

Science Curriculum Overview: Nursery to Year6

Italics = Investigation/Experiment

EYFS	Nursery	Reception	KS1+2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Topics – Big Questions, Activities, Statements	Who am I? Talk about what they see, using a wide vocabulary.	What is a family? Learn new vocabulary. Use new vocab throughout the day. And in different contexts.	Topic 1 – Big Question	Do all animals enjoy winter?	Why is health and hygiene so crucial for humans?	In what ways are opposing forces useful?	How can living things be grouped?	What 'on earth' are forces?	How are living things classified by biologists?
	Explore how things work. Understand the key features of the life cycles of a plant and an animal. Use a wider range of vocabulary. Understand 'why' questions. What makes a good or bad character? Talk about what they see, using a wide vocabulary. Explore how things work. Understand the key features of the life cycles of a plant and an animal. Use a wider range of vocabulary. Understand 'why' questions. Why can't I live under the sea? Use all of their senses in hands-on exploration of natural materials.	Connect ideas and actions to another using a range of connectives. Engage in non-fiction books. Listen to and talk about selected non-fiction to develop a deep familiarity with new knowledge and vocabulary. How do we celebrate? Explore the natural world around them. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. Learn new vocabulary. Use new vocab throughout the day. And in different contexts. Connect ideas and actions to another	Topic 1 – Composite Components	Lesson 1 – What are the four seasons? Lesson 2 – Why do we have different seasons? Lesson 3 – Why is night time longer in winter? Lesson 4 – What do different animals do to survive winter weather? Lesson 5 – Do all animals around the world adapt to winter in the same way? Lesson 6 – How is climate change affecting how animals live?	Lesson 1 - Why do humans need exercise to stay healthy? <i>Lesson 2 - What effect does exercise have on our bodies?</i> Lesson 3 - What are the different food groups? Lesson 4 - Why is it important to eat a range of food types? Lesson 5 – Which foods would you include in your own healthy lunchbox? Lesson 6 – How does good hygiene help us to stay healthy? <i>Lesson 7 – How can we prevent germs from spreading?</i>	Lesson 1 – What is the difference between a pushing and a pulling force? Lesson 2 – What effect does friction have? Lesson 3 – How do we sort magnetic and non-magnetic materials? Lesson 4 – How can I investigate the strength of different magnets? Lesson 5 – When do magnets attract and when do they repel? Lesson 6 – What game could I design using magnets?	Lesson 1 – Mrs Gren... Who is she? Lesson 2 – How can we group living things depending on their shared characteristics? Lesson 3 – How can we group organisms in different ways? Lesson 4 – How can organisms be classified? Lesson 5 – How can I create a classification key? Lesson 6 – What is the key to survival? Lesson 7 – How does change in the environment impact upon living things?	Lesson 1 – What are the effects of opposing forces in everyday life? Lesson 2 – What is the relationship between mass and weight? Lesson 3 – Which factors affect the speed at which objects fall? Lesson 4 – How have scientists influenced the way in which we understand forces? Lesson 5 – Why do we need to control certain variables? Lesson 6 – Could a mouse lift an elephant?	Lesson 1 – What is 'classification' and why is it important? Lesson 2 – How did scientists arrive at a standard system of classification? Lesson 3 – Is classification always straightforward? Lesson 4 – What are micro-organisms, are they all harmful and how are they classified? <i>Lesson 5 – Which conditions can hinder mould growth?</i> Lesson 6 – Why am I classified in the same domain as earthworms, trees, mushrooms and algae?!

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	Nursery	Year 0	KS1+2						
			KS1+2		Year 1	Year 2	Year 3	Year 4	Year 5
			Topic 2 – Big Question		What do animals and humans have in common?	How do different species ensure their survival?	What is light?	What happens to our bodies when we eat or drink?	Oops! Can I get that back? (Reversible and irreversible changes)
	Year 1	Year 2	Topic 2 – Composite Components						
			Topic 2 – Composite Components		Lesson 1 – What are the senses? Lesson 2 – Why do animals and humans have senses? Lesson 3 – Which animals have four legs? Lesson 4 – What do different animals eat? Lesson 5 – What do birds and mammals have in common? Lesson 6 – Are humans animals?	Lesson 1 – What are the basic needs of all animals? Lesson 2 – Which offspring do and do not look like their parents when they are born? Lesson 3 – How do the lifecycles of different mammals compare? Lesson 4 – How do mammals’ life cycles compare to other animal types? Lesson 5 – Why do animals have offspring?	Lesson 1 – What light sources do we see and use every day and how do they help us? Lesson 2 – How will the absence of light affect my predictions? Lesson 3 – Which materials are the most reflective? Lesson 4 – How does a mirror distort an image? Lesson 5 – How is the sun’s light harmful? Lesson 6 – Which materials make the best shadows? Lesson 7 – When do shadows change size?	Lesson 1 – What are the main organs of the digestive system? Lesson 2 – How does the human digestive system work? Lesson 3 – How can I identify the different types of teeth in the human body and their functions? Lesson 4 – What is the structure of a tooth? Lesson 5 – Which drinks will cause more decay to our teeth? Lesson 6 – What happened in our tooth decay investigation? Lesson 7 – What is a food chain?	Lesson 1 – What are common tests for properties of materials? Lesson 2 – What are the everyday uses of conductors and insulators? Lesson 3 – Which materials are soluble in water? Lesson 4 – How can I separate a range of mixtures back into their original components? Lesson 5 – How can we tell if a change is reversible or irreversible?
			Topic 2 – Composite Components		Lesson 1 – What is meant by ‘inheritance’ and how does it explain why offspring look like their parents? Lesson 2 – What is ‘adaptation’ and what are some adaptive traits in familiar species? Lesson 3 – How do we know about organisms that used to exist on earth but are now extinct? Lesson 4 – How did the theory of evolution, well, evolve? Lesson 5 – How do fossil discoveries support the theory of evolution? Lesson 6 – How is artificial selection different from natural selection? Lesson 7 – What do I think about the theory of evolution?				

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	similar and /or different properties. Talk about what they see, using a wide vocabulary. Explore how things work. Plant seeds and care for growing plants. Understand the key features of the life cycles of a plant and an animal. Explore and talk about the differences between materials and changes they notice. Use a wider range of vocabulary. Understand 'why' questions. How are baby animals born? Talk about what they see, using a wide vocabulary. Explore how things work. Understand the key features of the life cycles of a plant and an animal.	Use new vocab throughout the day. And in different contexts. Connect ideas and actions to another using a range of connectives. Engage in non-fiction books. Listen to and talk about selected non-fiction to develop a deep familiarity with new knowledge and vocabulary. Who helps me? Explore the natural world around them. Learn new vocabulary. Use new vocab throughout the day. And in different contexts. Connect ideas and actions to another using a range of connectives. Engage in non-fiction books. Listen to and talk about selected non-fiction to develop a deep familiarity with new knowledge and vocabulary.	KS1+2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			Topic 3 – Big Question	Are all skeletons the same?	Does material choice matter?	What makes our bodies healthy?	Why are we so reliant on electricity?	How do we know what is 'out of this world'?	What are the circulatory and digestive systems and how can we keep them healthy?
			Topic 3 – Composite Components	Lesson 1 – What is an animal? Lesson 2 – What is a skeleton's job? Lesson 3 – Why is my skeleton important? Lesson 4 – How does a doctor see bones? Lesson 5 – What body part links to your senses?	Lesson 1 - What materials can we find in our local environment? Lesson 2 – What does suitability of materials mean? Lesson 3 – How do the properties of different materials vary and affect their suitability? Lesson 4 – Can all materials change their shape and is this change reversible? Lesson 5 – Which materials are the most suitable for an umbrella? Lesson 6 – Which materials are the most suitable for curtains? Lesson 7 – Which materials would keep a fragile object the safest during transit? Lesson 8 – Why is using sustainable materials important?	Lesson 1 – What groups can I sort food into? Lesson 2 – What types of nutrients are in my meal? Lesson 3 – How do food labels help us to understand nutrient levels? Lesson 4 – What are some similarities and differences in animal skeletons? Lesson 5 – In what way does the human skeleton support movement? Lesson 6 – How do muscles and bones work together? Lesson 7 – How can I test the effect the length of my femur has on my ability to jump?	Lesson 1 – Which machines need electricity to work? Lesson 2 – How and why is electricity dangerous? Lesson 3 – How does a circuit work? Lesson 4 – How does a circuit work and how can it be fixed? Lesson 5 – What are the electrical components and their symbols? Lesson 6 – Which objects are conductors, and which are insulators?	Lesson 1 – What do I already know about space? Lesson 2 – What is in our solar system? Lesson 3 – Why don't we all float off into space? Lesson 4 – How can a scatter graph help us to identify causal relationships in data? Lesson 5 – What evidence is there to support the view that the Earth is spherical? Lesson 6 – How has our understanding of the solar system changed throughout history?	Lesson 1 – What is the circulatory system and which organs are in it? Lesson 2 – How are nutrients transported around the body? Lesson 3 – Understanding digestion. Why is it that what comes out looks so different from what goes in?! Lesson 4 – What happens to the water we drink? Lesson 5 – How can I tell if my heart is healthy? Lesson 6 – How can I make healthy eating choices? Lesson 7 – How do drugs and alcohol affect the circulatory and digestive systems?

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	Use a wider range of vocabulary. Understand 'why' questions.	What is life like around our planet? Explore the natural world around them. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. Describe what the use, hear and feel whilst outside. Learn new vocabulary. Use new vocab throughout the day. And in different contexts. Connect ideas and actions to another using a range of connectives. Engage in non-fiction books. Listen to and talk about selected non-fiction to develop a deep familiarity with new knowledge and vocabulary.	KS1+2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			Topic 4 – Big Question	How are plants and trees different?	Why are plants vital to planet?	It's alive?! How do we know that plants are living things?	How do animals hear differently to humans?	Could we survive without the sun?	How does light travel?
			Topic 4 – Composite Components	Lesson 1 – What are the parts of a plant? Lesson 2 – What is a plant's job? Lesson 3 – What plants can we see in local gardens? Lesson 4 – What is different about trees and plants?	Lesson 1 – Why do we need seeds and bulbs? Lesson 2 – How do seeds differ from one another? Lesson 3 – What environmental conditions do plants need to grow? (Do all plants need the same conditions?) Lesson 4 – How can we care for our own class plant? Lesson 5 – How can we measure and record the growth of a sunflower? Lesson 6 – What will happen if a plant doesn't get water or light? Lesson 7 – How do the lifecycles of plants differ?	Lesson 1 – What are the functions of the different parts of a plant? Lesson 2 – What do plants need to grow well? Lesson 3 – How can I show results in a way that is easy to understand? Lesson 4 – How is water transported around the different parts of a flower? Lesson 5 – How do the different parts of a flower enable pollination and fertilisation? Lesson 6 – What are the stages of a plant's life cycle?	Lesson 1 – How are sounds made and how do we hear things? Lesson 2 – How well does sound travel through different materials? Lesson 3 – What is pitch and how can I arrange sounds in order of it? Lesson 4 – Why do vibration levels change when sound levels go quieter or louder? Lesson 5 – Does vibration make a difference to sound? Lesson 6 – How do animals hear differently to humans?	Lesson 1 – How do we get day and night? Lesson 2 – Why do we have different time zones in the world? Lesson 3 – Why are the seasons different in the northern and southern hemispheres? Lesson 4 – Does the moon affect life on Earth? Lesson 5 – Why is Earth known as a 'Goldilocks Planet'?	Lesson 1 – How do we see? Lesson 2 – How is light reflected? Lesson 3 – What is refraction and how does it change the direction in which light travels? Lesson 4 – How does a prism show the full spectrum of light? Lesson 5 – How does light enable us to see colour? Lesson 6 – Why do shadows keep the same shape as the object that casts them?

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			Topic 5 – Big Question	Why isn't slime suitable for building houses?	Why do living things choose particular habitats?	How is the earth below our feet formed?	What is the difference between solids, liquids and gases?	Why are bees so important?	How do electrical appliances work?
			Topic 5 – Composite Components	Lesson 1 – What materials do I already know of? Lesson 2 – What materials are common in school? Lesson 3 – What physical properties can we see in our classroom? Lesson 4 – What groups of materials can we find in the Year 1 area? Lesson 5 – How do materials differ?	Lesson 1 – How do you know if something is living, dead or never alive? Lesson 2 – What is the importance of a food chain for living things? Lesson 3 – What habitats do different animals live in? Lesson 4 – How do different habitats in the UK compare? Lesson 5 – How do different habitats in the wider world compare to one another? Lesson 6 – Where could we create a microhabitat in our local environment and what might choose to live in it? Lesson 7 – Which materials could we use to create a microhabitat in our classroom?	Lesson 1 – What different types of rocks are there and how are they formed? Lesson 2 – What properties of rocks allow us to group them? Lesson 3 – How are fossils formed? Lesson 4 – How did Mary Anning contribute to palaeontology? Lesson 5 – How is soil formed? Lesson 6 – Are some soils more permeable than others?	Lesson 1 – Is it always easy to decide if something is solid, liquid or gas? Lesson 2 – Is it possible to change between different states of matter? Lesson 3 – How can we group substances according to whether they are solids, liquids or gases? Lesson 4 – How can temperature cause solids to change to liquids and vice versa? Lesson 5 – Do certain particles have more energy? Lesson 6 – What is the science behind making slime? Lesson 7 – Does the temperature affect how fast the towels dry? Lesson 8 – What are the stages of the water cycle?	Lesson 1 – What is the ultimate goal of all living things? Lesson 2 – How do plants reproduce? Lesson 3 – What is the most effective way for plants to reproduce? Lesson 4 – What did Eva Crane find out about the life cycle of bees? Lesson 5 – What can Eva Crane's research teach us about the impact of the decline of bee populations?	Lesson 1 – What were some of the key discoveries regarding electricity and how were they significant? Lesson 2 – Why is it important that we have a standard way to draw circuits? Lesson 3 – What is the effect of differing voltages in a circuit? Lesson 4 – Does wire length affect how components work in a circuit? Lesson 5 – What could I investigate about electricity? Lesson 6 – How could I improve upon my previous investigation?

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			Topic 6 – Big Question	Why are seasons important?			What impact have famous scientists had on the world?	Is the ‘circle of life’ the same for all animals?	
			Topic 6 – Composite Components	Lesson 1 – How has the season changed this year? Lesson 2 – Which clothes do we wear in different seasons? Lesson 3 – Why wouldn’t winter clothes be suitable for summer? Lesson 4 – How long is a day in Finland compared to England? Lesson 5 – Why do some countries get more rainfall than others?			Lesson 1 – How have electrical inventions changed people’s lives? Lesson 2 – What did Alexander Graham Bell invent and how has it changed things? Lesson 3 – How Gerald Durrell helped to save Madagascar’s living things? Lesson 4 – Which scientists have made a great impact on the modern world? Lesson 5 – How did these scientists change the world?	Lesson 1 – What are the stages in the mammalian life cycle? Lesson 2 – What physical changes do humans experience before birth? Lesson 3 – How do human bodies change during puberty? Lesson 4 – What similarities and differences are there between human and other animal life cycles?	