



Subject
Animals including humans

Concept
Biology

Enquiry skills
Researching

Sequence of Learning
<ul style="list-style-type: none"> <li>• What is nutrition?</li> <li>• Where do humans get their nutrients from?</li> <li>• What are the 5 food groups and how much of each should we be having?</li> <li>• What does our skeleton look like and do?</li> <li>• What do our muscles look like and do?</li> <li>• What does an animal's skeleton look like?</li> </ul>

Current Vocabulary	New Vocabulary
Water	<u>Skeleton</u>
Food	Endoskeleton
Air	Exoskeleton
Diet	Invertebrate
Disease	Vertebrate
Hygiene	Bones
Nutrition	Support
Exercise	Protection
Healthy	<u>Movement</u>
	Muscles
	Joints
	Ball and socket joint
	Hinge joint
	Glide joint
	Contract
	Relax
	<u>Nutrition</u>
	Nutrients
	Balanced diet
	Carbohydrates
	Protein
	Fats
	Fibre
	Vitamins

Prior Learning	New Learning	Future Learning
<p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</p> <p>Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>In Year 4 pupils will be taught to:</p> <p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>

Trip/Visitor

Misconceptions	<p>certain whole food groups like fats are 'bad' for you • certain specific foods, like cheese are also 'bad' for you • diet and fruit drinks are 'good' for you • snakes are similar to worms, so they must also be invertebrates • invertebrates have no form of skeleton.</p>
----------------	--



Subject
Forces and Magnets

Concept
Physics

Enquiry skills
Testing Observing

Prior Learning	New Learning	Future Learning
Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching .	<p>Compare how things move on different surfaces.</p> <p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>Observe how magnets attract or repel each other and attract some materials and not others.</p> <p>Describe magnets as having two poles.</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing</p> <p>Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.</p>	<p>In Year 5 pupils will be taught to:</p> <p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect</p>

Sequence of Learning
<ul style="list-style-type: none"> <li>• What is friction? Retrieve different types of materials and their properties. Teach what friction is.</li> <li>• What is friction— investigation</li> <li>• What are forces? Look at pushing, pulling</li> <li>• What is magnetic force? Teach then investigate that magnets work at a distance</li> <li>• How do magnets attract and repel? Cover poles and prediction</li> <li>• Is it magnetic? Investigate everyday materials</li> </ul>

Current Vocabulary	New Vocabulary
Push	<u>Forces</u>
Pull	Force
Movement	Friction
Fast	Surface
Slow	Distance
	<u>Magnets</u>
	Magnetic
	Attract
	Repel
	Poles
	Bar magnet
	Horseshoe magnet
	Magnetic field

Trip/Visitor

Misconceptions	The bigger the magnet the stronger it is • All metals are magnetic.
----------------	---



Subject
Year 3
Light

Concept
Physics

Enquiry skills
Measuring Concluding

Prior Learning	New Learning	Future Learning
Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	<p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>Find patterns in the way that the size of shadows change.</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p>	<p>In Year 6 pupils will be taught to:</p> <p>Recognise that light appears to travel in straight lines.</p> <p>Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.</p> <p>Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>

Equipment
Torches, opaque items. transparent items, translucent items, reflective surfaces (e.g. mirrors), tape measures

Sequence of Learning
<ul style="list-style-type: none"> <li>• What is light? What is dark?</li> <li>• What is reflection?</li> <li>• Which surfaces does light reflect from?</li> <li>• What are shadows?</li> <li>• How do shadows change?</li> <li>• How do we stay safe in the sun?</li> </ul>

Current Vocabulary	New Vocabulary
Opaque	Light
Transparent	Dark
Dull	Reflect
Shadow	Translucent
Sun	Light source
Eyes	Absence of light
See	Vision

Trip/Visitor

Misconceptions	We can still see even where there is an absence of any light · Our eyes 'get used to' the dark · The moon and reflective surfaces are light sources · A transparent object is a light source · Shadows contain details of the object, such as facial features on their own shadow · Shadows result from objects giving off darkness.
----------------	--



Subject
Plants

Concept
Biology

Enquiry skills
Recording

Prior Learning	New Learning	Future Learning
<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p>	<p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.</p> <p>Investigate the way in which water is transported within plants.</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p>	<p>In Year 5 pupils will be taught to:</p> <p>Describe the life process of reproduction in some plants and animals.</p>

### Sequence of Learning

- How do flowering plants function?
- What do different plants need to live and grow? Substantive lesson going mostly into detail about nutrients from soil, air and room to grow as investigation into water, light and suitable temperature has been done in Y2
- How is water transported within plants? Substantive first then investigate, record results in books.
- What is a plant life cycle?
- End of unit double page spread

Current Vocabulary	New Vocabulary
Water	<u>Growth and Function</u>
Light	Air
Suitable temperature	Light
Sunlight	Water
Grow	Transported
Germination	Nutrients from soil
Leaves	Room to grow
Petals	Nutrients
Stem	<u>Life Cycle</u>
Trunk	Flowering plants
Roots	Pollination
Seed	Seed formation
Bulb	Seed dispersal
Deciduous	
Evergreen	
Flowers	
Fruit	
Garden plants	
Wild plants	
Weed	

Trip/Visitor
Walk around the school field looking for flowering plants

Misconceptions	<p>plants eat food • food comes from the soil via the roots • flowers are merely decorative rather than a vital part of the life cycle in reproduction • plants only need sunlight to keep them warm • roots suck in water which is then sucked up the stem.</p>
----------------	--



Subject
Rocks

Concept
Chemistry

Enquiry skills
Identifying/ classifying . Reporting

Prior Learning	New Learning	Future Learning
<p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p>	<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>Recognise that soils are made from rocks and organic matter</p>	<p>In Year 6 pupils will be taught to:</p> <p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p>

Sequence of Learning
<ul style="list-style-type: none"> <li>• What are rocks?</li> <li>• How can we group together different kinds of rocks? Substantive lesson on properties</li> <li>• How can we group together different kinds of rocks? Disciplinary lesson—test properties of rocks. <i>Reporting on findings including oral and written explanations</i></li> <li>• How are fossils formed?</li> <li>• What is soil?</li> <li>• Double page spread</li> </ul>

Current Vocabulary	New Vocabulary
Material	Rock
Properties	Soil
Hard	Fossil
	Organic matter
	Sedimentary rock
	Density
	Permeability
	Porous

Trip/Visitor

Misconceptions	<p>rocks are all hard in nature • rock-like, man-made substances such as concrete or brick are rocks • materials which have been polished or shaped for use, such as a granite worktop, are not rocks as they are no longer 'natural' • certain found artefacts, like old bits of pottery or coins, are fossils • a fossil is an actual piece of the extinct animal or plant • soil and compost are the same thing.</p>
----------------	---