By Brook CE Primary School Whole School Science Overview (Year A)

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
T1 & T2	**Amazing me** Why am I amazing? **Celebrations** How do we celebrate?	**Everyday materials** 'Are all materials hard?' **Seasonal change** 'How are the seasons different?' 'One lesson each season'	**Uses of everyday materials** 'What are things made from and why?'	**Forces and magnets** 'How do I know the force is there?' **Light** 'How do we see things?'	**Sound** 'Do we all hear the same things?' **Electricity** 'How would we cope without electricity?'	**Independent investigation – dyes** **Space** 'Why don't we see the moon all of the time?'	**Independent investigation – dyes** **Light** 'Can you see me?'
Sticky knowledge	• Talk about own appearance with use of more specific vocabulary • Talk about early signs of autumn (and later winter), referencing some plants and animals found locally • Explore materials (combining, separating and different uses e.g. when making playdough) • Using our senses to explore our environment.	Knowledge - materials • Distinguish between an object and the material it is made from. • Name a variety of different materials (wood, plastic, fabric, stone, paper, glass) • Describe properties of materials (flexible, hard, soft, rough, smooth …). • Compare and group materials based on their properties. • Discover through investigation that plastic is the most waterproof material Knowledge – seasonal change (One lesson) • In Autumn leaves fall off the trees and the weather can be windy and rainy. • The days start to get shorter. • We start to wear coats outside.	Knowledge • Describing properties of materials (transparent, translucent, opaque …). • Use knowledge of properties to choose suitable materials for different jobs. • How the shape of a material can be changed through bending, squashing, twisting and stretching. • Discover through investigation the most suitable material for a particular job based on a range of properties.	Knowledge - forces • Rough surfaces have more friction than smooth. • All forces are a push or a pull. • Some forces need contact (friction) and some don't (magnetism, gravity). • Opposite magnetic poles attract and the same poles repel. • The Earth is a giant magnet with a magnetic field. Knowledge – Light • Darkness is caused by the absence of light. • We see when light is reflected off different surfaces - smooth, shiny surfaces are more reflective. • A shadow is formed by a solid opaque object blocking the light. • Shadows get bigger when you move closer to the light source. • UV rays can cause us damage – wrinkles, eye sight. We protect our skin using sun-cream and glasses.	Knowledge – Sound • Sound is made by the movement of vibrations • Sound travels better through solid objects than through air. • We hear through vibrations passing into the ear. • The louder the volume, the taller the wave. • The higher the pitch, the closer together the waves are. • As you move further away from a source the sound gets quieter (thunder and lightning) Knowledge – Electricity • Identify and name appliances that require electricity to function. • Make a simple series circuit. • Identify, name and draw symbols for components of a simple circuit (cell, wire, bulb, switch, buzzer). • Using knowledge to make predictions about if a bulb will	Knowledge – Space • The planets orbit the sun. The Earth takes 365.25 days to orbit the sun. • The Earth spins once on its axis every 24 hours giving us night and day. • The tilt of the Earth's axis causes the seasons. • The moon orbits the Earth once every 28 days. • The cycle of the moon – new quarter moon, half moon, full moon. • The sun, moon and planets are spherical bodies.	Knowledge – Light • Light travels in a straight line. • We can use objects to bend light and see round corner. • Understand how the eye works and how we see. • Explain how optical instruments such as a telescope, periscope and binoculars work. • Shadows have the same shape as the object that casts them and change shape at different times of the day.

					• Know the difference between and identify different conductors and insulators.		
Key Vocabulary	• Eyes • Nose • Ears • Mouth • Fingers • Wood • Glass • Paper • Hard • Soft • Seasons	Materials • Object • Material • Property • Flexible • Waterproof Seasons • Season • Summer • Autumn • Winter • Spring	• Bounce • Squash • Stretch • Rigid • Flexible	Forces • Attract • Repel • Magnetic pole • Magnetic field • Friction Light • Transparent • Opaque • Translucent • Reflect • darkness	Sound • Pitch • Volume • Amplitude • Frequency • Vibration Electrcity • Series • Cell • Switch • Lamp • Conductor/ insulator	• Axis • Waning • Waxing • Orbit • Rotation	• Ray • Refract • Reflect • Retina • Lens
Learning Qs		1. What is a material? 2. What is made from different materials? 3. What is the difference between a material, an object and a property? 4. What are the properties of different materials? 5. Are all materials hard? (Big question investigation) 6. What changes happen in Autumn? (Single seasons lesson) 7. What properties are important for an umbrella? (investigation – planning) 8. What material is best to fix my umbrella?(Investigation – results and conclusion) 9. What material would be best to make the three little pigs house from? (Investigation)	1. Why are the same objects made from different materials? 2. Can you sort, group and compare these materials? 3. What objects are made from the same material? 4. What material suits different objects best? 5. What is the best material to make a ….? (Plan/ predict investigation and link to class topic) 6. What is the best material to make a …? (Gather results and record) 7. How can you change the shape of a solid object? 8. Why do some balls bounce? (start of next weeks investigation – predictions) 9. Which ball will bounce the highest? (Investigation) What are things made from and why? (Big question)	Forces 1. What is a force? 2. Which surface is best for a hot wheels track? (Plan and carry our investigation – 2 lessons) 3. What are magnetic poles and how do they react to each other? 4. Do all forces need contact to work? 5. What materials are magnetic/ non-magnetic? 6. How do I know the force is there? (Big question) Light 1. What is a light source? 2. What do we need to see in the dark? 3. What materials are the most reflective? (Investigation) 4. What are the dangers of light?	Sound 1. How is sound made? 2. What is the difference between pitch and volume? 3. How can we hear? 4. How can I make it easier to hear someone on the other side of the room? (String telephone investigation – Plan and predict) 5. How can I make it easier to hear someone on the other side of the room? (String telephone investigation – Results and conclusions) 6. Do we all hear the same things? (Big question) Electricity 1. What are sources of electricity? What needs electricity to function? 2. What is needed to make a simple circuit?	1. What do you already know about space? 2. What are the sizes and positions of the planets relative to the sun? 3. How do the planets move, relative to the sun? 4. How do we have day and night? 5. How does the moon move, relative to the Earth? 6. Why don't we see the moon all of the time? (Big question)	1. Does light travel in straight or wiggly lines? 2. How does the eye and light enable us to see? 3. How can we see objects around corners? 4. What is the best reflector of light? (Independently plan and carry out investigation) 5. What objects create the best shadows? (Investigation) 6. Can you see me? (Big question)

		10. What changes happen in Winter? (Single seasons lesson)		5. What makes a shadow and how can we change the shape? 6. How do we see? (Big question)	3. Which circuit will enable the bulb to light up? 4. What are electrical conductors and insulators? 5. How would we cope without electricity? (Big question)		
T3 & T4	**We can be heroes** What is a super hero? **Around the world** How are things different around the world?	**Animals** 'Who lives in our world and how are they different?' 'Who has senses and how are they used?' **Seasonal change** 'How are the seasons different?' 'One lesson each season'	**Animals** 'How do animals grow and survive in the wild?' **Habitats** 'Why don't polar bears live in England?'	**Animals** 'How does my body stay healthy?' **Rocks** 'What could a Geologist tell me?'	**Animals** 'What happens to the food we eat?' **Living things and their habitats** 'How can we protect animal habitats?'	**Life cycles and reproduction** 'Do all animals start life as an egg?', 'How do we grow and change?' **Forces** 'Can you feel the force?'	**Classification** 'I've discovered a new bug, how would you classify it?' **Evolution and inheritance** 'Did we evolve from Monkeys?'
Sticky Knowledge	• Recycling and litter picking – impact on the environment and why litter is bad • Comparing animals and plants in hot and cold environments. • Making observations and drawing animals and plants • Talk about early signs of spring (and early summer), referencing some plants and animals found locally • Explore materials (combining, separating and different uses e.g. when making playdough) • Exploring materials (freezing and melting)	Knowledge • Identify name different mammals, amphibians, reptiles, birds and fish. • Explain the difference between mammals, amphibians, reptiles, birds and fish. • Describe and compare the different structures of mammals, amphibians, reptiles, birds and fish. • Identify and classify carnivores, omnivores and herbivores. • Label parts of the human body and link to the senses (eyes, nose, ears, skin, tongue)	Knowledge - animals • Animals, including humans have offspring which grow into adults. • In humans and some animals, offspring are born as live young and grow into adults. • In some animals, such as chickens, snakes and insects, offspring are laid as eggs and hatch, then grow into adults. • The young of some animals do not look like their parents e.g. tadpoles. . • Animals, including humans need water, food and air and shelter in order to survive. These are provided by a habitat. Knowledge - habitats • Living things can be classified as living, dead or never lived. Wood, hair and fur are considered dead	Knowledge - animals • Plants make their own food but animals need to eat to get the nutrients they need to survive. • Food contains a range of different nutrients (carbs, protein, vitamins, minerals, fats, sugars, water and fibre) that are needed to stay healthy. • Humans have skeletons support and protect the body. Key bones are the skull, jaw, spine, ribs, pelvis, humerus, radius, ulna, femur, tibia and fibular. • Muscles work in pairs, contracting and relaxing, enabling the joints and bones to move. • The main muscles are the quadriceps, hamstrings, abdominals, triceps, biceps, pectorals and gluteus maximus.	Knowledge – animals • Digestion starts when the teeth start to break the food down. Saliva is added and the tongue rolls the food into a ball. The food is swallowed and passes down the oesophagus to the stomach. Here the food is broken down further. • The food passes into the small intestine. Here nutrients are removed from the food and leave the digestive system to be used elsewhere in the body. The rest of the food then passes into the large intestine. Here the water is removed for use elsewhere in the body. • What is left is then stored in the rectum until it leaves the body through the anus when you go to the toilet.	Knowledge – life cycles and reproduction • The life cycle of mammals, amphibians, insects and birds differ. • As part of a life cycles, plants and animals reproduce. Most reproduce sexually, involving two parents where the sperm form the male fertilises the egg from the female. • Fertilisation can be internal or external. • Plants can reproduce sexually and asexually. Asexual reproduction involves one parent (bulbs, tubers, runners, ferns). Sexual reproduction occurs through pollination. • Animals, including humans have offspring that grow into adults. • Some young undergo a further change becoming an adult e.g. Caterpillars to	Knowledge – classification • All living things can be classified under the 5 kingdoms of classification. These are animal, plant, fungi (yeast), protist (algae, mould) and monera (bacteria). • Animals can be divided into vertebrates (backbone) and invertebrates (no backbone). • Vertebrates are mammals, fish, birds, amphibians and reptiles. Groups share similar characteristics. • Invertebrates include insects, arachnids, crustaceans, molluscs and worms. • Plants can be divided into two groups – flowering and non-flowering. Knowledge – inheritance and evolution

			but rock metal and plastic never lived. • Animals and plants have different features to enable them to survive in their natural habitat. Polar bears have thick white fur, fish have gills and fins, Cacti have spines and can store water. • Arctic, oceanic, desert, tundra and woodland habitats attract a variety of different animals. • Within a habitat there are different micro-habitats e.g. in a woodland – in the leaf litter, on the bark of trees, on the leaves. These micro-habitats have different conditions e.g. light or dark, damp or dry. • Plants and animals in a habitat depend on each other for food and shelter. This can be shown in a food chain.	Knowledge – rocks • A rock is a natural material such as sandstone, limestone, granite, marble and slate and they all have different characteristics. • Rocks can be classified based on hardness, porosity, grain size, texture and colour. • All rocks can be classified as igneous, sedimentary or metamorphic. • Soil is made up of pieces of ground down rock mixed with decomposed plant and animal material • Fossils were formed millions of years ago. When plants and animals died, they fell to the seabed, became covered and squashed by other material. Over time the animal/ plant dissolved and was replaced by minerals from water.	• Humans have four types of teeth: incisors for cutting; canines for tearing; and molars and premolars for grinding (chewing). • Living things can be classified as producers, predators and prey according to their place in the food chain. Knowledge – living things and their habitats • Classification keys can be used to identify and name living things. • Living things live in a habitat that provide an environment to which they are suited. • Environments can change naturally through flood, fire and earthquakes. • Environments can change positively through human involvement (nature reserves) • Environments can change negatively through human involvement, endangering life (littering and deforestation). • Environments change with the seasons and different living things can be found at different times of year.	butterflies. This is called metamorphosis. Knowledge – forces. • A force causes an object to start moving, stop, speed up, slow down or change direction. • Gravity pulls objects towards the centre of the Earth causing unsupported objects to fall. • Air resistance, water resistance and friction are all contact forces causing objects to slow down when two moving surfaces meet. • High friction is useful in car tyres, writing and handle bars. Low friction is useful when skiing, going down a slide or opening a drawer. • A mechanism such as a lever, pulley or gear can cause a small force to be increased to a larger force.	• All living things have offspring of the same kind with certain characteristics inherited from their parents. Offspring are not identical to their parents and vary from each other. • Plants and animals have characteristics that make them suited (adapted) to their environment. • If the environment changes rapidly, some variations of a species may not suit the new environment and will die. • If the environment changes slowly, dominant characteristics survive and are passed on through reproduction. Overtime, characteristics can change hugely. This is evolution. • Fossils give us evidence of what lived on the Earth millions of year ago and support the theory of evolution. • Darwin and Wallace observed how living things adapt to different environments to become distinct varieties with their own characteristics.
Key Vocabulary	• Mixing • Predicting • Sorting • Changing • Recycling • Litter	Animals • Carnivore • Herbivore • Omnivore • Mammal • Amphibian	Animals • Offspring • Survival • Characteristic • Live young • Sibling	Animals • Vertebrate • Invertebrate • Muscles • Tendons • Nutrients	Animals • Digestion • Oesophagus • Intestine • Producer • Consumer	Reproduction • Fertilisation • Gestation • Offspring • Reproduce • Asexual	Classification • Classify • Vertebrate • Invertebrate • Micro-organism • Protist

	• Habitat • Freezing • Melting • Seasons • Hot • Cold	Seasons • Season • Summer • Autumn • Winter • Spring	Habitats • Habitat • Micro-habitat • Environment • Characteristic • Living	Rocks • Igneous • Metamorphic • Sedimentary • Fossilisation Decomposition	• Predator • prey Living things and their habitats • Classification • Habitat • Environment • Deforestation Seasonal	Forces • Air resistance • Friction • Gravity • Mass • Weight	• Monera Evolution and inheritance • Inherited characteristic • Environmental characteristic • Variation • Adaptation Environment
Learning Qs	1.	2. How many different animals can you name? 3. How are animals the same and different? 4. How do we group different animals? 5. How do we group animals based on diet? 6. How are animal skeletons the same and different? 7. What part of the body is linked to each sense? 8. Can you describe the world using your senses? 9. Are hand and foot size related (Skills investigation – predict and record) 10. What makes it hard to hear the whistle in the playground? (Investigation) 11. Who has senses and how are they used? Big question 12. What changes happen in Spring? (Single seasons lesson)	Animals 1. What do animals need to survive? 2. What are the key characteristics of living things? 3. What offspring comes from different adult animals? 4. Do all offspring look like their parents when they're born? 5. What is the lifecycle of a chicken? How does it compare to a human? 6. How do animals grow and survive in the wild? (Big question) Habitats 1. Which items are living, dead or have never lived? 2. What are different habitats and what animals live in each one? 3. What characteristics do animals have to help them survive in their habitat? 4. What microhabitats can you find in a woodland habitat? 5. How do plants and animals depend on each other in their habitat? 6. Why don't polar bears live in England? (Big question)	Animals 1. Why do we have skeletons? 2. How are animal skeletons the same and different? 3. How do muscles work? 4. Where do animals find food and what do they eat? 5. What makes a balanced diet? 6. What do animals need to survive and stay healthy? (Big question) Rocks 1. How are different rocks the same and different? 2. What is the difference between igneous, sedimentary and metamorphic rocks? 3. What are the different types of fossil? 4. How are fossils formed? 5. Where does soil come from? 6. What could a geologist tell me? (Big question)	Animals 1. How do we digest out food? 2. How can we model the digestive system? 3. What are the names, position and uses of different teeth? 4. What are producers, consumers and prey? 5. How are animals dependent on each other through food chains? 6. What happens to the food we eat? (Big question) Living things and their habitats 1. What is classification? 2. What animals can you classify using a classification key? 3. What are examples of environmental change? 4. How does environmental change affect living things? 5. What are the positive and negative impact of human involvement on the environment? 6. How can we protect animal habitats? (Big question)	Life cycles and reproduction 1. What are the stages of different animal life cycles? 2. What are the similarities and differences between the lifecycles of mammals, amphibians, insect and birds. 3. What are the main stages of the human life cycle? 4. What are the similarities and differences between the reproductive process of different plants and animals. 5. How does the gestation period of different animals compare to their size and life span? 6. Do all animals start life as an egg? (Big question – double page spread) Forces 1. What is Gravity? 2. Will balls of different masses land at different times? (Investigation) 3. What is Friction? 4. What shoe has the most friction?(Investigation) 5. What is Air resistance?	Classification 1. What is classification and how do we groups animals? 2. What characteristics would you use to group and classify different animals? 3. How would you classify different vertebrate groups? 4. How would you design a classification key to classify butterflies/ birds/ bees? 5. What are micro-organisms? 6. How do microbes spread in food? (End of unit investigation or double page spread answering big question) Inheritance and evolution 1. What makes us all unique but share some similarities? 2. How do the characteristics of offspring compare to their parents? 3. How have plants and animals adapted over time to suit their environment? What happens when an environment changes over time? 4. How do fossils help us learn about the past?

						6. What size spinner will land first? (Investigation) 7. Can you feel the force? (Big question)	5. How do different theories of evolution compare? 6. Did we evolve from monkeys? (big question)
T5 & T6	**New life** 'How do plants and animals grow?' **Tell me a story** 'What is the best recipe for a story?'	**Plants** 'Is a tree a plant?' **Seasonal change** 'How are the seasons different?' 'One lesson each season'	**Plants** 'How can we grow our salad?' **Humans** 'What do we need to stay healthy'	**Plants** 'How does our garden grow?'	**States of matter** 'How do we change between solids, liquids and gases?'	**Material properties** 'What is the best material to make a coffee cup from?' **and material changes** 'Are all material changes reversible?'	**Bodily systems** 'What keeps us living?' **Electricity** 'I want a brighter classroom. What should I do?'
Sticky Knowledge	• Talk about life cycles using appropriate vocabulary. • Talk about how we can care for plants and animals where we live. • Talk about and explore the parts of a plant. • Explore how a plant grows. • Explore the natural world around them making observation and drawing pictures of animals and plants.	Knowledge - Plants • Name and identify common and garden plants (nettle, daisy, dandelion, rose, bluebell, snowdrop, buttercup, clover, fern, holly) • The main parts of a flowering plant are the petals, stem, leaves and roots of a plant. • Evergreen trees keep their leaves all year and deciduous trees drop them in the Autumn • The main parts of a tree are the roots, trunk, bark, branches, twigs, leaves) • Fruit and vegetables grow from plants. Knowledge – seasonal change (One lesson) • In Summer the leaves turn green and the weather is sunny. • The days are longer. • We start to wear sunhats, shorts, t-shirts and sunglasses.	Knowledge – plants • Seeds and bulbs grow into plants. • Seeds germinate into seedlings and then mature plants. • Mature plants may grow flowers which develop into seeds, berries and fruit to restart the process. • Plants need water, light, nutrients and the right temperature and space to grow. • Some plants grow better in shade and others in full sunlight Knowledge – humans • All animals, including humans, have the basic needs of feeding, drinking, breathing and in order to survive. • To grow into healthy adults, they also need the right amounts and types of food • Exercise is important to remain healthy and maintain a good resting heart rate. • Good hygiene is important in preventing infections and illnesses. We	Knowledge • Roots absorb the nutrients and water from the soil and keep the plant in place. The stem transports water and nutrients/ minerals around the plant and holds the leaves and flowers up to enable pollination and seed dispersal. The leaves use sunlight and water to produce the plants food enabling it to grow (photosynthesis) • Plants need air, light, water, nutrients and room to grow. • Through their roots, plants absorb water from the soil which is **transported** up the stem into leaves and flowers. • Some plants produce flowers which enable the plant to reproduce. Pollen (produced by the male part of flower is transported to the female part of the flower (pollination) • The plant produces seeds, contained in berries and fruits	Knowledge • A solid keeps its shape and has a fixed volume. A liquid has a fixed volume but changes in shape to fit the container. A liquid can be poured and keeps a level, horizontal surface. A gas fills all available space; it has no fixed shape or volume. • Granular solids like sand can be confused with liquids because they can be poured, but when poured they do not keep a level surface. Each individual grain is a solid. • Melting is a state change from solid to liquid. Freezing is a state change from liquid to solid. The freezing point of water is 0°C. • Boiling is a change of state from liquid to gas. Water boils when it is heated to 100°C. Evaporation is the same state change as boiling (liquid to gas), but it happens slowly at lower	Knowledge • Materials have different uses depending on their properties and state (liquid, solid, gas). • Properties include hardness, transparency, electrical and thermal conductivity and attraction to magnets. • Some materials will dissolve in a liquid and form a solution while others are insoluble and form sediment. • Mixtures can be separated by filtering, sieving and evaporation, depending on if they are solids, liquids and gases. • Some changes to materials such as dissolving, mixing and changes of state are reversible. Most physical changes are reversible. • Some changes such as burning wood, rusting and mixing vinegar with bicarbonate of soda result in the formation of new materials and these	Knowledge – bodily systems • The heart pumps blood to the lungs. Oxygen goes into the blood and carbon dioxide is removed. The blood goes back to the heart and is then pumped around the body • Veins pump blood towards the heart and arteries pump blood away from the heart. • Nutrients, water and oxygen are transported in the blood to the muscles and other parts of the body where they are needed. Blood carries Carbon dioxide and other waste products back to the heart and then the lungs to be removed from the body. This is the human circulatory system. • Diet, exercise, drugs and lifestyle can affect how well out heart and lungs work, how likely we are to suffer from conditions such as diabetes, how clearly we think, and

			maintain good hygiene by washing, washing our hands, cleaning our clothes and brushing our teeth.	which are dispersed by the wind, insects and animals to grow into new plants (life cycles)	temperatures. Evaporation happens more quickly if the temperature is higher, the liquid is spread out or it is windy. Condensation is the change back from a gas to a liquid caused by cooling. • Water at the surface of seas, rivers etc. evaporates into water vapour (a gas). This rises, cools and condenses back into a liquid forming clouds. When too much water has condensed, the water droplets in the cloud get too heavy and fall back down as rain, snow, sleet (precipitation). This is the water cycle.	changes are irreversible. Chemical changes are irreversible	how fit and well we feel. • Some conditions are caused by deficiencies in our diet e.g. lack of vitamins. • The digestive system carries nutrients from food and water through our body to give us energy and removes all waste products. Knowledge – Electricity • Draw the circuit symbols for cell, lamp, buzzer, switch, motor, wire. • Draw a simple circuit diagram that will light up a bulb. • If more bulbs/ buzzers are added to a circuit, each will burn more dimly or buzz more quietly as they share the voltage • If more batteries are added to a circuit, the voltage is higher and the bulbs will burn more brightly/ buzzers will buzz more loudly. • Turning a switch off (open) breaks a circuit so the circuit is not complete and electricity cannot flow. Any bulbs, motors or buzzers will then turn off as well.
Key Vocabulary	• Tree • Leaf • Flower • Seed • Petals • Egg • Baby • Cycle • Diet	Plants • Deciduous • Evergreen • Roots • Stem • Trunk Seasons • Season	• Germinate • Seed • Seedling • Mature • Shade • Resting heart rate • Exercise • Diet	• Photosynthesis • Transportation • Pollination • Reproduce • Nutrients	• Melting • Freezing • Condensation • Evaporation • Vibrate	• Thermal insulator • Thermal conductor • Electrical conductor • Absorbent • translucent • Soluble • Insoluble • Solution	• Artery • Vein • Ventricle • Enzyme • Intestine • Colon • Simple circuit • Cell

	• Animal • nature	• Summer • Autumn • Winter • Spring	• Offspring • hygiene			• Dissolve • Filtration	• Bulb • Current • Voltage
Learning Qs	1.	2. How many common plants can you name? 3. What is the difference between a deciduous and evergreen tree? 4. What are the names of these different trees? How can you tell? 5. What are the main parts of a flowering plant? 6. What are the main parts of a tree? 7. What changes happen to my plant over time? 8. How are different fruits and vegetables the same and different? 9. Can you spot the difference between these plants? 10. Can you describe your chosen plant? 11. Is a tree a plant? (Big question) 12. What changes happen in the Summer (Single seasons lesson)	Plants 1. What do seeds and bulbs grow into? How does a seed change as it grows into a plant? 2. How do new plants grow from mature plants? 3. How do plants need light, water and a good temperature to stay healthy? 4. How much light do plants need to grow? 5. How can we grow the ingredients for our salad? (Big question) Humans 1. What do animals need in order to survive? 2. What food groups are vital for human health and growth? 3. How is exercise good for us? 4. Why is good hygiene important? How can we maintain good hygiene? 5. What do we need to stay fit and healthy? (Big question)	1. What are the functions of each part of a plant? 2. What do plants need in order to grow and survive? (investigation planning) 3. What do plants need in order to grow and survive? (investigations results and conclusions) 4. How is water transported through a plant? 5. What evidence is there of transportation? 6. What are the main reproductive parts of a flowering plant? 7. How does pollination take place? 8. How can we make seeds travel far? 9. What is the life cycle of a strawberry plant? 10. How does your garden grow? (Big question)	1. What are the differences between solids, liquids and gases? (Particle theory) 2. Can you classify these materials into solids liquids and gases? 3. What happens when a solid changes to a liquid and a liquid changes to a solid? 4. What happens when a liquid changes to a gas and a has changes to a liquid? 5. What happens when a liquid changes to a gas and a has changes to a liquid? 6. How can you slow down/ speed up evaporation and condensation? (plan and carry out investigation) 7. How can you slow down/ speed up evaporation and condensation? (analyse results and draw conclusions) 8. How does the water cycle relate to changes of state? (model the water cycle) 9. How did a change of temperature affect the water cycle? (observe and interpret results) 10. How do we change between solids, liquids and gases (Big question)	1. What properties would you use to group and compare different materials? 2. What materials would be best for recycling and which could be reused? 3. What material is the most suitable to make a coffee cup from? (Investigation planning) 4. What material is the most suitable to make a coffee cup from? (Investigation results and conclusion – big question) 5. What materials are the most soluble? 6. What methods can we use to separate out the different materials in muddy water? 7. *Can you use particle theory to explain how to separate mixtures and solutions?* 8. How can you use sieving, filtering and evaporation to separate a mixture into its four components? 9. What is the difference between a reversible and irreversible change? 10. Are all material changes reversible? (Big question)	Bodily systems 1. What are the main parts of the circulatory system? 2. What is the function of the heart, blood vessels and blood? 3. How does the digestive system work? 4. How do exercise and lifestyle impact our heart and body? 5. How are our bodies affected by substances and actions? 6. What keeps us living? (Big question) Electricity 1. How many electrical symbols can you identify? Can you draw and make a simple circuit that will light up a bulb? 2. What happens to the brightness of a bulb when you add more to a circuit? 3. What happens to the brightness of a bulb when more batteries are added to a circuit? 4. How does an open/ closed switch affect the flow of electricity in a circuit? 5. I want a brighter classroom? What should I do? (Big question)