

**Key Vocabulary:
Working Scientifically**

research	relevant questions	scientific enquiry	comparative testing	fair test
systematic	careful observation	accurate	measurement	thermometer
data logger	gather	record	classify	present
drawings	labelled	diagrams	keys	bar charts
tables	oral/written explanations	conclusion	prediction	differences
similarities	changes	evidence	improve	secondary sources
	interpret	construct	guides	

Animals including Humans

nutrition	vitamins	minerals	fat	protein	diet
carbohydrates	fibre	water	skeletons	support	relax
protection	skull	brain	ribs	heart	contract
lungs	movement	joints	muscles	pull	

Did you know?

- The human body is made up of around 37 trillion cells.
- The average human heart beats around 100,000 times every day.
- Fingernails grow much faster than toenails.
- About 60% of the human body is made up of water.
- The brain itself does not feel pain.
- The largest of the human internal organs is the small intestine.
- Acid in the stomach is powerful enough to dissolve some metals.
- The left lung is typically around 10% smaller than the right lung. This is to make room for the heart.
- Humans are born with 270 bones but several of these bones fuse together by adulthood making a total of 206 bones in the adult human body.

Things to find out or do at home:

- Make a lift the flap poster for the human body explaining facts about each of the organs in the body
- Investigate 'How do your muscles help you to move your fingers?'
- How far can a sneeze travel? How can you find out the distance a sneeze can travel and how it can we prevent the spread of germs through sneezes?
- Make a poster about what you know about sneezes to inform others.
- What happens to our muscles when we go to sleep?
- Investigate which muscle in your body is the strongest. Can you carry out an investigation to find the answer?



Year 3 Spring Term



Did you know?

- Meteorites are pieces of rock or metal that hit the Earth. Some have broken off asteroids.
- The colours inside some rocks and minerals have been used by artists for thousands of years.
- Some rocks look so unusual that myths and legends have sprung up around them. Snakestones, for example, were once believed to be the remains of coiled snakes that had been turned to stone. They are actually the fossils of shelled sea creatures.
- 95% of the Earth's crust is made of igneous rock.
- The lightest rock is pumice, so light that it can float on water
- Researchers used some of the oldest rocks on the Earth to estimate that the Earth is about 4.54 billion years old! That is 4,540,000,000 years old.

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Rocks

appearance	hard	soft	shiny	dull	buildings
rough	smooth	fossil	absorbent	non-absorbent	physical properties
sedimentary	igneous	grains	crystal	organic	

Things to find out or do at home:

- Make a rock rainbow by finding as many different colours and shades of rock in your garden and sort them into a rainbow of colours
- Put some limestone in a bowl, pour a little vinegar on top of it and watch what happens. It will fizz and form bubbles, because the vinegar reacts with it, dissolving the limestone.
- Investigate how you can turn milk into rock. Use the link below to help you.
<https://www.sublimescience.com/free-science-experiments/milk-rocks/>
- Create a rock pet of your own!



Year 3 Summer Term- Plants



Did you know?

- An average size tree can provide enough wood to make 170,100 pencils!
- The first type of painkiller came from the tree bark of a willow tree!
- 85% of plant life is found in the ocean!
- Bananas contain a chemical which can make people feel happy!
- Brazil is named after a tree!
- Apple is 25% air, which is why it floats on water!
- Peaches, Pears, apricots, quinces, strawberries, and apples are members of the rose family!
- The tallest tree ever was an Australian eucalyptus – In 1872 it was measured at 435 feet tall!

Key Vocabulary:

Working Scientifically

question	systematic	observe	observing	equipment
identify	classify	repeat	graph	record
diagram	precision	classification	data	compare
contrast	describe	biology	chemistry	physics

Plants

common	evergreen	trunk	branches	root
wild plants	deciduous	leaf	leaves	bud
garden	flowers	blossom	stem	fruit
plants	vegetables	bulb	seed	petals

Things to find out or do at home:

- Which liquids allow the plant to continue to grow healthily?
- What happens if plants are given different kinds of water? i.e....dirty water, coloured water, bottled water, boiled water, frozen water?
- Which vegetable tops grow the fastest/slowest? Carrots? Peppers? onion? Potato?
- Keep a pet dandelion, can you keep it healthy? Keep a diary for recording what happens
- How many different shapes and sizes of leaves can you find around you?
- Make a growing plant using toilet rolls to build the stem
- What happens to a leaf if you submerge it in water?
- Make snap cards with real leaf pairs and sticky back plastic
- Weave a twig sculpture from leaves.



Autumn Term

**Year 4
Science**

**ANIMALS,
INCLUDING HUMANS**

Did you know?

- The human body is made up of around 37 trillion cells.
- The largest of the human internal organs is the small intestine.
- Acid in the stomach is powerful enough to dissolve some metals.
- How your teeth are arranged in your mouth is as unique as your fingerprint.
- Teeth start to form in the womb.
- Humans spend 38.5 days of their lives brushing their teeth.
- The average human produces 25,000 quarts of saliva in their lifetime — enough to fill two swimming pools.
- The stomach only takes a very small part in digestion, it is actually the small intestine that does most of the work.

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Animals including Humans

stomach	liver	Salivary gland	stomach	duodenum	
pancreas	Small intestine	Large intestine	rectum	anus	
producers	Digestive system	teeth	skeletons	predators	prey
protection	oesophagus	mouth	Food chain	incisor	digest
hygienist	tongue	Gall bladder	molar	digestion	
Toothpaste/toothbrush	Oral hygiene	Pre-molar	canine	gums	

Things to find out or do at home:

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- Investigate 'How do your muscles help you to move your fingers?'
- How far can a sneeze travel? How can you find out the distance a sneeze can travel and how it can we prevent the spread of germs through sneezes?
- Make a poster about what you know about sneezes to inform others.
- Compare muscles we use when we are awake to muscles used during sleep.
- Investigate which muscle in your body is the strongest. Can you carry out an investigation to find the answer?



STATES OF MATTER



Did you know?

- You have all 3 states of matter inside of you.
- Fire is a mixture of hot gases.
- Matter is everything that takes up space and has weight.
- Ice cream contains all 3 states of matter; air bubbles, ice crystals and milk!!
- Water is the only matter on earth that can be found naturally in all three states- solid, liquid and a gas!!
- Liquid oxygen is sky blue in colour!
- Mercury is the only liquid on the planet that is liquid at room temperature.
- Human can breathe liquid oxygen but our lungs are not as efficient at moving liquid through our body as it is at moving gases.

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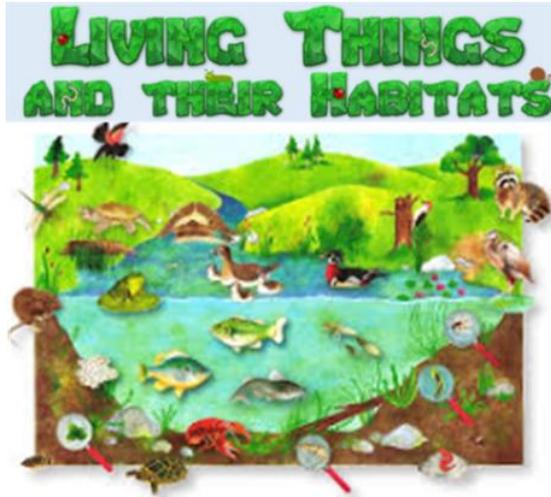
States of Matter

solid	liquid	gas	evaporate	condense
solidifying	ice	melt	condensation	freeze
changing state	heat	cool	Celsius	degrees
water vapour	melting	evaporation	temperature	thermometer

Things to find out or do at home:

- Melt chocolate and butter to make chocolate crispy cakes
- Make ice-cubes or ice-lollies or home-made ice-cream
- Make a cake or bake bread to observe the irreversible change
- Observe how clothes dry on the line in the sun.
- Mix bicarbonate of soda with vinegar to observe what happens
- Use sieves and filter paper (or kitchen roll) to separate solutions of sugar and water, salt and water or soil and water.
- Investigate how many drops of liquid can you fit on a one pence coin? Get the family to predict and give a prize to the nearest answer!
- Measure how long it takes an ice cube to change state from solid to a liquid in different parts of your house.
- Make a jug of Jelly and observe it changing from a liquid to a solid.

Year 5 Spring/Summer Term



Key Vocabulary

Working Scientifically:

variables	measure	plan	describe	precision
classify	display	accuracy	predict	tables
quantitative	systematic	record data	explain	bar graph
explain	line graphs			
classification key	repeat readings	scientific diagrams	identify relationships	report conclusions

Living Things and Their Habitats

life processes	mammal	insect	bird	plant
amphibian	life cycle	reproduction	sexual	asexual
flower border	vegetable garden	Jane Goodall-Animal Behaviourist	David Attenborough-Animal Naturalist	

Animals including Humans

animals	human	development	puberty	toddler	baby	growth
teenager	adult	gestation	mass	length	grow	embryo

Did you know?

- Adult bones are 4 times stronger than concrete.
- When a human embryo starts life it is smaller than a grain of rice.
- New born babies can recognise their mother's voice.
- A snail can sleep for 3 years.
- Slugs have 4 noses.
- It is possible to hypnotize a frog by placing it on its back and gently stroking its stomach.
- Giraffes have no vocal chords so they can't make noises.
- Butterfly's taste with their feet.
- The favourite meal of whale shark, the world's largest shark, is microscopic organisms called plankton.
- The killer whale is not actually a whale, it belongs to the dolphin family.
- The fur of polar bears are not white, they are clear but they look white when light reflects from them.
- Caterpillars have 4000 muscles - humans have only 629.

Things to find out or do at home:

- Have a look around your garden and see what different habitats you can find
- Take photos of the local wildlife or birds living in your area and see if you can identify their names.
- Create a small plot at home to grow your own flowers or vegetables
- Go to <https://www.arkive.org/education/games/design-a-habitat> and design a habitat for a black footed ferret – an interactive game
- Create a log pile or rock pile in your garden to provide a habitat for insects and small animals.
- Google Woodlands Junior Living Things and you can complete a range of activities on plants.
- Write a poem about what it would be like to fly like a bird.
- Use an iPad or pc to make a fact file about an interesting animal, perhaps one you know little about like a skunk or a beaver.

Autumn Term



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Earth And Space

Earth	Planets	Shadow Clocks	Astronomical Clocks	Mercury
Sundials	Solar System	Night And Day	Sun	Neptune
Rotate	Rotation	Celestial Body	Uranus	Pluto
Spherical	Revolve	Spin	Orbit	Dwarf Planet
Sphere	Geocentric Model	Heliocentric Model	Moon	Saturn

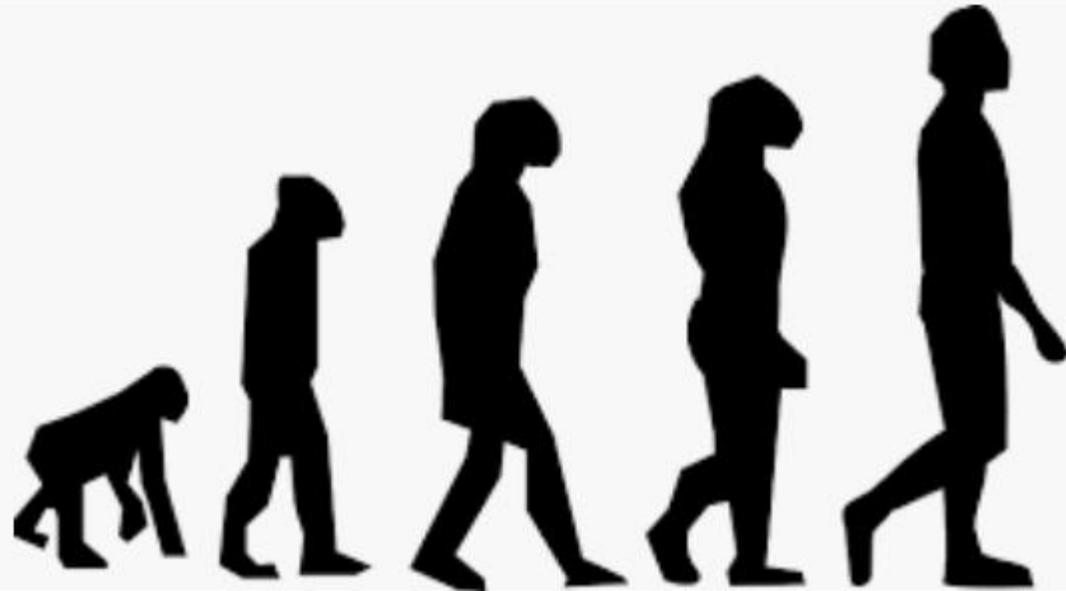
Did you know?

- The Sun is over 300000 times larger than earth.
- Many scientists believe that an asteroid impact caused the extinction of the dinosaurs around 65 million years ago.
- The Solar System formed around 4.6 billion years ago.
- The Moon appears to have more craters and scars than Earth because it has a lot less natural activity going on, the Earth is constantly reforming its surface through earthquakes, erosion, rain, wind and plants growing on the surface.
- Saturn isn't the only ringed planet, other gas giants such as Jupiter, Uranus and Neptune also have rings, and they are just less obvious.
- Footprints and tyre tracks left behind by astronauts on the moon will stay there forever as there is no wind to blow them away.
- The only planet that rotates on its side like a barrel is Uranus. The only planet that spins backwards relative to the others is Venus.

Things to find out or do at home:

- Recreate the planets in our solar system using things at home and take a photo to show your teacher.
- Research which constellations can found in the sky at night. See if you spot them from your garden.
- Make a 3D rocket model. Can you add a parachute to help it land safely?
- Create a newspaper report about the first time humans landed on the moon.
- Use scrap paper, foil, sweet wrappers and other materials in your house to make a space collage.
- Create a fact file about one of the planets in our solar system.

Year 6 Autumn Term: Evolution and Inheritance



Did you know?

- All living things have a common ancestor – a bacterium lived billions of years ago.
- Some snake have hipbones. This means that their ancestors would have walked on four legs.
- The closest living relation of birds is the crocodile!
- The elephant's trunk evolved by combining the nose and the upper lip.
- Darwin did not say that human come from monkeys. He said that monkeys, apes and humans had a common ancestor.
- We have as much (or more) hair producing follicles on our skin as other primates! The only difference is that human hair is thinner, shorter and lighter.
- While other primates have opposable thumbs, our fingers and thumb are more flexible. This means that we have a powerful grip which enables us to hold and use tools.
- The platypus is one of the earliest mammal offshoots from reptiles. It lays eggs but produces milk.

Key Vocabulary:

Working Scientifically

Plan	Variables	Analyse	Accuracy	Precision	
Repeated readings	Recorded Data	Scientific enquires	Predictions	Fair test	Report
systematic	Interpret conclude	Scientific diagrams	Causal Relationship	Refute ideas	Present
Explain	Degree of trust	Present the data	Theorise	Arguments	Tables
Classification Keys		Bar, line and scatter graphs		Diagrams and labels	

Evolution and Inheritance

Evolution	Adaptation	Inheritance	Genes	Parent
Fossil	Environment	Offspring	Variation	DNA
Habitat	Characteristics			

Things to find out or do at home:

- Research the life of Charles Darwin and create a report.
- Make a wordsearch containing the key words used in this topic including; evolution, adaption, inheritance and characteristics.
- Choose animals from different habitats and find out how they have adapted to survive.
- Sketch a neanderthal and compare the differences between them and homosapians (modern humans)
- Research what life was like as a caveman in a hunter and gatherer society.