How is the science curriculum organised?

The science curriculum is organised around Biology, Physics and Chemistry with working scientifically embedded across all of the unit of work. Working scientifically is ever present within the curriculum design ensuring the children have the disciplinary knowledge required to think and work as a scientist.

How are key strands of learning used?

The key strands within the science curriculum add a further layer of knowledge and understanding to the children's learning. Carefully selected strands provide the children with cumulative knowledge over time around key aspects. This cumulative knowledge will allow the children to understand wider themes to a greater level, being able to reason with thoughts and language. This allows the children to engage in topics of conversation and feel confident with their own knowledge and understanding of these areas. It is through these key strands of learning that the children will be able to recognise and link to other subjects.

Science						
	Autumn Term 1	**Autumn Term 2**	**Spring Term 1**	**Spring Term 2**	**Summer Term 1**	**Summer Term 2**
KS1 Cycle A	Living Things and their Habitats		Materials (y1)	Material (y2)	Plants (y1)	Plants (y2)
KS1 Cycle B	Animals, including **Humans** (y1)	Animals, including **Humans** (y2)	**Animals**, including Humans (y1)	**Animals**, including Humans (y2)	Seasonal Change	
LKS2 Cycle A	Living Things and their Habitats	States of Matter	Animals, including Humans (y3)	Animals, including Humans (y4)	Electricity	
LKS2 Cycle B	Rocks	Light	Forces and Magnets	Sound	Plants	

<table>
<tr><td>KS1.CA.T1</td><td colspan="3">Area of study: Animals Including Humans

Unit aims / outcome:
(Year 1-Humans)
• Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.
(Year 2-Humans)
• Notice that humans have offspring that grow into adults (focus on human life cycle progression)
• Describe the importance for humans of exercise, eating the right amounts of different types of food, water, air and hygiene.</td></tr>
<tr><td colspan="4">Geographical concepts to organise knowledge:
Choose the one it links too:
Biology- the study of living organisms
Working Scientifically- disciplinary knowledge required to think and work as a scientist.</td></tr>
<tr><td colspan="4">Key strands of learning:</td></tr>
<tr><td colspan="2">Hierarchical Strands: (see progression)
e.g. plants
(Build year on year)</td><td colspan="2">Cumulative Strands:
e.g. environment
(key features throughout NC)</td></tr>
<tr><td rowspan="2">Learning in Reception:

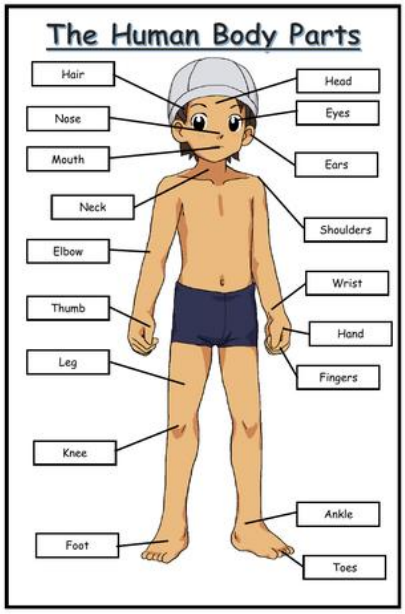
Understand some important processes and changes in the natural world around them, including the seasons and changes in their personal environment.

Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.

Explore the natural world around them, making observations and drawing pictures of animals and plants.</td><td>Tier 2</td><td colspan="2">Tier 3</td></tr>
<tr><td><u>New</u>
Senses
Smell
Touch
Taste
Hear
See
Hygiene
exercise

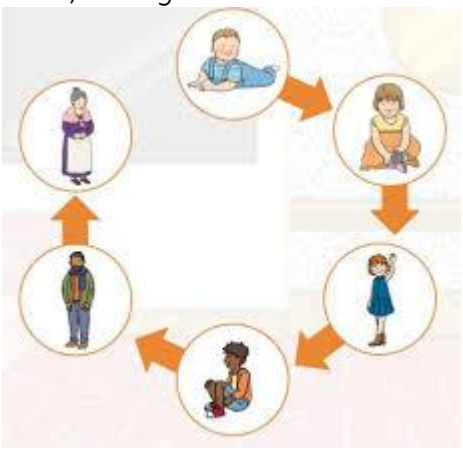
<u>Review –</u>
Head
Neck
elbows
Legs
Knees
face
Arms
Body
Feet
Hands
Nose
Eyes
Mouth
Ears
Teeth
hair</td><td colspan="2"><u>New</u>
Environment
Carbohydrates
Dairy
Protein
Fats
Fruits and vegetables
Balanced diet

<u>Review</u>
Importance
survival</td></tr>
</table>

NC objective:	Vocabulary and crucial knowledge:
Year 1-Humans) • Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (Year 2-Humans) • Notice that humans have offspring that grow into adults (focus on human life cycle progression) • Describe the importance for humans of exercise, eating the right amounts of different types of food, water, air and hygiene.	<u>Context of study:</u> This builds on knowledge the children will have learnt about animal offspring and what animals need to survive in (KS1.CB.T1). This is also a great continuation as the children will understand humans are mammals and why this links together (KS1.CB.T1). This learning is built on in (KS2.CA.T2) when the children are looking at the skeleton and muscles of the body as well as food nutrition and the importance of fibre, protein, vitamins, minerals, water and carbohydrates in their diet. This learning around the 5 main food groups with provide a good base for the children to connect their new learning to during this topic. <u>Crucial Knowledge:</u> <u>Body Parts</u> To know and identify the basic parts of a human body. To know where the basic body parts are on a diagram of the human body, for example head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth.  To know that humans have 5 senses which are taste, see, touch, smell and hear. To understand that the 5 senses allow humans to connect to the environment around them, through learning and engaging with other people. To know the mouth helps us with the sense taste. To know that our eyes help us to see. To know that our ears help us to hear. To know our nose helps us to smell. To know that out hands help us to touch.

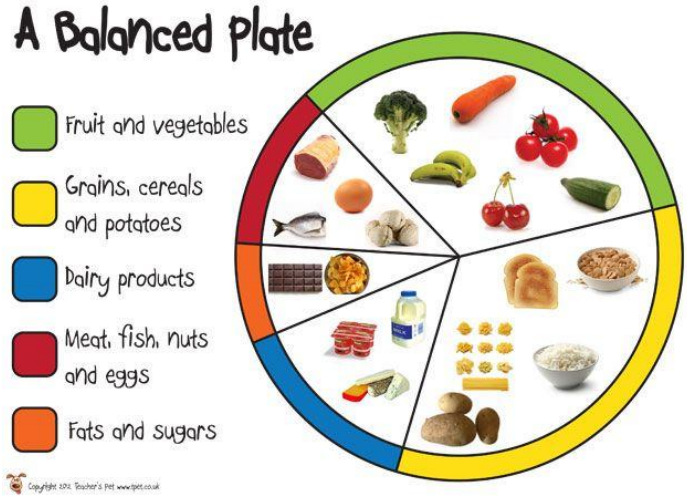
Offspring

To know that humans have the offspring babies.
To understand that humans need food, water and air to survive and grow into adults.
To understand the life cycle of a human: baby, toddler, child, teenager, adult, elderly.



Humans

To understand that humans need exercise to stay healthy.
To know exercise is any physical activity that makes your body work to improve your physical and mental health.
To understand why it is important to keep clean and wash regularly.
To know brushing your teeth, washing your hands correctly, wearing clean clothes, having a bath or shower all full under the topic of hygiene.
To understand that if you do not do these things, your teeth could rot, your skin could become damaged, your body would start to smell all of which is not keeping you healthy.
To understand why it is important to eat the right amounts of food so that we can keep our bodies healthy.



To know strawberries, bananas, apples are all fruits and vegetables.
To know fish, meat (ham, bacon, chicken) and eggs are protein.
To know that potatoes, chips, bread and cereal are carbohydrates.
To know milk, cheese, butter and yoghurt are diary.

	To know chocolate, crisps, sweets and fizzy drinks are fats and sugars. To understand why should eat a balance of all the 5 food groups to stay healthy. <u>Working Scientifically:</u> <u>Observe</u> To observe how humans, change as they grow. To observe what characteristics, they get from their adult parents. How will I be a scientist? • Ask questions: about the life cycle of a human, and how babies' dependency on adults changes as they grow. • Observe: how babies change when they grow. • Record: the life cycle of a human, evidencing all the stages they go through on the growth journey. <u>Identifying, grouping and classifying</u> To group, identify and classify foods into the 5 main food groups. To group, identify and classify foods based on what they contribute to a balanced diet. How will I be a scientist? • Recording: which foods belong in which food group. • Interpreting the balance food plate and creating their own, adding foods they think would be appropriate for a healthy meal. • Evaluating: why you could not have all of the same foods every day and explain what impact this would have on the body.