sieving and evaporating).
- I know and can demonstrate that some changes are reversible and some are not.
- I can explain how some changes result in the formation of a new material and that this is usually irreversible.
- I can discuss reversible and irreversible changes.
- I can give evidenced reasons why materials should be used for specific purposes.

Year 5 Physics

Earth and space

'For I know the plans I have for you,' declares the Lord. 'Plans to prosper you and not to harm you, plans to give you hope and a future.' (Jeremiah 29:11)



- I can describe and explain the movement of the Earth and other planets relative to the Sun.
- I can describe and explain the movement of the Moon relative to the Earth.
- I can explain and demonstrate how night and day are created.
- I can describe the Sun, Earth and Moon (using the term spherical).

Forces

- I can explain what gravity is and its impact on our lives.
- I can identify and explain the effect of air resistance.
- I can identify and explain the effect of water resistance.
- I can identify and explain the effect of friction.
- I can explain how levers, pulleys and gears allow a smaller force to have a greater effect.

Year 5 Greater Depth in Science

- I can explore different ways to test an idea, choose the best way and give reasons.
- I can vary one factor whilst keeping the others the same in an experiment.
- I can use information to help make a prediction.
- I can explain (in simple terms) a scientific idea and what evidence supports it.
- I can create a timeline to indicate the stages of growth in certain animals, such as frogs and butterflies.
- I can observe my local environment and draw conclusions about life-cycles, for example, the vegetable garden or plants in a shrubbery.
- I can describe methods for separating mixtures, for example, filtration, distillation.
- I can compare the time of day at different places on Earth.
- I can describe and explain how motion is affected by forces, for example, gravitational attractions, magnetic attraction and friction.
- I can work out how water can cause resistance to floating objects.

gestation	fetus	fertilisation	species
baby	toddler	adolescent	adult
elderly person	puberty	hormones	pituitary gland
testosterone	estrogen		

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earth	axis	rotate	star
sun	planet	planet names	full moon
half moon	crescent moon	new moon	waxing
waning	lunar month	orbit	revolve
sphere	gravity	friction	air resistance
upthrust	weight	newton meter	Newtons
particles	surface area	push	pull
balance	mass	grams	kilograms
gear	lever	pulley	spring
amphibian	reptile	bird	mammal
insect	fish	egg	larva
pupa	nymph	adult	metamorphosis
petal	stamen	anther	filament
pollination	fertilisation	germination	
thermal	conductor	insulator	electrical
solvent	solution	solute	soluble
insoluble	solid	liquid	particles
suspension	sieve	filter	evaporate
condense			

A Year 6 Scientist at Dawpool

Year 6 Working Scientifically

- I can plan different types of scientific enquiry.
- I can control variables in an enquiry.
- I can measure accurately and precisely using a range of equipment.
- I can record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- I can use the outcome of test results to make predictions and set up a further comparative fair test.
- I can report findings from enquiries in a range of ways.

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- I can explain a conclusion from an enquiry.
- I can explain causal relationships in an enquiry.
- I can relate the outcome from an enquiry to scientific knowledge in order to state whether evidence supports or refutes an argument or theory.
- I can read, spell and pronounce scientific vocabulary accurately.

Year 6 Biology

Living things and their habitats

- I can classify living things into broad groups according to observable characteristics and based on similarities & differences.
- I can describe how living things have been classified.
- I can give reasons for classifying plants and animals in a specific way.

Animals, including humans

- I can identify and name the main parts of the human circulatory system.
- I can describe the function of the heart, blood vessels and blood.
- I can discuss the impact of diet, exercise, drugs and life style on health.
- I can describe the ways in which nutrients and water are transported in animals, including humans.

Evolution and inheritance

- I can describe how the earth and living things have changed over time.
- I understand that some people will explain adaptation over time to evolution.
- I can explain what people mean by evolution.
- I can explain how fossils can be used to find out about the past.
- I can explain about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents).
- I can explain how animals and plants are adapted to suit their environment.

Year 6 Physics

Light

- I can explain how light travels.
- I can explain and demonstrate how we see objects.



- I can explain why shadows have the same shape as the object that casts them.
- I can explain how simple optical instruments work, e.g. periscope, telescope, binoculars, mirror, magnifying glass etc.

Electricity

- I can explain how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer.
- I can compare and give reasons for why components work and do not work in a circuit.
- I can draw circuit diagrams using the correct symbols.

Year 6 Greater Depth in Science

- I can use information from different sources to answer a question and plan a scientific enquiry.
- I can make a prediction that links with other scientific knowledge.
- I can plan in advance which equipment I will need and use it appropriately.
- I can link my conclusions to other scientific knowledge.
- I can explain how some living things adapt to survive in extreme conditions.
- I can analyse the advantages and disadvantages of specific adaptations, such as being on two rather than four feet.
- I am beginning to understand about the nature of DNA.
- I can readily group animals into reptiles, fish, amphibians, birds and mammals.
- I can make a diagram of the human body and explain how different parts work and depend on one another.
- I can compare the organ systems of humans to those of other animals.
- I can use the ray model to explain the size of shadows.
- I can explain the danger of short circuits and what a fuse is.

LIGHT	ELECTRICITY	HUMANS	INHERITANCE/ ADAPTATION/ EVOLUTION
light source	circuit	food groups	inheritance
transparent	components	respiration	characteristics
translucent	symbol	circulation	offspring

'For I know the plans I have for you,' declares the Lord. 'Plans to prosper you and not to harm you, plans to give you hope and a future.' (Jeremiah 29:11)



opaque	electrons	ribs / ribcage	hereditary
prism	motor	diaphragm	generation
spectrum	battery / cell	pulse rate	genetic
rainbow	buzzer	heart	environmental
refraction	wire	left/right atrium	DNA
reflection	brighter / dimmer	left/right ventricle	genes
shadow	series circuit	oxygen	chromosomes
angle of incidence	parallel circuit	carbon-dioxide	Adaptation
angle of reflection	conductor	oxygenated deoxygenated	adaptive traits
	insulator	inhalation/ exhalation	habitat
variable	resistance	blood vessels	environment
Iris, cornea, lens, retina, optic nerve	resistor	vein	behaviour
	variable resistor	artery	camouflage
	amps	capillary	prey / predator
	ammeter	lung	mutation
	volts	trachea	variation
	voltmeter	bronchus	evolution
		bronchioles	fossils
		alveoli	palaeontologists
Scientists			
Sir Isaac Newton		Charles Darwin	
Alessandro Volta		Mary Anning	
Benjamin Franklin		Gregor Mendel	

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	Alfred Russel Wallace
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