Science Assessment

	Working Scientifically				Biology	Physics	Chemistry
	.	Aut	Spr	Sum	**Early Years Foundation Stage Goals** Looks closely at similarities, differences, patterns and change.	**Early Years Foundation Stage Goals** Shows an interest in technological toys with knobs or pulleys or real objects such as cameras or mobile phones.	**Early Years Foundation Stage Goals** Understands that different media can be combined to create new effects. Manipulates materials to achieve a planned effect. Constructs with a purpose in mind, using a variety of resources
KS1 Y1	Ask simple questions.						
	Observe closely, using simple equipment.						
	Perform simple tests				**ANIMALS INCLUDING HUMANS** Recognise and name body parts on humans and animals. Identify the five senses and the body part associated Identify and name animals, including fish, amphibians, reptiles, birds and mammals. Use language of carnivores, herbivores and omnivores to classify animals. Describe and compare the structure of a variety of different animals.	**SEASONAL CHANGES** Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.	**EVERYDAY MATERIALS** Identify and name a variety of materials, including wood, plastic, glass, metal, water and rock. Describe materials by saying what they look and feel like. Describe the physical properties of materials (strong, flexible, etc.). Compare and group materials based on properties. Begin to give reasons for why or why not a material may be suitable for a particular purpose.
	Identifying and classifying.						
	Using observations.						
	Gathering and recording data.						
	Recognise different ways to answer questions.				**PLANTS** Identify and describe the structure of a variety of common flowering plants and trees. Name and identify a range of plants including deciduous and evergreen. Classify plants as deciduous or evergreen.		
	Use ideas to suggest answers to questions.						
	Use data to answer questions						

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Science Assessment

	Working Scientifically				Biology	Physics	Chemistry
		Aut	Spr	Sum	**LIVING THINGS AND THEIR HABITATS** Compare differences between living things, non-living things and things that have been alive. Identify that most living things live in habitats to which they are suited. Identify and name a variety of plants and animals in their habitats, including microhabitats Describe how animals obtain their food from plants and other animals. **PLANTS** Observe and describe how seeds and bulbs gown into mature plants. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy **ANIMALS, INCLUDING HUMANS** Notice that animals, including humans, have offspring which grow into adults Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	**Year 1 Content** Compare how length of day varies within the different seasons. In relation to materials topic, apply knowledge of seasons, e.g. different temperatures.	**USE OF EVERYDAY MATERIALS** Identify and compare the suitability of a variety of everyday materials. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
KS1 Y2	Ask simple questions.						
	Recognise different ways to answer questions.						
	Observe closely, using simple equipment.						
	Perform simple tests.						
	Identifying and classifying.						
	Using observations.						
	Use ideas to suggest answers to questions.						
	Gathering and recording data						
	Use data to answer questions						

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End of KS assessment……

Science Assessment

	Working Scientifically				Biology	Physics	Chemistry
		Aut	Spr	Sum	**ANIMALS INCLUDING HUMANS** Explore how animals get the right amount of nutrition through their food. Recognise skeletons and muscles are for support, protection and movement. Compare different skeletons. Begin to give reasons why different animals have different skeletal structure. **PLANTS** Label different parts of a plant/tree and their purpose. Explain requirements for a plant to survive and how this can vary between plants. Investigate the way in which water is transported within plants Explore differences between plants and the environments they require.	**LIGHT** Recognise light is required to see and understand dark is absence of light. Notice that light can be reflected. Explain how shadows are formed and find patterns in the way shadows change in size. Recognise that light from the sun is dangerous and how to protect our eyes. Explain how we see different objects. **FORCES AND MAGNETS** Compare how things move on different surfaces. Describe how some forces need contact between two objects (friction, air resistance) but magnetic forces can act at distance. Identify magnetic materials. Predict if two magnets will attract or repel based on knowledge of two poles. Use scientific language to describe different materials.	**ROCKS** Compare rocks using scientific language to describe their properties. Group rocks according to appearance and their properties. Test different properties of rocks. Describe how fossils are formed when things that have lived are trapped within a rock Recognise that soils are made from rocks and organic matter. Relate simple physical properties of rocks to their formation.
LKS2 Y3	Ask relevant questions.						
	Set up and use different types of scientific enquiries.						
	Make systematic and careful observations.						
	Take accurate measurements using standard units, using equipment.						
	Gather and record data.						
	Classify data.						
	Present data in a variety of ways: simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.						
	Report on findings (oral and written explanations, displays and presentation of results).						
	Use results to draw simple conclusions.						
	Make predictions for new values.						
	Suggest improvements to enquiries and raise further questions.						
	Identify differences, similarities or changes related to simple scientific ideas and processes.						
	Use straightforward scientific evidence to answer questions or support findings						

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Science Assessment

	Working Scientifically				Biology	Physics	Chemistry
		Aut	Spr	Sum	**LIVING THINGS AND THEIR HABITATS** Recognise changing environments and how this impacts on the living things in the environment. Explain ways in which an animal is suited to its environment. Group living things in a variety of ways. Use classification keys to group living things systematically. **ANIMALS INCLUDING HUMANS** Use scientific terms for some major organs and body systems. Describe function of the digestive system. Name teeth and describe their function. Construct and interpret a variety of food chains, identifying producers, predators and prey	**SOUND** Identify how sounds are made, associating some of them with something vibrating Recognise that vibrations from sounds travel through a medium to the ear Find patterns between the pitch of a sound and features of the object that produced it Find patterns between the volume of a sound and the strength of the vibrations that produced it Recognise that sounds get fainter as the distance from the sound source increases. **ELECTRICITY** Identify appliances that run on electricity. Construct a simple series circuit and name the parts. Identify if a lamp with light on not, based on whether the lamp is part of a complete circuit. Explain the role of the switch. Recognise some common conductors (associating this with metals) and insulators.	**STATES OF MATTER** Group materials in a variety of ways according to their properties; including if they are solid, liquid or gas. Observe how materials change state as they are heated or cooled. Identify the part played by evaporation and condensation in the water cycle. Associate the rate of evaporation with temperature.
LKS2 Y4	Ask relevant questions.						
	Set up and use different types of scientific enquiries.						
	Make systematic and careful observations.						
	Take accurate measurements using standard units, using equipment.						
	Gather and record data.						
	Classify data.						
	Present data in a variety of ways: simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.						
	Report on findings (oral and written explanations, displays and presentation of results).						
	Use results to draw simple conclusions.						
	Make predictions for new values						
	Suggest improvements to enquiries and raise further questions.						
	Identify differences, similarities or changes related to simple scientific ideas and processes.						
	Use straightforward scientific evidence to answer questions or support findings.						

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	Working Scientifically				Biology	Physics	Chemistry
		Aut	Spr	Sum	**LIVING THINGS AND THEIR HABITATS** Describe life cycles of mammals, amphibian, insect and birds and how they vary. Describe the process of reproduction in some plants and animals. **ANIMALS INCLUDING HUMANS** Describe changes in humans as they develop to old age.	**EARTH AND SPACE** Describe the movement of the Earth, and other planets, relative to the Sun in the solar system Describe the movement of the Moon relative to the Earth Describe the Sun, Earth and Moon as approximately spherical bodies Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. **FORCES** Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object Identify the effects of air resistance, water resistance and friction, that act between moving surfaces Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	**PROPERTIES AND CHANGES OF MATERIALS** Compare materials based on hardness, solubility, conductivity, transparency insulation and response to magnets. Describe methods to separate mixtures (filtration, sieving and distillation). Know that some materials dissolve to form a solution and describe how to recover the substance from this solution. Demonstrate dissolving, mixing and changes of state are reversible. Explain some changes result in new materials, which is usually irreversible. Give reasons, based on evidence, for particular uses of materials. Sort changes based on whether they are reversible or not.
UKS2 Y5	Plan different types of scientific enquiry						
	Where necessary, recognise and control variables.						
	Take increasingly accurate measurements; use a range of scientific equipment.						
	Record data and results using scientific diagrams, labels, classification keys, classification keys, tables, scatter graphs, bar graphs and line graphs.						
	Use test results to make predictions to set up further tests.						
	Report and present findings from enquiries, including conclusions and causal relationships in oral and written forms.						
	Where appropriate, take repeat readings to increase accuracy of results.						
	Explain the degree of trust in the results.						
	Identifying scientific evidence that has been used to support or refute arguments.						

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Science Assessment

	Working Scientifically				Biology	Physics	Chemistry
		Aut	Spr	Sum	**LIVING THINGS AND THEIR HABITATS** Describe and give reasons for how living things are classified according to observable characteristics. **ANIMALS INCLUDING HUMANS** Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function Describe the ways in which nutrients and water are transported within animals, including humans. **EVOLUTION AND INHERITANCE** Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	**LIGHT** Recognise that light appears to travel in straight lines Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye 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 Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. **ELECTRICITY** Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches Use recognised symbols when representing a simple circuit in a diagram.	Apply knowledge of materials to investigate properties through light and electricity. For example materials that conduct/insulate electricity, materials that make good shadows and materials that reflect/refract light.
UKS2 Y6	Plan different types of scientific enquiry to answer questions.						
	Where necessary, recognise and control variables.						
	Take increasingly accurate measurements; use a range of scientific equipment.						
	Where appropriate, take repeat readings to increase accuracy of results.						
	Record data and results using scientific diagrams, labels, classification keys, classification keys, tables, scatter graphs, bar graphs and line graphs.						
	Use test results to make predictions to set up further tests.						
	Report and present findings from enquiries, including conclusions and causal relationships in oral and written forms.						
	Explain the degree of trust in the results.						
	Identifying scientific evidence that has been used to support or refute arguments.						

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