



Science at Beckford



September 2018

As of September 2014, the new National Curriculum becomes statutory. Please find below the aims of Beckford together with the curriculum for each year group.

We believe that Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

- THIS CURRICULUM MAP IS TO BE USED IN CONJUNCTION WITH THE A.S.E. PLANNING MATRICES AND OGDEN TRUST RESOURCES

Aim to ensure all pupils:

- develop **scientific knowledge and conceptual understanding** through the specific disciplines of biology, chemistry and physics
- develop understanding of the **nature, processes and methods of science** through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the **uses and implications** of science, today and for the future.

YEAR 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic Title	GROWING UP/GOING TO SCHOOL IN KENYA	TOYS AND LEGO	THE GREAT FIRE OF LONDON	THE GREAT FIRE OF LONDON	BY THE SEA	BY THE SEA
Science Unit	Animals including humans	Uses of Everyday Materials	Plants	Plants	Living things and their habitats	living things and their habitats
Knowledge	<p>Pupils should be taught to: Notice that animals, including humans, have offspring which grow into adults</p> <p>Find out about and describe the basic needs of animals including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p>	<p>Pupils should be taught to:</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Pupils should be taught to:</p> <p>Observe and describe how seeds and bulbs grow into mature plants</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>Pupils should be taught to:</p> <p>Identify and name a variety of plants and animals in their habitats, including micro-habitats</p> <p>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.</p>	<p>Pupils should be taught to:</p> <p>Explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>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.</p>	<p>Pupils should be taught to:</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. Explore and compare the</p>

					<p>Identify and name a variety of plants and animals in their habitats, including micro-habitats</p> <p>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.</p>	<p>differences between things that are living, dead, and things that have never been alive</p> <p>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.</p>
All living things and their habitats	I can explain what is living, what is dead and what has never been alive. I can sort and group things I find in a habitat according to whether it is living dead or never been alive.	I know that a habitat is a suitable home to plants and animals. Over the course of the year I can observe and record changes in a habitat.	I can explain how animals get their food from plants and other animals. I can organise this information into a simple food chain starting with plants and naming the different foods.	I know that a micro habitat is a very small habitat that is part of a larger habitat, such as woodlice living under a log.	I can describe different habitats and explain the needs of the plants and animals that live there.	I am beginning to recognise the seven life processes of living things. It is these but the correct scientific names will need explaining. (Movement, Respiration or exchange of gasses, Sensitivity, Nutrition or eating or making food, Excretion, Reproduction and

						Growth.)
All living things and their habitats	I can explain what is living, what is dead and what has never been alive. I can sort and group things I find in a habitat according to whether it is living dead or never been alive.	I know that a habitat is a suitable home to plants and animals. Over the course of the year I can observe and record changes in a habitat.	I can explain how animals get their food from plants and other animals. I can organise this information into a simple food chain starting with plants and naming the different foods.	I know that a micro habitat is a very small habitat that is part of a larger habitat, such as woodlice living under a log.	I can describe different habitats and explain the needs of the plants and animals that live there.	I am beginning to recognise the seven life processes of living things. It is these but the correct scientific names will need explaining. (Movement, Respiration or exchange of gasses, Sensitivity, Nutrition or eating or making food, Excretion, Reproduction and Growth.)
Animals including Humans	I can observe and record how young animals change as they get older. Examples are egg, chick chicken, tadpole, frog	I know what foods I need to eat to stay healthy and grow well.	I can explain why it is important to keep clean, exercise and eat well to stay healthy.	I can find out what other animals need to have to stay alive and healthy. (contact with local vets RSPCA,)		
Plants	I know that plants produce seeds and that seeds grow into new plants. I know that	I can describe what I see when a plant grows and record my	I can test to find out what seeds and bulbs need to have to grow.	I can complete a comparative test over time to show what a plant	I can observe and record the changes in plants in my local	

	some plants grow from bulbs.	observations in a table.		needs to grow well.	environment over a year.	
Uses of everyday materials	I know that because of the properties of some materials, they can be used for more than one thing.	I know that different materials may have similar properties so some items can be made out of different materials. E.g. chairs, spoons,	I know that the properties of some materials make them unsuitable to use in some situations.	I can predict, observe and describe what happens to some materials when they are heated, looking at changes.	I know the dangers of hot water or flames.	I can find out about inventors who have made useful new materials.
Skills	<p>Asking questions. Children should ask questions and recognise that they can be answered in different ways.</p> <p>Scientific enquiries. They should be able to do the following types of enquiry:</p> <ul style="list-style-type: none"> • Observations. They should observe closely, using simple equipment. • Simple tests • Identifying and classifying • Secondary sources. They should use simple secondary sources to find answers. <p>Recording. They should gather and record data to suggest answers to their questions. With help, they should record in a range of ways and begin to use scientific language.</p> <p>Analysing observations. They should use their observations and ideas to suggest answers to questions. They should notice patterns and relationships in their observations. They should talk about what they have found out and how they found out.</p>					
Working Scientifically Ideas and evidence	I can ask questions and recognise that they can be answered in different ways.	I can ask relevant questions and using different types of scientific enquiries to answer them.				
W S Planning Experimental	I can identify and classify. I can perform tests using simple	I can set up practical enquiries, comparative and	I can take accurate measurements			

Work	equipment, observing closely.	fair tests making accurate and careful observations.	using standard unit.			
W S Obtaining and Presenting Evidence	I can gather and record data to help in answering questions.	I can gather, record, classify and present data in a variety of ways to help in answering questions.	I can record findings using scientific language, drawings, labelled diagrams, keys, bar charts, and tables			
Working Scientifically Ideas and evidence	I can ask questions and recognising that they can be answered in different ways.	I can ask relevant questions and using different types of scientific enquiries to answer them.				