Curriculum Map: **Science** **Year 2**

Below outlines the learning focus for each term

Key stage 1 programme of study – years 1 and 2

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.

Plants

- observe and describe how seeds and bulbs grow 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.

Uses of Everyday Materials

- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Living things and their habitats

- explore and compare the differences between things that are living, dead, and things that have never been alive
- identify that most 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 microhabitats
- 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.

Term	Learning Focus		Cross Curricular Links
	Knowledge	**Skills**	
Autumn 1	**Use of everyday Materials** • I know a range of everyday materials • I know the materials common objects are made from • I know that the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. • I know that different materials are used for the same thing • I know the properties of materials makes them suitable or unsuitable for particular purposes • I know that some materials are used for more than one thing • I know about people who have developed useful new materials (John Dunlop, Charles Macintosh or John McAdam)	• I can identify and classify a range of everyday materials according to what they are made from • I can gather and record information, classifying the uses of different materials, in a variety of ways • I can perform simple tests to determine how different materials react to different stresses • I can use observations and my ideas to suggest answers to questions about the properties of materials (waterproof) • I can identify and compare the suitability of a variety of everyday materials • I can observe closely, using simple equipment.	**Math – handling data**
Autumn 2	**Living things and their habitats** • I know that most living things live in habitats to which they are suited. • I know the names of a variety of plants and animals and their habitats • I know and can explain microhabitats • I know some similarities and differences between animals found in familiar habitats and animals found in less familiar habitats • I know that different habitats provide for the basic needs of different kinds of animals and plants • I know that habitats, animals and plants depend on each other • I know what a food chain is • I know how to use a simple food chain to identify and name different sources of food • I know how animals obtain their food from plants and other animals	• I can sort and classify things according to whether they are living, dead or were never alive • I can gather and record data to help in answering questions • I can gather and record information in a variety of ways • I can ask simple questions about life processes & habitats and recognise that they can be answered in different ways • I can observe closely, using a magnifying glass • I can construct a simple food chain	
Spring Term	**Animals including Humans** • I know that animals, including humans, have offspring which grow into adults • I know the processes of reproduction and growth in animals (birds, mammals) • I know that humans grow as they get older • I know what the basic needs of animals, including humans, are for survival (water, food and air) • I know the importance for humans eating the right amounts of	• I can ask simple questions about what things animals need for survival and what humans need to stay healthy and recognise that they can be answered in different ways • I can use observations and my ideas , through video or first-hand experiences, to suggest how different animals, including humans, grow	**Writing - letter persuasive language** **PE – healthy living**

	different types of food • I know why exercise is important to keep our bodies healthy		
Summer 1	**Growing Plants** • I know that seeds grow into mature plants. • I know that bulbs grow into mature plants • I know the various ways seeds are dispersed • I know and can explain what 'germination' is • I know that plants need water, light and a suitable temperature to grow and stay healthy	• I can observe closely, using simple equipment • I can perform simple tests • I can set up a comparative test to show that plants need light and water to stay healthy • I can plan and carry out an investigation into the conditions that affect germination • I can gather and record data to help in answering questions • I can observe closely using simple equipment by measuring and recording the growth of seeds and bulbs.	**Math – handling data**
Summer 2	**Super Scientists** • I know what gravity is and its effect on everyday objects • I know who Issac Newton is and that he discovered gravity • I know that some materials block sound and others don't • I know who Alexander Graham Bell is and that he invented the telephone • I know what the senses and our reflexes are • I know that science includes medical discoveries / practices • I know germs transfer through touch • I know scientists discovered that germs can make us unwell • I know that electricity lights a bulb • I know who Thomas Edison is and that he invented the lightbulb	• I can perform simple tests • I can make simple predictions • I can ask simple questions and recognise that they can be answered in different ways	**History – significant people from the past**

Intent

At Camrose we recognise the importance of Science in every aspect of daily life and want our children to be naturally curious about the world around them. Our curriculum has been developed by staff to ensure full coverage of the National Curriculum; key skills are also mapped for each year group and are progressive throughout the school.

Throughout our school children are encouraged to develop and use a range of working scientifically skills including questioning, researching and observing for ourselves. The curriculum is designed to ensure that children are able to acquire key scientific knowledge through practical experiences; using equipment, conducting experiments, building arguments and explaining concepts confidently. Scientific language is to be taught and built upon as topics are revisited in different year groups and across key stages. We intend to provide all children regardless of ethnic origin, gender, class, aptitude or disability with a broad and balanced science curriculum.

Implementation

Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards in

science. Our whole school approach to the teaching and learning of science involves the following:

- Through our planning, we involve problem solving opportunities that allow children to find out for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom. Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge. Teachers use precise questioning in class to test conceptual knowledge and skills, and assess children regularly to identify those children with gaps in learning, so that all children keep up.
- We build upon the learning and skill development of the previous years. As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.
- Working Scientifically skills are embedded into lessons to ensure these skills are being developed throughout the children's school career and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in-keeping with the topics.
- Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning and workshops with experts.

Impact

We ensure our children not only acquire the appropriate age related knowledge linked to the science curriculum, but also skills which equip them to progress from their starting points, and within their everyday lives.

All children will have:

- A wider variety of skills linked to scientific knowledge and understanding, and scientific enquiry/investigative skills.
- A richer vocabulary which will enable to articulate their understanding of taught concepts.
- High aspirations, which will see them through to further study, work and a successful adult life.