Subject Concept Map – Science 2021 – 2021

Year group	Key Science Composites				
	Cause and Effect	Evolution	Process	Energy	Working scientifically
Year 1- Oak	Animals including humans Plants	Animals including humans Plants	Animals including humans Plants	Seasons and weather Everyday materials	Seasons and weather Everyday materials Plants
Year 2- Beech	Living things and their habitats Animals including humans Plants	Living things and their habitats Animals including humans Plants	Living things and their habitats Materials and their uses Animals including humans Plants	Materials and their uses	Materials and their uses Animals including humans Plants
Year 3 - Sycamore	Animals including humans Plants	Animals including humans Plants	Forces and magnets Animals including humans Light Plants Rocks	Forces and magnets Light Rocks	Forces and magnets Light Plants
Year 4- Hazel	Animals including humans Living things and their habitats	Animals including humans Living things and their habitats	Electricity Rocks and states of matter Animals including humans Living things and their habitats	Electricity Rocks and states of matter Sound	Electricity Sound
Year 5 - Maple	Earth and Space Living things and their habitats	Living things and their habitats Animals including humans	Forces and movement Living things and their habitats	Earth and Space Properties and changes of materials	Earth and Space Forces and movement Properties and changes of materials
Year 6 – Chestnut	Living things and their habitats Animals including humans Evolution and Inheritance	Living things and their habitats Animals including humans Evolution and Inheritance	Light Living things and their habitats Electricity Evolution and Inheritance	Light Electricity	Light Animals including humans Electricity Evolution and Inheritance

Key Science Composites				
Cause and Effect	**Evolution**	**Process**	**Energy**	**Working scientifically**
Cause is why something happens Effect is what event has happened as a result of this	The way that living things change over time	A series of actions or steps taken in order to achieve a particular end	Strength and power. There are many forms such as thermal (heat), radiant (light) or kinetic (movement)	The processes of science: asking questions, designing experiments, reasoning and arguing with scientific evidence and analysing and interpreting data

Year group	Key Science Vocabulary				
	Cause and Effect	**Evolution**	**Process**	**Energy**	**Working Scientifically**
Year 1- Oak	***Animals including humans*** Beak Carnivore Claw Feathers Fin Fur Herbivore Omnivore Pets Scales Tail Trunk Wing Wild animal ***Plants*** bark berry blossom branch bulb flower fruit leaf/leaves petal root seed stalk stem trunk vegetable	***Animals including humans*** Beak Carnivore Claw Feathers Fin Fur Herbivore Omnivore Pets Scales Tail Trunk Wing Wild animal ***Plants*** bark berry blossom branch bulb flower fruit leaf/leaves petal root seed stalk stem trunk vegetable	***Animals including humans*** Beak Carnivore Claw Feathers Fin Fur Herbivore Omnivore Pets Scales Tail Trunk Wing Wild animal ***Plants*** bark berry blossom branch bulb flower fruit leaf/leaves petal root seed stalk stem trunk vegetable	***Seasons and Weather*** Autumn Climate Cloud/cloudy Cold Cool Dark Data Day Drought Flood Fog Forecast Frost Hail/hailing Hot Hurricane Ice/icy Light Lightning Mist Night Rain/rainy Rainbow Season Sleet Snow/snowing Spring Storm Summer Sun/sunny Temperature Thermometer Thunder Weather Wind/windy Winter ***Everyday materials*** absorbent bendy breaks dull floppy hard not see through rough see through shiny smooth soft stiff stretchy tears waterproof	***Seasons and Weather*** Autumn Climate Cloud/cloudy Cold Cool Dark Data Day Drought Flood Fog Forecast Frost Hail/hailing Hot Hurricane Ice/icy Light Lightning Mist Night Rain/rainy Rainbow Season Sleet Snow/snowing Spring Storm Summer Sun/sunny Temperature Thermometer Thunder Weather Wind/windy Winter ***Everyday Materials*** absorbent bendy breaks dull floppy hard not see through rough see through shiny smooth soft stiff stretchy tears waterproof ***Plants*** bark berry blossom branch bulb flower fruit leaf/leaves petal root seed stalk stem trunk vegetable

Year 2- Beech					
	Living things and their habitats alive cool cold damp dead depend desert dry environment feed food food chain forest grow habitat hot living meadow microhabitat move organism producer seashore shelter underground wet warm ***Animals including humans*** Adult Air Baby Breathing Change Child Clean Disease Exercise Food Fruit Germs Growth Healthy Hygiene Medicine Offspring Older Reproduction Survival Teenager Toddler Water Wash Younger ***Plants*** bud bulb cold damp dark dry flower fruit germinate grow/growth healthy hot leaf light root seedling seed shoot stem soil water warm wet	***Living things and their habitats*** alive cool cold damp dead depend desert dry environment feed food food chain forest grow habitat hot living meadow microhabitat move organism producer seashore shelter underground wet warm ***Animals including humans*** Adult Air Baby Breathing Change Child Clean Disease Exercise Food Fruit Germs Growth Healthy Hygiene Medicine Offspring Older Reproduction Survival Teenager Toddler Water Wash Younger ***Plants*** bud bulb cold damp dark dry flower fruit germinate grow/growth healthy hot leaf light root seedling seed shoot stem soil water warm wet	***Living things and their habitats*** alive cool cold damp dead depend desert dry environment feed food food chain forest grow habitat hot living meadow microhabitat move organism producer seashore shelter underground wet warm ***Animals including humans*** Adult Air Baby Breathing Change Child Clean Disease Exercise Food Fruit Germs Growth Healthy Hygiene Medicine Offspring Older Reproduction Survival Teenager Toddler Water Wash Younger ***Plants*** bud bulb cold damp dark dry flower fruit germinate grow/growth healthy hot leaf light root seedling seed shoot stem soil water warm wet ***Materials and their uses*** Absorbent Bend Flexible Hard Opaque Non-reflective Property Reflective Rigid Squash Stretch Translucent Transparent Twist	***Materials and their uses*** Absorbent Bend Flexible Hard Opaque Non-reflective Property Reflective Rigid Squash Stretch Translucent Transparent Twist	***Materials and their uses*** Absorbent Bend Flexible Hard Opaque Non-reflective Property Reflective Rigid Squash Stretch Translucent Transparent Twist ***Animals including humans*** Adult Air Baby Breathing Change Child Clean Disease Exercise Food Fruit Germs Growth Healthy Hygiene Medicine Offspring Older Reproduction Survival Teenager Toddler Water Wash Younger ***Plants*** bud bulb cold damp dark dry flower fruit germinate grow/growth healthy hot leaf light root seedling seed shoot stem soil water warm wet

Year 3 - Sycamore	***Animals including humans*** balanced diet bones carbohydrates exercise fat fibre food heart joints minerals movement muscles nutrients nutrition protection protein ribs skull skeleton sockets spine support tendons vertebra vitamins water ***Plants*** Air Berry Blossom Branch Bulb Fertiliser Flower Fruit Germination Leaf/Leaves Life cycle Light Nutrients Petal Photosynthesis Pollen Pollination Root Seed Seed dispersal Seed formation Soil Stalk Stem Transported Trunk Vascular/non-vascular Water	***Animals including humans*** balanced diet bones carbohydrates exercise fat fibre food heart joints minerals movement muscles nutrients nutrition protection protein ribs skull skeleton sockets spine support tendons vertebra vitamins water ***Plants*** Air Berry Blossom Branch Bulb Fertiliser Flower Fruit Germination Leaf/Leaves Life cycle Light Nutrients Petal Photosynthesis Pollen Pollination Root Seed Seed dispersal Seed formation Soil Stalk Stem Transported Trunk Vascular/non-vascular Water	***Forces and Magnets*** Air resistance Attract Bar Compass Contact force Earth Field Force Friction Gravity Lodestone Magnet Magnetism Magnetic Non-contact force North Pole Pole Repel South Pole Surface Transfer Water resistance ***Animals including humans*** balanced diet bones carbohydrates exercise fat fibre food heart joints minerals movement muscles nutrients nutrition protection protein ribs skull skeleton sockets spine support tendons vertebra vitamins water ***Light*** absorb block dark direction energy light source mirror opaque reflect reflection reflective shadow translucent transparent ***Plants*** Air Berry Blossom Branch Bulb Fertiliser Flower Fruit Germination Leaf/Leaves Life cycle Light Nutrients Petal Photosynthesis Pollen Pollination Root Seed Seed dispersal Seed formation Soil Stalk Stem Transported Trunk	***Forces and Magnets*** Air resistance Attract Bar Compass Contact force Earth Field Force Friction Gravity Lodestone Magnet Magnetism Magnetic Non-contact force North Pole Pole Repel South Pole Surface Transfer Water resistance ***Light*** absorb block dark direction energy light source mirror opaque reflect reflection reflective shadow translucent transparent ***Rocks*** Boulder Chalk Chalky soil Clay soil Crystals Decompose Fossils Fossilisation Grains Granite Hard/soft Igneous Limestone Marble Metamorphic Peat Rock Sandstone Sandy soil Sediment Sedimentary Slate Soil Stone Texture	***Forces and Magnets*** Air resistance Attract Bar Compass Contact force Earth Field Force Friction Gravity Lodestone Magnet Magnetism Magnetic Non-contact force North Pole Pole Repel South Pole Surface Transfer Water resistance ***Light*** absorb block dark direction energy light source mirror opaque reflect reflection reflective shadow translucent transparent ***Plants*** Air Berry Blossom Branch Bulb Fertiliser Flower Fruit Germination Leaf/Leaves Life cycle Light Nutrients Petal Photosynthesis Pollen Pollination Root Seed Seed dispersal Seed formation Soil Stalk Stem Transported Trunk Vascular/non-vascular Water

			Vascular/non-vascular Water ***Rocks*** Boulder Chalk Chalky soil Clay soil Crystals Decompose Fossils Fossilisation Grains Granite Hard/soft Igneous Limestone Marble Metamorphic Peat Rock Sandstone Sandy soil Sediment Sedimentary Slate Soil Stone Texture		

Year 4- Hazel	***Animals including humans*** anus canines digestive system digestion incisor large intestine molar molecule mouth nutrients nutrition oesophagus peristalsis pre-molar saliva salivary glands small intestine stomach teeth tongue ***Living things and their habitats*** aquatic amphibian bird characteristic classification consumer decomposer ecology environment extinct fish Flowering/non-flowering human impact invertebrate mammal negative positive predator prey producer reptile terrestrial vertebrate	***Animals including humans*** anus canines digestive system digestion incisor large intestine molar molecule mouth nutrients nutrition oesophagus peristalsis pre-molar saliva salivary glands small intestine stomach teeth tongue ***Living things and their habitats*** aquatic amphibian bird characteristic classification consumer decomposer ecology environment extinct fish Flowering/non-flowering human impact invertebrate mammal negative positive predator prey producer reptile terrestrial vertebrate	***Electricity*** Appliance Battery Bright Bulb Buzzer Cell Circuit diagram Circuit symbol Complete circuit Component Conductor Crocodile clip Dim Electrical circuit Insulator Mains Metal Negative Non metal Motor Plug Power station Positive Switch Wire ***Rocks and state of matter*** Air Boil Boiling point Change state Cooled Cooling Crystals Condense Condensation Degrees Celsius Evaporate Evaporation Freeze Freezing Gas Heated Heating Ice Liquid Mass Molten Melt Melting point Oxygen Powder Precipitation Shape Solidify Solid States of matter Steam Temperature Thermometer Transpiration Volume Water cycle Water vapour ***Animals including humans*** anus canines digestive system digestion incisor large intestine molar molecule mouth nutrients nutrition oesophagus peristalsis pre-molar saliva salivary glands small intestine stomach teeth tongue	***Electricity*** Appliance Battery Bright Bulb Buzzer Cell Circuit diagram Circuit symbol Complete circuit Component Conductor Crocodile clip Dim Electrical circuit Insulator Mains Metal Negative Non metal Motor Plug Power station Positive Switch Wire ***Rocks and state of matter*** Air Boil Boiling point Change state Cooled Cooling Crystals Condense Condensation Degrees Celsius Evaporate Evaporation Freeze Freezing Gas Heated Heating Ice Liquid Mass Molten Melt Melting point Oxygen Powder Precipitation Shape Solidify Solid States of matter Steam Temperature Thermometer Transpiration Volume Water cycle Water vapour ***Sound*** amplitude ear energy fainter frequency gas hear hearing high instrument insulation liquid loud low medium pitch quiet solid sound sound source vibrations volume wave	***Electricity*** Appliance Battery Bright Bulb Buzzer Cell Circuit diagram Circuit symbol Complete circuit Component Conductor Crocodile clip Dim Electrical circuit Insulator Mains Metal Negative Non metal Motor Plug Power station Positive Switch Wire ***Sound*** amplitude ear energy fainter frequency gas hear hearing high instrument insulation liquid loud low medium pitch quiet solid sound sound source vibrations volume wave

			aquatic amphibian bird characteristic classification consumer decomposer ecology environment extinct fish Flowering/non-flowering human impact invertebrate mammal negative positive predator prey producer reptile terrestrial vertebrate		

Year 5 - Maple	***Earth and Space*** Dwarf planet Celestial body Earth Geocentric model Heliocentric model Jupiter Mars Mercury Moon Neptune Orbit Planet Pluto Revolve Rotate/rotation Saturn Shadow clocks Solar system Sphere/spherical Spin Sun Sundial Uranus Venus ***Living things and their habitats*** Adolescence Amphibian Anther Asexual Cell Egg Embryo Fertilisation Foetus Gamete Germination Hatch Insect Larva/Larvae Life cycle Mammal Metamorphosis Ovary Pistil Pollen Pollination Puberty Pupa/pupae Reproduction Reptile Seed dispersal Sepal Sexual Sperm Stigma Stamen Testes	***Living things and their habitats*** Adolescence Amphibian Anther Asexual Cell Egg Embryo Fertilisation Foetus Gamete Germination Hatch Insect Larva/Larvae Life cycle Mammal Metamorphosis Ovary Pistil Pollen Pollination Puberty Pupa/pupae Reproduction Reptile Seed dispersal Sepal Sexual Sperm Stigma Stamen Testes	***Forces and Movement*** Air resistance Attract Earth Fall Force Forcemeter Friction Gears Gravity Levers Magnets Magnetic force Mechanism Moving surfaces Newton Newtonmeter Pulley Transfer Water resistance ***Living things and their habitats*** Adolescence Amphibian Anther Asexual Cell Egg Embryo Fertilisation Foetus Gamete Germination Hatch Insect Larva/Larvae Life cycle Mammal Metamorphosis Ovary Pistil Pollen Pollination Puberty Pupa/pupae Reproduction Reptile Seed dispersal Sepal Sexual Sperm Stigma Stamen Testes	***Earth and Space*** Dwarf planet Celestial body Earth Geocentric model Heliocentric model Jupiter Mars Mercury Moon Neptune Orbit Planet Pluto Revolve Rotate/rotation Saturn Shadow clocks Solar system Sphere/spherical Spin Sun Sundial Uranus Venus ***Properties and changes of materials*** Absorbent Burning Change of state Chemical change Concentrated Condensation Condensing Dilute Dissolve Electrical conductivity Evaporate Filtering Flexible Hard Insoluble Insulator Irreversible Manufactured Melting Mixture Natural Non-reflective Physical Change Particle Reflective Residue Reversible Rigid Rough Rusting Saturated Solubility Soluble Solute Solution Solvent Thermal conductivity Translucent Transparent Waterproof	***Earth and Space*** Dwarf planet Celestial body Earth Geocentric model Heliocentric model Jupiter Mars Mercury Moon Neptune Orbit Planet Pluto Revolve Rotate/rotation Saturn Shadow clocks Solar system Sphere/spherical Spin Sun Sundial Uranus Venus ***Forces and Movement*** Air resistance Attract Earth Fall Force Forcemeter Friction Gears Gravity Levers Magnets Magnetic force Mechanism Moving surfaces Newton Newtonmeter Pulley Transfer Water resistance ***Properties and changes of materials*** Absorbent Burning Change of state Chemical change Concentrated Condensation Condensing Dilute Dissolve Electrical conductivity Evaporate Filtering Flexible Hard Insoluble Insulator Irreversible Manufactured Melting Mixture Natural Non-reflective Physical Change Particle Reflective Residue Reversible Rigid Rough Rusting Saturated Solubility Soluble Solute Solution Solvent Thermal

					conductivity Translucent Transparent Waterproof
Year 6 – Chestnut	***Evolution and Inheritance*** adaptation characteristics environment evolution fossil inherit inheritance offspring mutation palaeontologist species vary variation ***Animals including humans and Living things and their habitat*** Arthropod Cell Characteristic Classification Class Differences Extinct Family Flowering/non-flowering Genus Invertebrate Kingdom Multicellular Order Phylum Similarities Species Taxonomy Unicellular Vertebrate	***Evolution and Inheritance*** adaptation characteristics environment evolution fossil inherit inheritance offspring mutation palaeontologist species vary variation ***Animals including humans and Living things and their habitat*** Arthropod Cell Characteristic Classification Class Differences Extinct Family Flowering/non-flowering Genus Invertebrate Kingdom Multicellular Order Phylum Similarities Species Taxonomy Unicellular Vertebrate	***Light*** absorb block dark direction energy light source mirror opaque reflect reflection reflective shadow translucent transparent ***Evolution and Inheritance*** adaptation characteristics environment evolution fossil inherit inheritance offspring mutation palaeontologist species vary variation ***Electricity*** Appliance Battery Bright Bulb Buzzer Cell Circuit diagram Circuit symbol Complete circuit Component Conductor Crocodile clip Dim Electrical circuit Insulator Motor Negative Motor Positive Switch Terminal Voltage Volume Wire ***Animals including humans and Living things and their habitat*** Arthropod Cell Characteristic Classification Class Differences Extinct Family Flowering/non-flowering Genus Invertebrate Kingdom Multicellular Order Phylum Similarities Species	***Light*** absorb block dark direction energy light source mirror opaque reflect reflection reflective shadow translucent transparent ***Electricity*** Appliance Battery Bright Bulb Buzzer Cell Circuit diagram Circuit symbol Complete circuit Component Conductor Crocodile clip Dim Electrical circuit Insulator Motor Negative Motor Positive Switch Terminal Voltage Volume Wire	***Light*** absorb block dark direction energy light source mirror opaque reflect reflection reflective shadow translucent transparent ***Evolution and Inheritance*** adaptation characteristics environment evolution fossil inherit inheritance offspring mutation palaeontologist species vary variation ***Electricity*** Appliance Battery Bright Bulb Buzzer Cell Circuit diagram Circuit symbol Complete circuit Component Conductor Crocodile clip Dim Electrical circuit Insulator Motor Negative Motor Positive Switch Terminal Voltage Volume Wire ***Animals including humans and Living things and their habitat*** Arthropod Cell Characteristic Classification Class Differences Extinct Family Flowering/non-flowering Genus Invertebrate Kingdom Multicellular Order Phylum Similarities Species

			Taxonomy Unicellular Vertebrate		Taxonomy Unicellular Vertebrate

Year group	Science Passport – Knowledge and Skills Progression
Year 1- Oak Components **Knowledge**	**Animals including humans** I know how to name the parts of the human body that I can see I know how to link the correct part of the human body to each sense. I know and name a variety of animals including fish, amphibians, reptiles, birds and mammals I classify and know animals by what they eat I know how to sort animals into categories (including fish, amphibians, reptiles, birds and mammals) I know how to sort living things and non living things **Plants** I know and name a variety of common wild garden plants I know and name the petal, stem, leaves and root of the plant I know and name the roots, trunk, branches and leaves of a tree **Seasons and Weather** I observe and know about the changes in the seasons I name the seasons and know about the type of weather in each season **Everyday Materials** I distinguish between an object and the material it is made from I know materials that an object is made from
Skills **Working scientifically**	• asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions

Year 2- Beech Components **Knowledge**	**Living things and their habitats** Identify things that are living, dead and never lived I know how a specific habitat provides for the basic needs of living things there I identify and name plants and animals in a range of habitats I match living things to their habitats I know how animals find their food I name some different sources of food for animals I know and can explain simple food chains. **Animals including humans** Identify things that real living, dead and never lived I know how a specific habitat provides for the basic needs of living things living there I identify and name plants and animals in a range of habitats I match living things to their habitat I know how animals find their food I name some different sources of food for animals I know and can explain a simple food chain **Plants** I know how seeds and bulbs grow into plants I know what plants need in order to grow and stay healthy **Materials and their uses** Identify and name a range of materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard I know why a material might or might not be used for a specific job I know how materials can be changed by squashing, bending, twisting and stretching
Skills **Working scientifically**	• asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions

Year 3 - Sycamore Components **Knowledge**	**Animals including Humans** I know about the importance of a nutritious, balanced diet I know how nutrients, water and oxygen are transported within animals and humans I know about the skeletal system of a human I know about the muscular system of a human I know about the purpose of the skeleton in humans and animals **Plants** I know the function of different parts of flowering plants and trees I know what different Plants need to survive I know how water is transported within plants I know the plant cycle, especially the importance of flowers **Forces and Magnets** I know about and describe how objects move on different surfaces I know how some forces require contact and some do not, giving examples I know about and explain how objects attract and repel in relation to objects and other magnets **Light** I know what dark is I know that light is needed in order to see I know that light is reflected from a surface **Rocks** I compare and group rocks based on their appearance and physical properties, giving reason I know how fossils are formed I know how soil is made I know and explain the difference between sedimentary,
Skills **Working Scientifically**	• asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings.

Year 4- Hazel Components **Knowledge**	**Animals including Humans** Identify and name parts of the digestive system I now functions of the organs in the human digestive system I identify and know the different types of human teeth I use food chains to identify producers, predators and prey I construct food chains to identify producers, predators and prey **Living things and their habitats** I group living things in different ways I use classification keys to group, identify and name living things I create classification keys to group, identify and name living things I know how changes to an environment could endanger living things **Electricity** I identify and name appliances that require electricity to function I construct a series circuit I identify and name the components in a series circuit I know how to draw a circuit diagram I predict and test whether a lamp will light within a circuit I know the function of a switch in a circuit I know the difference between a conductor and an insulator -giving examples of both **Rocks and states of matter** I group materials based in their state of matter I know how some materials can change state I explore how materials can change state I measure the temperature at which materials change state I know about the water cycle I know the part played by evaporation and condensation in the water cycle **Sound** I know how sound is made I know how sound travels from a source to our ears I know how sounds are made, associating some of them with vibrating I know the correlation between pitch and the object producing sound I know the correlation between the volume of a sound and the strength of the vibrations that produced it I know what happens to sound as it travels away from its source
Skills **Working Scientifically**	• asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings.

Year 5 - Maple **Components** **Knowledge**	**Earth and Space** I know about and explain the movement of the earth and other planets relative to the sun I know about and explain the movement of the Moon relative to the Earth I know and demonstrate how night and day are created I describe the sun, earth and moon. **Living things and their habitats** I know the life cycle of different living things eg) Mammal, amphibian, insect bird I know the differences between different life cycles I know the process of reproduction in plants I know the process of reproduction in animals **Animals including humans** I create a timeline to indicate stages of growth in humans **Forces and Movement** I know what gravity is and its impact on our lives I identify and know the effect of air resistance I identify and know the effect of water resistance I identify and know the effect of friction I explain how levers, pulleys and gears allow a smaller force to have a greater effect **Properties and changes of materials** I compare and group materials based on their properties I know how a material dissolves to form a solution; explaining the process of dissolving I know and show how to recover a substance from a solution I know how some materials can be separated I know and can demonstrate that some changes are reversible and some are not I know how some changes result in the formation of a new material and that this is usually irreversible I know about the reversible and irreversible changes I give evidenced reasons why materials should be used for specific purposes	
Skills **Working Scientifically**	• planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • using test results to make predictions to set up further comparative and fair tests • reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations • identifying scientific evidence that has been used to support or refute ideas or arguments	

Year 6 – Chestnut Components **Knowledge**	**Living things and their habitats** I classify living things into broad groups according to observable characteristics and based on similarities and differences I know how living things have been classified I give reasons for classifying plants in a specific way **Animals including humans** I identify and name the main parts of the human circulatory system I know the functions of the heart, blood vessels and blood I know the impact of diet exercise, drugs and life style on health I know ways in which the nutrients and water are transported in animals , including humans **Evolution and Inheritance** I know how the earth and living things have changed over time I know how fossils can be used to find out about the past I know about reproduction and offspring I know how animals and plants are adapted to suit to their environment I link adaptation over time to evolution I know about evolution and can explain what it is **Light** I know how light travels I know and demonstrate how we see objects I know why shadows have the same object that casts them I know how simple optical instruments work eg) Periscope, telescope, binoculars, mirror, magnifying glass etc. **Electricity** I know how the number and voltage of calls in a circuit links to the brightness of a lamp or the volume of a buzzer I compare and give reasons for why components work and do not work in a circuit I draw circuit diagrams using correct symbols
Skills **Working Scientifically**	• planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • using test results to make predictions to set up further comparative and fair tests • reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations • identifying scientific evidence that has been used to support or refute ideas or arguments