Science Key learning

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	1.To know about and recognise the signs of Autumn 2. To identify the weather and explore the outdoor environment 3. To know how the natural world changes (e.g. leaves fall off) To explore the school grounds and local area	1.To identify similarities and differences between life in this county and Antarctica. 2. To know and recognise the signs of Winter (Jack Frost)	1.To know about and recognise the signs of Winter 2. To know how materials can change from one state to another (melting and freezing) 3. To know about space and name some planets	1.To know about and recognise the signs of Spring. 2. To understand the need to respect and care for the natural environment (e.g. Plastic Pollution) 3. To recognise that some environments are different from the one in which they live (UK vs Kenya) 4. To know and talk about different habitats and animals that live within them. 5. To know what a herbivore and carnivore is, and give some examples. 6. To understand the life cycle of a caterpillar	1.To understand the key features of the life cycle of a sunflower 2. To know how to care for a growing plant. 3. To observe growth over time. 4. To name and describe familiar plants they might see outside. 5. To understand the lifecycle of a human 6. To observe changes when melting chocolate	1.To explore materials and talk about their properties. 2. To explore how different materials, sink and float. 3. To know about and recognise the signs of Summer.
2-year cycle	**Cycle A Autumn**	**Spring**	**Summer**	**Cycle B Autumn**	**Spring**	**Summer**
Main theme	**The Great Fire of London**	**Sensational Stockport**	**Going on Safari**	**Down in the Deep Dark woods**	**Amazing Adventurers**	**A taste of India**
		Plants (Y1)	**Plants (Y2)**		**Materials (Y1)**	**Materials (Y2)**

Science topic	**Animals including humans (Y1)**	**Plants (Y2)**	**Seasonal changes (Y1)**	**Animals including humans (Y2)**		**Living things and their habitats (Y2)**
Y1 & 2 mixed age	1. To name a range of animals which includes animals from each of the vertebrate groups. 2. To describe the key features of named animals. 3. To label key features on a picture/diagram. 4. To write descriptively about an animal. 5. To write a 'What am I? riddle about an animal. 6. To describe what a range of animals eat. 7. To compare and classify animals.	1. To name trees and other plants they see regularly. 2. To describe key features of the trees and plants e.g. shapes of leaves/colour of the flower/blossom. 3. To point out trees which lost their leaves and those who keep them all year. 4. To point to and name parts of a plant. 5 .To use simple charts to sort. 6. To use photos to talk about how plants change. 1. To describe how plants that have grown from seeds and bulbs have developed over time. 2. To identify plants that grew well in different conditions. 3. To spot similarities and differences between bulbs and seeds.	1. To describe how plants that have grown from seeds and bulbs have developed over time. 2. To identify plants that grew well in different conditions. 3. To spot similarities and differences between bulbs and seeds. 4. To nurture seeds and bulbs into mature plants identifying the different requirements of different plants. 1. To name four seasons and identify when in the year they occur. 2. To observe and describe weather in different seasons. 3. To describe days being longer in summer and shorter in winter. 4. To present data in tables and charts and compare seasons.	1. To sequence the stages of a baby. Observe these changes. 2. To describe how animals change as they get older. 3. To develop an understanding of how insects change (more than a butterfly) through lifecycle diagrams. 4. To explain what humans and other animals need to survive. 5. To describe how to keep clean and healthy. 6. To have a good understanding of the food plate and understand 'a healthy balanced diet'. 7. To create a diet for an athlete. 8. To adopt a menu to substitute food from the eat well plate. 9. To understand the effect of exercise on the body.	1.To label a picture/diagram of an object made from different materials. 2. To describe the properties of materials. 3. To sort materials using their properties. 4. To test evidence to answer a question.	1.To name an object, say what material it is made from, identify properties and make a link between property and use. 2. To describe the actions used whilst changing a shape of an object. 3. To use suitable vocabulary. 4. To carry out simple tests relevant to properties. 5. To describe similarities and differences. 1.To find a range of items which are dead, living. 2. To name plants/animals which live in different habitats and micro habitat. 3. To talk about the features of the animal/plant and how they are suited to the habitat. 4. To talk about what the animal eats.

		4. To nurture seeds and bulbs into mature plants identifying the different requirements of different plants.				5. To construct a food chain.
Main theme	**Eureka**	**Globetrotters**	**Tomb raiders**	**Stones n bones**	**Extreme Earth**	**As Mad as a hatter**
Science topic	**Living things and their habitats (Y4)**	**Forces and magnets (Y3)**	**Animals including humans (Y3)**	**States of matter (Y4)**	**Rocks (Y3)**	**Plants (Y3)**
	Animals including humans (Y3)	**Electricity (Y4)**	**Animals including humans (Y4)**	**Sound (Y4)**	**BSW series of lessons (Y4)**	**Light (Y3)**
Y3 & 4 mixed age	1.To identify that animals and plants can be classified in a number of possible ways including vertebrates and invertebrates, flowering and non-flowering plants. 2. To ask yes/no characteristic questions to classify a small number of living things. 3. To name living things in a range of habitats, giving key features that helped identify them.	1.To give examples of forces in everyday life. 2.To give examples of objects moving differently on different surfaces. 3. To name a range of magnets and show how the poles attract and repel. 4. To draw diagrams using arrows to show the attraction and repulsion between the poles of magnets.	1.To name the nutrients found in food. 2. To state that to be healthy we need to eat the right types of food to give us the correct amount of these nutrients. 3. To name some bones that make up the skeleton giving examples that support, help them move or provide protection.	1.To create a concept map, including arrows linking the key vocabulary. 2. To name properties of solids, liquids and gases. 3. To give everyday examples of melting and freezing. 4. To give everyday examples of evaporation and condensation. 5. To describe the water cycle.	1.To name some types of rock and give physical features of each. 2. To explain how a fossil is formed. 3. To explain that soils are made from rocks and also contain living/dead matter. 4. To classify rocks in a range of ways using scientific vocabulary. 5. To test properties of rocks.	1. To explain the function of the parts of a flowering plant. 2. To describe the life cycle of flowering plants, including pollination, seed formation, seed dispersal and germination. 3.To give different methods of pollination and seed dispersal, including examples. 4. To explain observations made during investigations.

	4. To give examples of how an environment may change both naturally and due to human impact. 5. To use classification keys to identify unknown plants and animals. 1.To name the nutrients found in food. 2. To state that to be healthy we need to eat the right types of food to give us the correct amount of these nutrients. 3. To name some bones that make up the skeleton giving examples that support, help them move or provide protection. 4. To describe how muscles and joints help them to move. 5. To classify food groups (high/low nutrients), answer q's about nutrients in food, and use data to look for patterns.	5. To use results to describe how objects move on different surfaces. 6. To use results to make predictions. 7. To use some classification to know some metals are not magnetic. 8. To use test data to rank magnets. 1. To name the components in a circuit. 2. To make an electric circuit. 3. To control a circuit using a switch. 4. To name some metals that are conductors. 5. To name materials that are insulators. 6. To communicate structures of circuits using drawings. 7. To incorporate a switch. 8. To add a circuit with a switch to a DT project and demonstrate how it works.	4. To describe how muscles and joints help them to move. 5. To classify food groups (high/low nutrients), answer q's about nutrients in food, and use data to look for patterns. 6. To give similarities and differences between skeletons. 1.To sequence the main parts of the digestive system. 2. To draw the main parts of the digestive system onto a human outline. 3. To describe what happens in each part of the digestive system. 4. To point to three different types of teeth in their mouth and talk about what each is used for. 5. To demonstrate the journey of food through the body. 6. To make a dental record.	6. To give reasons to justify why something is a solid liquid or gas. 7. To give examples of things that melt/freeze and how their melting points vary from their observations, can give the melting points of some materials. 8. Using their data, can explain what affects how quickly a solid melts. 9. To measure temperatures using a thermometer. 10. To explain why there is condensation on the inside of a hot water cup and on the outside of the icy water cup from their data. 11. To explain how to speed up or slow down evaporation. 12. To present their learning about the water cycle in a range of ways e.g. diagrams, explanation, model.	6. To show understanding of how fossils were formed, 7. To identify plant/animal matter in soil, test water retention of soils.	5. To look at features of seeds to decide on method of dispersal. 1.To describe how we see objects in lights and can describe dark as the absence of light. 2. To know it is dangerous to look at the sun. 3. To define transparent, translucent, and opaque. 4. To describe how shadows are formed. 5. To predict what materials will be more/less visible.

	6. To give similarities and differences between skeletons.	9. To describe how a switch works.	7. To explain teeth in animals and if they are carnivores, herbivores or omnivores.	1. To describe different types of objects producing different sounds and that the sound is produced by vibration in the object. 2. To describe sounds travelling through different mediums such as air, water, metal. 3. To find patterns between pitch and volume and the features of the object producing it. 4. To recognise that sounds get fainter as the distance from the sound source increases. 5. To explain what happens when you strike a drum or pluck a string- use diagrams to show. 6. To demonstrate how to increase/decrease pitch and volume.		
Main theme	**Behind enemy lines**	**What a wonderful world**	**Rotten Romans**	**Vikings and Anglo Saxons**	**Time travellers**	**A better tomorrow**
Science topic	**Animals, including humans (Y5)**	**Living things and their habitats (Y5)**	**Evolution and inheritance (Y6)**	**Properties and changes of materials (Y5)**	**Forces (Y5)**	**Light (Y6)**

	Electricity (Y6)	Living things and their habitats (Y6)	British Science Week series of lessons (Y5)	Animals, including humans (Y6)	Earth and space (Y5)	BSW series of lessons (Y6)
Y5 & 6 mixed age	1.To explain the changes that takes place in boys and girls during puberty. 2. To explain how a baby changes physically as it grows and also what it is able to do. 1.To make circuits to solve particular problems e.g. how to make the door bell louder. 2. To carry out fair tests exploring changes in circuits 3. To make circuits that can be controlled. 4. To understand electricity symbols and draw circuits. 5. To understand how switches work. 6. To understand electrical hazards. 7. To understand how cells/batteries work. 8. To understand voltage.	1.To describe the lifecycles of mammals, birds, amphibians and insects using diagrams. 2. To describe similarities and differences between them. 3. To escribe the life process of reproduction in some plants and animals. 1. To give examples of animals in the five vertebrate groups and some of the invertebrate groups. 2. To give key characteristics of the five vertebrate groups and some invertebrate groups. 3. To give examples of flowering and non-flowering plants. 4. To use classification keys to identify unknown plants and animals.	1.To explain the process of evolution. 2. To give examples of how plants and animals are suited to their environment. 3. To give examples of how an animal or plant has evolved over time e.g. penguin, peppered moth. 4. To give examples of things that lived millions of years ago and the fossil evidence to support this. 5. To identify where offspring are not identical to their parents.	1.To explain everyday uses of material e.g. how bricks, wood, glass are used in buildings. 2. To explain what dissolving is, giving examples. 3. To name equipment used for filtering and sieving. 4. To use knowledge of liquids, gases and solids to suggest how materials can be recovered from solutions or mixtures by evaporation, filtering or sieving. 5. To describe simple reversible and non-reversible changes to materials, giving examples. 6. To create chart/table grouping materials using properties. 7. To suggest appropriate material for purpose. 8. To explain results from investigations involving	1. To demonstrate the effect of gravity acting on an unsupported object. 2. To give examples of friction, water resistance and air resistance. 3. To give examples of when it is beneficial to have high or low friction, water resistance, and air resistance. 4. To demonstrate how pulleys, levers and gears work. 1.To show using diagrams the movement of the Earth and moon. 2. To explain the rotation of the Earth and how this causes night and day. 3. To explain evidence gathered about the position of shadows in	1.To describe with diagrams how light travels in straight lines, either from sources or reflected from other objects into our eyes. 2. To describe with diagrams how light travels in straight lines past translucent or opaque objects to form a shadow of the same shape.

		5. To create classification keys. 6. To give a number of characteristics that explain why an animal belongs to a particular group.		dissolving and non-reversible change. 1.To draw a diagram of the circulatory system, label the parts and annotate it to show what the parts do. 2. To explain the positive and negative effects on diet, exercise, drugs and lifestyle on the body.	terms of movement of the Earth. 4. To explain how a sundial works. 5. To explain why we have time zones.	