Burwell Village College Primary

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Seasonal Change	Talk about the changes in leaves through the seasons	Explain the changing seasons with a number of indicators, relating to weather, environmental changes (e.g. plant or animal activity), or temperature e.g. we make snowmen in winter or we play cricket in summer.					
Seasonal Change		Describe the weather typically associated with each season across a year. e.g. winter snow and frost, spring showers, warm summer sun, autumn rain and winds.					
Seasonal Change		Explain how mid-winter days are shorter and mid-summer days are longer.					
Plants	Identify trees, plants, leaves and grass in their immediate environment	Identify and name plants in the school's locality *(some examples could include daffodils, poppies, dandelions, sunflowers, snowdrops, beans, carrots)*					
Plants	Complete observational drawings of plants in their immediate environment	Identify trees in the local environment *(some examples could include oak, ash, horse chestnut, sycamore, fruit tree, spruce, pine, conifer, holly)*					
Plants	ELG: Explore the natural world around them, making observations and drawing pictures of animals and plants	Identify a plant's leaves, flowers, petals, fruit, roots, seed and stem					
Plants		Identify a tree's blossom, leaves, fruit, roots, buds, trunk, branches and seeds within fruits		Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers			
Plants		Identify and know what deciduous and evergreen trees					
Plants			Explain how seeds and bulbs grow into mature plants	Explain the role of flowers in the life cycle of flowering plants, including pollination			
Plants				Explain the role of flowers in the life cycle of flowering plants, including seed formation			
Plants				Explain the role of flowers in the life cycle of flowering plants, including seed dispersal			
Plants	Grow a plant or vegetbale in the school grounds		Describe how plants need water, light and a suitable temperature to grow and stay healthy (give simple explanations why the plants in different conditions grow differently.	Y6 TAF: Investigate 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			

Plants				Y6 TAF: Investigate the way in which water is transported within plants			
Animals including Humans - Health and Nutrition							Y6 TAF: Explain the impact of drugs and lifestyle on the way their bodies function
Animals including Humans - Health and Nutrition			Explain the importance for humans of exercise and consequences on the body				Y6 TAF: Explain the impact of exercise on the way their bodies function
Animals including Humans - Health and Nutrition	Identify which foods you should eat sometimes or everyday		Identify the main food groups and explain the importance of eating the right amounts of different types of food	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			Y6 TAF: Explain the impact of diet on the way their bodies function
Animals including Humans - Health and Nutrition			Explain why they should wash regularly, stay clean and brush teeth (hygiene)				
Animals including Humans - The Human Body			Explain the basic needs of animals, including humans, for survival (water, food and air)				
Animals including Humans - The Human Body			Identify that animals, including humans, have offspring which grow into adults including examples where parents and offspring look dissimilar			Explain the changes as humans develop to old age (infant, child, adolescent, adult, old age)	
Animals including Humans - The Human Body							
Animals including Humans - The Human Body							Y6 TAF: Identify and name the main parts of the human circulatory system (heart, vein, artery, arteriole, capillary)
Animals including Humans - The Human Body							Explain the functions of the heart, blood vessels and blood
Animals including Humans - The Human Body		Identify and label their: head, neck, shoulders, arms, elbows, wrist, fingers, chest, legs, thighs, knees, shins, feet, toes		Y6 TAF: Identify that humans and some animals have skeletons and muscles for support			

Animals including Humans - The Human Body		Explain the main structural characteristics of common animals and suggest differences and similarities i.e. birds have wings to fly and legs, fish have gills not lungs		Y6 TAF: Identify that humans and some animals have skeletons and muscles for protection and movement by identifying how the bones and muscles interact and combine	Y6 TAF: Explain the simple functions of the basic parts of the digestive system in humans: teeth, oesphagus, stomach, small and large intenstine, anus		Describe the ways in which nutrients and water are transported within animals, including humans
Animals including Humans - The Human Body					Identify the different types of teeth in humans (canine, incisor, premolar and molar)		
Animals including Humans - The Human Body	Name the body parts on their face & their hands (that are associated with the senses)	Associate a body part with one of the senses i.e. tongue-taste, nose-smell, ears- hearing, eyes-sight, skin-touch.			Explain the simple functions of canine, incisor, premolar and molar		
Animals including Humans	Name a few nocturnal animals	Identify and classify a variety of common animals including fish, amphibians, reptiles, birds and mammals			Y6 TAF: Construct and interpret a variety of food chains, identifying producers, predators and prey		
Animals including Humans	Know what nocturnal means						
Animals including Humans	Complete observational drawings of animals in their immediate environment	Identify and classify a variety of common animals that are carnivores, herbivores and omnivores					
Living Things in Their Habitats	Name some living things in their immediate environment, including in the school pond (butterfly, ladybird, frog, bird)		Identify and name a variety of plants and animals in their habitats, including micro-habitats		Investigate and use classification keys to help group, identify and name a variety of living things in their local and wider environment	Y6 TAF: Explain the life process of reproduction in some plants and animals	Y6 TAF: Explain 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 (animal: habitat, diet, endoskeleton, exoskeleton, vertebrate/invertebrate) (plants: flowering/non-flowering, habitat, wind or animal pollinated, decidous or evergreen)
Living Things in Their Habitats			Know what a habitat and micro- habitat is			Y6 TAF: Explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird	
Living Things in Their Habitats					Explain that living things can be grouped in a variety of ways		Give reasons for classifying plants and animals based on specific characteristics
Living Things in Their Habitats			Explain how animals obtain their food from plants and other animals, using the idea of a simple food chain				
Living Things in Their Habitats			Identify and name different sources of food				
Living Things in Their Habitats			Compare the differences between things that are living, dead, and things that have never been alive				

Living Things in Their Habitats			Identify that most living things live in habitats to which they are suited (identify the conditions of the habitats)		Y6 TAF: Explain that environments can change and that this can sometimes pose dangers to living things		
Living Things in Their Habitats			Explain how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other				
Rocks and Fossils				Y6 TAF: Identify and classify different kinds of metamorphic, igneous and sedimetnary rocks on the basis of their appearance and simple physical properties			
Rocks and Fossils				Y6 TAF: Explain in simple terms how fossils are formed when things that have lived are trapped within rock			
Rocks and Fossils				Recognise that soils are made from rocks and organic matter			
Evolution and Inheritance							Y6 TAF: Know that fossils provide information about living things that inhabited the Earth millions of years ago
Evolution and Inheritance							Y6 TAF: Explain how living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
Evolution and Inheritance							Explain that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
Evolution and Inheritance							Identify how animals and plants are adapted to suit their environment in different ways
Evolution and Inheritance							Explain that adaptation may lead to evolution
States of Matter and materials	Describe changes in states of matter (eg, ice or chocolate melting)				Compare and group materials together, according to whether they are solids, liquids or gases	Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through decanting, filtering, sieving and evaporating	
States of Matter and materials	ELG: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.				Y6 TAF: Describe the characteristics of different states of matter	Y6 TAF: Describe what happens when dissolving occurs	
States of Matter and materials					Y6 TAF: Identify the part played by evaporation and condensation in the water cycle	Know that some materials will dissolve in liquid to form a solution	
States of Matter and materials					Identify and link the rate of evaporation with temperature	Know how to recover a substance from a solution	
States of Matter and materials					Identify which materials change state when they are heated or cooled	Y6 TAF: Demonstrate that dissolving, mixing and changes of state are reversible changes	

States of Matter and materials					Y6 TAF: Measure the temperature at which materials change state in degrees Celsius (°C)	Y6 TAF: Describe how to separate mixtures	
States of Matter and materials						Y6 TAF: 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	
States of Matter and materials	Identify if an object floats or sinks	Identify the simple physical properties of a variety of everyday materials as being: hard/ soft, stretchy or stiff, shiny/ dull; rough/ smooth; bendy or stiff; waterproof/non waterproof; absorbent/non-absorbent; opaque/transparent	Use the vocabulary learned in year 1 to explain the properties of materials and sort materials into groups - hard/soft, stretchy/stiff, shiny/dull; rough/smooth; bendy /stiff; waterproof/ non waterproof; absorbent/non-absorbent; opaque/see-through and extend their vocabulary e.g. using terms – transparent, flexible, rigid to apply to their explanations				
States of Matter and materials			Identify how some materials are used for more than one thing (e.g metal can be used for cars, coins, cans and table legs				
States of Matter and materials		Identify materials in the school or in the school's locality e.g. wood, plastic, glass, metal, water and rock.	Identify a number of different materials that could be used for the same object e.g. a window frame can be made from wood, plastic or metal.			Y6 TAF: Identify and classify everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets	
States of Matter and materials		Compare and classify a variety of everyday materials based on their properties and give a reason(s) why material(s) are the same or different.	Evaluate how suitable or unsuitable materials are for particular purposes and uses			Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic (focussing on conductvity, insulation, flexibility, magnetic, hardness, suitability to be immersed etc)	
States of Matter and materials			Explain how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching				
States of Matter and materials		Distinguish between an object and the material from which it is made by suggesting what material each is made from.	Explain how the properties of some objects mean that they cannot be bent, twisted or stretched by hand.				
Forces and Magnets	Use familiar objects to recognise that when they push something, it moves away and when they pull something, it moves towards them.			Compare how things move on different surfaces (materials) by investigating surface friction		Y6 TAF: Identify the effects of air resistance that acts between moving surfaces	
Forces and Magnets						Y6 TAF: Identify the effects of water resistance that acts between moving surfaces	
Forces and Magnets						Y6 TAF: Identify the effects of friction that acts between moving surfaces	
Forces and Magnets				Identify and classify a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials			
Forces and Magnets				Know that magnets have two poles			

Forces and Magnets				Know how magnets attract or repel each other and attract some materials and not others			
Forces and Magnets				Y6 TAF: Know that some forces need contact between two objects, but magnetic forces can act at a distance		Y6 TAF: Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object	Y6 TAF: Explain that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect (Y5 objective but taught in Y6)
Forces and Magnets				Predict whether two magnets will attract or repel each other, depending on which poles are facing			
Spacce						Y6 TAF: Explain the movement of the Moon relative to the Earth	
Spacce						Describe the Sun, Earth and Moon as approximately spherical bodies	
Spacce						Y6 TAF: Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	
Light				Recognise that they need light in order to see things and that dark is the absence of light			Y6 TAF: 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
Light				Know that light is reflected from surfaces			
Light				Know that light from the sun can be dangerous and that there are ways to protect their eyes			
Light				Recognise that shadows are formed when the light from a light source is blocked by a solid (opaque) object			Y6 TAF: Explain that light appears to travel in straight lines
Light				Y6 TAF: Find patterns in the way that the size of shadows change by explaining how shadows from a source change when the source is moved.or the distance between the light source and the object changes			Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them
Electricity					Identify common appliances that run on electricity		
Electricity					Construct a simple series electrical circuit identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers		Y6 TAF: Use recognised symbols when representing a simple circuit in a diagram
Electricity					Know that a switch opens and closes a circuit		Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
Electricity					Explain whether or not a lamp lights in a simple series circuit, with reference to switches		Y6 TAF: Compare and explain variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches
Electricity					Explain whether or not a lamp lights in a simple series circuit, based on whether or not the lamp is part of a complete loop with the battery		
Electricity					Explain why some materials are common conductors and insulators, and associate metals with being good conductors		

Sound					Y6 TAF: Identify how sounds are made, associating some of them with something vibrating		
Sound					Y6 TAF: Explain that vibrations from sounds travel through a medium to the ear		
Sound					Y6 TAF: Find patterns between the pitch of a sound and features of the object that produced it (object size, material, width, length)		
Sound					Y6 TAF: Find patterns between the volume of a sound and the strength of the vibrations that produced it		
Sound					Y6 TAF: Identify that sounds get fainter as the distance from the sound source increases		
Spacce						Y6 TAF: Explain the movement of the Earth and other planets relative to the Sun in the solar system	
Questioning	Ask questions to clarify your understanding about the natural world, the world around you and contrasting environments.	Ask simple questions stimulated by their exploration of the world	Ask simple questions about your experiences and observations of objects, living things or events	Suggest relevant questions that can be explored or investigated	Ask relevant questions that can be answered by the appropriate scientific enquiry	Refine a scientific question so that it can be investigated or tested	Identify scientific questions to which you do not yet have definitive answers
Questioning			Suggest ways to discover an answer or solve a problem	Identify 'testable' questions and questions that are not testable in the primary classroom	Refine a question asked so a test can give a more appropriate outcome	Choose an appropriate type of science enquiry to provide the best evidence to a question	Use observations and data gathered to construct a further testable question (after investigation)
Questioning			Recognise that some questions can be answered in a variety of ways	Use different types of scientific enquiry to answer questions	Use different types of scientific enquiry to answer questions	Suggest changes to the question or investigation	
Questioning		Use secondary sources to answer questions	Use secondary sources to answer questions	Use secondary sources to answer questions	Use secondary sources to answer questions	Use secondary sources to answer questions	Use secondary sources to research ideas
Planning and Performing Tests	Perform a simple test relating to a question	Perform simple tests to explore a question or idea	Perform simple tests	Plan and carry out simple practical enquires	Plan and carry out simple practical enquiries relevant to the questions or ideas you are investigating	Plan investigations deciding when it is appropriate to carry out a fair test or another type of practical enquiry	Identify significant variables in investigations selecting the most suitable to investigate
Planning and Performing Tests		Identify what you need to do in order to answer a question	Identify things to measure or observe that are relevant to the questions or ideas they are investigating	Plan and carry out comparative and fair tests.	Plan and carry out comparative and fair tests relevant to the questions or ideas you are investigating	Identify one or more control variables in investigations when conducting a fair test.	Identify which type of practical enquiry is most appropriate to the question, before planning and carrying out
Planning and Performing Tests		Say what to look for and what to measure in your test	Suggest a practical way of how to find things out, or collect data to answer a question or idea they are investigating.	Choose from a list at least one variable that needs to be kept the same when conducting a fair test	Identify one or more control variables when conducting a fair test.	Clarify which are control, dependent and independent variables in a fair test	Explain why variables are significant
Planning and Performing Tests			Make predictions	Make predictions about answers to questions	Decide whether a fair test is the best way to investigate their question or idea		Explain why variables need to be controlled
Planning and Performing Tests				Recognise when a test is not fair and suggest improvements	Suggest ways to answer questions	Decide which measurements to make and how to long to make them for	Decide on the most appropriate formats to present sets of scientific data
Gathering and Recording Data			Gather and record data in appropriate ways	Gather and present evidence and data using simple scientific language, drawings and bar charts	Gather and present simple scientific data in a variety of ways including labelled diagrams, keys and tables		Record data and results of increasing complexity using scientific diagrams and labels
Gathering and Recording Data	Say what has changed when observing	Observe changes over time	Observe closely	Make some choices about an appropriate way to record data	Select the most useful ways of recording data	Select appropriate ways of gathering and presenting scientific data and record data using scientific diagrams and labels, scatter graphs (forces) and bar graphs (temperature)	Use line graphs for continuous variables (Heart rate investigation)

Gathering and Recording Data	Listen to books to find out information.	Draw or photograph evidence and label	Make observations over time	Use a range of equipment for measuring and observing, including Newton meters and rulers.	Choose appropriate equipment for measuring and observing and explain why it is appropriate	Choose appropriate ranges and intervals on graphs or measuring equipment	Choose and use appropriate equipment to support observation and data collection with increasing accuracy
Gathering and Recording Data	Record simple data in an appropriate way	Present evidence using simple tables or drawings	Draw tally charts and block diagrams			Use correct scientific symbols where appropriate in recording (Newtons and Celsius)	Decide whether it is appropriate to repeat observations or measurements
Gathering and Recording Data	Draw pictures of animals and plants.	Make measurements using non-standard units of measure.	Make measurements using standard units of measure	Take simple accurate measurements or careful observations using whole number standard units	Take accurate measurements using equipment (thermometers) with standard units for length, mass, volume, weight, time or temperature	Take measurements using a range of scientific equipment (Newton meters and thermometers) with increasing accuracy and precision	Explain how repeating observations or measurements impacts on data collection
Gathering and Recording Data	Observe things in the classroom or school environment	Observe objects, living things, events and the world around them closely, using their senses and simple equipment (e.g. rain gauge)	Use equipment (rulers) for observation and measuring		Make systematic and careful observations	Decide that some measurements and observations may need to be repeated	Understand that the data you collected may be unreliable and describe what you could do to make it more reliable (referencing the degree of trust)
Gathering and Recording Data						Repeat sets of observations or measurements where appropriate	
Using results	Make comments about what you have found out.	Use what they see to offer answers to questions	Use appropriate simple scientific vocabulary when recording findings	Report on findings from enquiries, including oral and written explanations and presentations of results / conclusions	Report on findings from enquiries, including oral and written explanations and presentations of results / conclusions	Present findings in written form and oral presentations	Present findings in written form and oral presentations
Using results	Suggest what might happen next or what might change	Discuss what they have seen or found out	Use your observations, experience and ideas to suggest answers to questions	Use results to answer questions and draw conclusions	Use scientific language to explain findings	Use scientific language and understanding when explaining results and conclusions drawn from results	Compare your results with others and provide explanations for differences in measurements or observations.
Using results	Draw or take photographs to show what has been discovered.	Make their own suggestions to connect what has been observed with possible further actions or observations	Recognise when results meet predictions or not	Use results to consider whether they meet predictions and explain why.	Draw simple conclusions	Explain the cause of the conclusion you have found out (air and water resistance)	Suggest reasons for limitations or inconsistencies in results
Using results		Explain why something has changed / happened	Ask a new question based on observations, experience or ideas, which may be testable	Recognise a result that seems odd compared with other results	Make predictions for new values	Recognise that the test may need improvements to improve reliability	Decide whether these limitations impact on the conclusions drawn
Using results		Say what has changed when observing objects, living things or events		Use results to prompt new questions and predictions for a further test	Identify when repeated results may be appropriate	Explain how reliable your results data is in supporting a conclusion	Use test results to make predictions for setting up further comparative and fair tests.
Using results					Suggest improvements and raise further questions.	Make predictions to set up further tests.	Use evidence to draw conclusions
Using results						Identify when scientific evidence is for or against an argument (use secondary sources)	Use evidence to justify ideas
Using results							Identify evidence which supports or refute accepted or developing scientific ideas or arguments.
Identifying and classifying		Sort everyday objects or living things into groups based on simple features	Sort and group objects, living things or events in different ways and explain why	Decide how to classify and group based on characteristics / features of objects	Explain differences, similarities or changes once classified relating to simple scientific ideas or processes	Classify objects and living things creating tables and classification keys.	
Identifying and classifying							Use a variety of secondary sources to support identification and classification
Identifying and classifying	Sort or match objects in your own way and say why you have sorted them in the way that you have	Recognise basic features, similarities and differences of objects or living things.		Explain which characteristics have caused you to identify or classify objects, living things processes or events by indicating similarities or differences in components or properties (Rocks and Fossils)	Complete sorting diagrams or simple tables, keys or data bases to classify objects, living things or events (Living Things within a habitat)		Use more complex classification tables, keys and databases to classify or identify living things or events by their characteristics