Subject	Concept
Animals including humans	Biology

Enquiry skills
Researching

Sequence of Learning

- What kinds of teeth do we have?
- What are the jobs of our different teeth?
- What are the parts of our digestive system?
- What are the functions of the parts of the digestive system?
- What are food chains?
- Double page spread

Current Vocabulary	New Vocabulary
Animal	Human Digestive System
Human	Digest
Mammal	Digestion
Bird	Salvia
Reptile	Oesophagus
Fish	Stomach
Amphibian	Stomach acid
Mouth	Small intestine
Carnivore	Large intestine
Herbivore	Rectum
Omnivore	Anus
Food chain	Organ
	Teeth
	Canine
	Incisor
	Pre molar
	Molar
	Grind
	Tear
	Slice
	Food chains
	Predator
	Producer
	Prey

Prior Learning	New Learning	Future Learning
Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). Notice that animals, including humans, have offspring which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. 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. Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey	In Year 5 pupils will be taught to: Describe the changes as humans develop from birth to old age. In Year 6 pupils will be taught to: Identify and name the main parts of the human circulatory system, and explain the functions of the heart, blood vessels and blood.

Trip/Visitor
Visit from a dentist

Misconceptions	arrows in a food chain mean 'eats' • the death of one of the parts of a food chain or web has no, or limited, consequences on the rest of the chain • there is always plenty of food for wild animals • your stomach is where your belly button is • food is digested only in the stomach • when you have a meal, your food goes down one tube and your drink down another • the food you eat becomes "poo" and the drink becomes "wee"

Subject
Electricity

Concept
Physics

Enquiry skills	
Testing	Reporting

Sequence of Learning

- Is it electric? Cover the difference between battery operated and electric
- What is a simple circuit?
- What are complete and incomplete circuits?
- Will the lamp light up?
- What is a switch?
- Will the switch light the lamp up?
- What are conductors and insulators?

Current Vocabulary	New Vocabulary
Plug	<u>Electricity</u>
Socket	Conductor
Sound	Insulator
Light	<u>Circuits</u>
	Simple circuit
	Complex circuit
	Series circuit
	Bulb
	Cell
	Battery
	Wire
	Switch
	Motor

Prior Learning	New Learning	Future Learning
New unit entirely. However, children have compared materials before in KS1 and will have a basic understanding that devices use electricity.	Identify common appliances that run on electricity Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Recognise some common conductors and insulators, and associate metals with being good conductors.	In Year 6 pupils will be taught to: Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Use recognised symbols when representing a simple circuit in a diagram.

Trip/Visitor

Misconceptions	electricity flows to bulbs, not through them • electricity flows out of both ends of a battery • electricity works by simply coming out of one end of a battery into the component.

Subject	Concept
Living things and their habitats	Biology

Enquiry skills
Identifying/ classifying

Sequence of Learning

- What are living things? Retrieval. How can we group living things?
- What are classification keys?
- Using classification keys
- What are environments?
- How can environments change?
- Double page spread

Current Vocabulary	New Vocabulary
Human	<u>Living Things</u>
Animal	Characteristics Classification
Mammal	Classification key
Fish	<u>Environments</u>
Bird	Dangers
Amphibian	Human impact
Reptile	Local
Habitat	Wider
Woodland	
Ocean	
Rainforest	
Arctic	
Savannah	
Desert	
Microhabitats	

Prior Learning	New Learning	Future Learning
Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees. Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). Identify and name a variety of plants and animals in their habitats, including micro-habitats. Identify and describe the functions of different parts of flowering plants: roots, stem/ trunk, leaves and flowers.	Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things	In Year 5 pupils will be taught to: Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals. In Year 6 pupils will be taught to: Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics

Trip/Visitor

Misconceptions	the death of one of the parts of a food chain or web has no or limited consequences on the rest of the chain • there is always plenty of food for wild animals • animals are only land-living creatures • animals and plants can adapt to their habitats, however they change • all changes to habitats are negative.

Subject
Year 4 Sound

Concept
Physics

Enquiry skills
Observing Recording

Sequence of Learning

- How are sounds made?
- What are vibrations?
- How do our ears work?
- What is pitch?
- Are there any patterns between volume and vibrations?
- How does distance affect sound?

Current Vocabulary	New Vocabulary
Senses	Sound
Ear	Vibration
Hear	Vibrate
Loud	Pitch
Quiet	Volume
Noise	Travel
	Faint

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	Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases	In Key Stage 3 pupils will be taught about: Sound produced by vibrations of objects, in loud speakers, detected by their effects on microphone diaphragm and the ear drum; sound waves are longitudinal.

Equipment
Musical instruments, decibel meters

Trip/Visitor

Misconceptions	Sound is only heard by the listener · Sound only travels in one direction from the source · Sound can't travel through solids and liquids · High sounds are load and low sounds are quiet.

Subject	Concept
States of Matter	Chemistry

Enquiry skills

Recording Measuring

Sequence of Learning

- What are solids, liquids and gases?
- How do solids and liquids change state? Substantive lesson, include the temperature that water changes state
- What is the water cycle?
- How does temperature affect evaporation? Investigation
- End of unit double page spread

Trip/Visitor

Current Vocabulary	New Vocabulary
Materials	Solids, liquids and gases
Change	Heating
Temperature	Cooling
	Freezing
	Melting
	Water vapour
	Degrees Celsius (°C)
	The water cycle
	Evaporation
	Condensation
	Precipitation

Prior Learning	New Learning	Future Learning
Distinguish between an object and the material from which it is made Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties. Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	Compare and group materials together, according to whether they are solids, liquids or gases. Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius. (°C) Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	In Year 5 pupils will be taught to: Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Understand that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Misconceptions

substances made of very small particles like sugar or sand cannot be solids • when air is pumped into balloons, they become lighter • water in different forms – steam, water, ice – are all different substances • all liquids boil at the same temperature as water (100 degrees) • melting, as a change of state, is the same as dissolving • steam is visible water vapour (only the condensing water droplets can be seen) • clouds are made of water vapour or steam • the substance on windows etc. is condensation rather than water • evaporating or boiling water makes it vanish • evaporation is when the Sun sucks up the water, or when water is absorbed into a surface/material.