Finstall First School Overview of Science Curriculum – EYFS

Understanding the world

Involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.

Term	Areas covered and opportunities provided for the children
Autumn 1 Topic: All About Me **Key vocabulary:** autumn *(leaves changing colour, dying, cold, weather, season),* hibernation, Hibernate, Same, different, now, then	**The Natural World -** *Learn about what happens to plants and animals in autumn. Lok at non-fiction texts/ppts *Autumn walk around the school and outside the school grounds. *Learn about hibernation – which animals hibernate and why
Autumn 2 Topic: Celebrations **Key vocabulary:** autumn *(leaves changing colour, dying, cold, weather, season),* Same, different, now, then, **winter, cold, sniw, freezing, bare, dying, growth, Arctic, Antarctic, Bromsgrove, world, environment, polar bear, penguin, orca, seal, arctic, fox, arctic hare, ice, melt, freeze,**	**The Natural world – Forest School** Explore the natural world around them * Make observations of signs of autumn / winter and notice how the FS environment is changing throughout the seasons. *Know what happens to plants, flowers and animals in the seasons of autumn and winter. *Identify cold places in the world (Arctic/Antarctic) and how it relates to where we live in Bromsgrove. Look at maps of the world/globe to identify Arctic/Antarctic and where we live in Bromsgrove. Look at similarities and differences in animals that live there / style of houses and the weather. Understand what life is like living in these colder places/environments. *Read stories about animals living in cold places. *Understand the changing state of water – turning to ice. Experiment with making ice / melting ice / ice experiments/ painting with ice

Spring 1 Topic: Pirates **Key vocabulary:** Autumn, winter, autumn *(leaves changing colour, dying, cold, weather, season),* Same, different, now, then, winter, cold, snow, freezing, bare, dying, growth, environment, **float, sink, material, waterproof, strong, weak,**	**The Natural World -Forest School** Understand effect of changing seasons and compare environments * Make observations of signs of winter/ spring and notice how the FS environment is changing throughout the seasons. *Know what happens to plants, flowers and animals in the seasons of winter / spring. *Explore objects that float and sink – sail pirate ships on the pond *Explore materials that are waterproof or not waterproof by competing simple investigations. Use knowledge of floating/sinking /waterproofing to design and make a pirate ship.
Spring 2 Topic: All About Spring **Key vocabulary:** Autumn, winter, Same, different, now, then, **Spring, growth, flowers, plants, seed, water, soil, sun, warmth, frogspawn, frog, tadpole, life cycle, buds, leaves, changes,**	**The Natural World – Forest School** *Understand effect of changing seasons and compare environments * Make observations of signs of spring and notice how the FS environment is changing throughout the season winter to spring. *Know what happens to plants, flowers and animals in the seasons of spring. *Look at frogspawn in the pond, take some back to the classroom to observe. *Go on a spring hunt – look at buds on trees, blossom, nests etc. *Plant seeds, understand what plants need to grow well – sun, warmth, water, soil. *Look at the life cycle of a frog and the changes it goes throug
Summer 1 Topic: Space **Key vocabulary:** Autumn, winter, Spring, growth, flowers, plants, seed, water, soil, sun, warmth, frogspawn, frog, tadpole, life cycle, buds, leaves, changes, **summer, hot, warmer, vegetables, fruits, space, solar system, names of planets, gravity, Neil Armstrong, astronaut, UK,**	**The Natural World – Forest School** *Understand effect of changing seasons and compare environments * Make observations of signs of spring and notice how the FS environment is changing throughout the season spring to summer. *Plant seeds (vegetables and flowers) understand what plants need to grow well – sun, warmth, water, soil. *Play team games *Know how to be safe around fires. Know what a fire needs to burn well. *Can describe how space is different to Earth/Bromsgrove *Talk about how each planet is different to Earth

Summer 2 Topic: Minibeasts **Key vocabulary:** Autumn, winter, Spring, growth, seed, flowers, plants, water, soil, sun, warmth, frogspawn, frog, tadpole, life cycle, buds, leaves, changes, summer, hot, warmer, **minibeasts, some names of minibeasts, habitat, change**	**The Natural World -** Recognise some environments are different to the one in which they live. *Read non-fiction about minibeasts. *Learn rhymes/ songs about minibeasts. ***What do mini beasts need that is different/ the same as human? Look in different habitats for minibeasts. *Make minibeast hotels using natural materials. *Make drawings of minibeasts found in the environment. *Use natural materials to make a minibeast. *Can talk about how to be safe around fires. Know what a fire needs to burn well. *Observe the life cycle of a butterfly. Caterpillars in class, watch how they grow and change. Talk about their own life cycle and how we grow and change.

Finstall First School Overview of Science Curriculum – KS1

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	<u>Animals Including Humans</u> To know different parts of a human body. To discuss what different parts of the body do. To learn about the 5 senses. To know the different parts of an animal. To be able to compare different animals. To sort animals into the following groups – amphibians, reptiles, birds, fish and mammals. To know and name some common invertebrates.	<u>Seasonal Changes</u> To know the seasons and the months of the year. To know how the environment and weather changes during Autumn and Winter. To know about the hours of sunlight, darkness and how that changes during Autumn and Winter.	<u>Seasonal Changes</u> To know what the weather is like in Winter. To record the weather over a weekly period in Winter. To measure the weather in a variety of different ways. To find out about animals that migrate and hibernate. <u>Materials</u> Distinguish between an object and the material from which it is made To identify the name of different materials. To describe the simple physical properties of different materials.	<u>Seasonal Changes</u> To identify and record signs of Spring. To make comparisons between the seasons. <u>Materials</u> Compare and group together a variety of everyday materials on the basis of their simple physical properties To predict the most suitable material for an umbrella.	<u>Plants</u> To name and identify common garden plants and trees. To know the name a variety of deciduous and evergreen trees. To identify and name common wild flowers. To identify and describe the basic structure of a variety of common plants. To compare and group plants according to their root, leaves and flower. To know which part of the plant the fruit or vegetable grows.	<u>Animals Including Humans</u> To sort animals by what they eat. Revise the following vocabulary- amphibians, reptiles, birds, fish and mammals, herbivores, carnivores and omnivores and be able to sort animals into the correct groups. <u>Seasonal Changes</u> To know what the weather is like in Summer and about the hours of sunlight. To think about the clothes that we need to wear during Summer time. To think about the activities that we do during Summer and what the weather is like.
Year 2	<u>Materials and their Properties</u> Identify criteria for sorting, including natural and manmade. Suggest uses for the materials from which objects are made To understand that materials and their properties can be changed and the ways in which this can happen.		<u>Animals Including Humans</u> Describe the basic needs of animals, including humans, for survival. Understand that animals, including humans, have offspring that grow into adults.	<u>Living Things and their habitats</u> Explore and compare the differences between things that are living, dead, and things that have never been alive. Identify that most	<u>Plants</u> Plants in the local school environment and a trip to Bishops Wood to explore further. Parts of the plant recap and introduction to parts of a flower. Observe and describe how seeds and bulbs grow into mature plants with seeds/berries/fruits. Describe how plants need water, light and a suitable	

		To understand the importance of exercise. To understand the importance of a healthy diet. To understand the importance of hygiene.	living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other Identify and name a variety of plants and animals in their habitats, including micro-habitats Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food	temperature to grow and stay healthy, and describe the impact of changing these To explain the life cycle of a plant. To explore the interdependence of plants and animals on each other – link with Spring 2 work.

Throughout KS1

Working Scientifically:

- ask simple questions and recognise that they can be answered in different ways
- observe closely, using simple equipment
- perform simple tests
- identify and classify
- use their observations and ideas to suggest answers to questions
- gather and record data to help in answering questions

Finstall First School Overview of Science Curriculum – KS2

	Autumn	Spring	Summer
Year 3	<u>Forces and Magnets.</u> Exploring and observing how magnets work. Uses of magnets. Identify magnetic and non-magnetic. Knowing how forces make objects move. <u>Animals Including Humans - Healthy Eating and Skeletons</u> Animal nutrition and staying healthy. Human nutrition and staying healthy. Food Groups. To identify that humans and some animals have skeletons and muscles for support, protection and movement. To know the different types of skeletons. To identify the different joints and how these work.	<u>Rocks & Soils</u> Compare and group different types of rock. Look at how fossils are made. Recognise that soils are made from rocks. <u>Light and Shadows (1)</u> Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is reflected from surfaces.	<u>Light and Shadows (2)</u> To recognise that shadows are formed when the light from a light source is blocked by a solid object. To find patterns in the way that the size of shadows change. <u>Helping plants to grow well</u> To identify and describe the functions of different parts of flowering plants: roots, stem/ trunk, leaves and flowers. To investigate the way in which water is transported within plants. To explore the requirements of plants for life and growth and how they vary from plant to plant. To explore the part that flowers play in the life cycle of flowering plants.
Year 4	<u>Solids, Liquids and Gases</u> Classifying materials by their properties according to solids, liquids and gases. Changing state- heating and cooling (melting), measuring temperature using Celsius (°c) using a thermometer. Evaporation and condensation in the Water Cycle using scientific language, drawings and labelled <u>Electricity</u> Identify what electricity is and the dangers of electricity and how to keep safe. How to construct a complete circuit Know what is meant by an open and closed circuit. Recognise electrical symbols within a circuit.	<u>Sound</u> Recognise how sound is made. Listening to Sounds around us. The ear- its construction and function Shape of the ear/ for purpose Explain how sound travels. Describe the pitch of the sound and how it changes. <u>Animals Including Humans - Digestive System</u> Identify the different types of teeth in humans and their simple functions Tooth Decay. Name the parts of the digestive system. Describe the simple functions of the basic parts of the digestive system in humans.	<u>Habitats (Summer Term)</u> To identify different types of habitat. To group organisms in a variety of ways (Animals and Plants) Conditions in a local habitat and how they might change for the worse or better. Explore human impact on the environment. Use classification keys to group, identify and name living things. Vertebrates/ Invertebrates

	diagrams.	How to wire in a range of components – switches, buzzers bulbs. Identify materials that are conductors and others that are not. How to carry out an investigation safely and with good organisation as a group.	Investigate ways to absorb sound and how the volume of sound varies according to vibrations and distance.	Investigation into how the stomach works. Construct and interpret food chains.	

Throughout Lower Key Stage 2

Working Scientifically:

- ask relevant questions and using different types of scientific enquiries to answer them
- set up simple practical enquiries, comparative and fair tests
- make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gather, record, classify and present data in a variety of ways to help in answering questions
- record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identify differences, similarities or changes related to simple scientific ideas and processes
- use straightforward scientific evidence to answer questions or to support their findings.