

Science units are not assigned to a half term. Please **do not** restrict your children's learning to half a term if the unit/children require more.

Science Knowledge Units

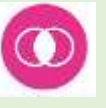
Books to support learning

Science capital opportunities

TAPS lessons

Freemantle Science 2024 – 2025						
	Science Topic 1	Science Topic 2	Science Topic 3	Science Topic 4	Science Topic 5	Themes
EYFS/Nursery	<u>See separate document</u>					
Year 1 <i>Seasonal Changes to be covered throughout year (one lesson per half term to observe changes over time)</i>	Properties of Materials  Which materials can be recycled?  Which material would be the best for an umbrella?  Is there a pattern in the types of materials that are used to make objects in our school? How can we test transparency?	Seasonal Changes  Do trees with bigger leaves lose their leaves first in Autumn?  How do the seasons change throughout the year?	Animals Inc. Humans (humans)  Is our sense of smell better when we can't see? What are the parts of the body?	Animals Inc. Humans (animals)  How are the animals in Australia different to the ones we find in Britain?  How can we organise zoo animals?	Plants  How does my sunflower change each week?  Which type of compost grows the tallest sunflower?  What are the parts of a plant?	<u>Aut 1</u> – Superheroes <u>Aut 2</u> – Autumn Magic <u>Spr 1</u> – Toys <u>Spr 2</u> – Princesses vs Dinosaurs <u>Sum 1</u> – Growth <u>Sum 2</u> - Adventures and Journeys
	- Fundamental Science Key Stage 1: Everyday Materials 2016 - Everyday Materials (Ways into Science)	- One Year With Kipper – Mick Inkpen - Seasons – Hannah Pang - Lift-the-Flap First Questions and Answers What Makes it Rain	The Five Senses – Herve Tullet	- The Big Book of Beasts - The Rainbow Bear – Michael Morpurgo	- The Tiny Seed – Eric Carle - Why do we need trees? – Katie Davnes - Planting a Rainbow – Lois Ehlert	

Year 2	Properties of Materials	Living Things & Habitats	Plants	Animals Inc. Humans (animals)	Animals Inc. Humans (humans)	
	 Which materials are shiny and which are dull?  Which materials are around our school?	 How does the habitat of the Arctic compare with the habitat of the rainforest?  Which habitat do woodlice live in? Can we build a habitat for an animal?	 What happens to my plant if I move it?  How would you group these plants and animals based on what habitat you would find them in?  Do bigger seeds grow into bigger plants?	 What do you need to do to look after a pet and keep it healthy?  Do amphibians have more in common with reptiles or fish?  Can we sort living things into groups?	 How much food and drink do I have over a week?  Do taller children have bigger hands?	Aut 1 – City Life Aut 2 – Animal Kingdom Spr 1 – A World of Water Spr 2 – What a Wonderful World Sum 1 – Explore Wonderland Sum 2 – Now and Then
	• See Inside How Things Work – Conrad Mason • The Amazing Mr. Mackintosh: The Story of Charles Rennie Mackintosh – Sha Nazir	• Whose Habitat is That? – Lucile Piketty • Habitats – William Anthony • Food Chains: Who eats what? – Sam Hutchinson • Fundamental Science Key Stage 1: Habitats and Food Chains 2016 (Fundamental Science Ks1)	• The Extraordinary Gardener – Sam Boughton • The Amazing Plant Life Cycle Story – Kay Barnham • A Seed Is Sleepy – Dianna Aston	• How To Look After Your Dinosaur • The Very Hungry Caterpillar: Eric Carle	• My Friends on the Inside • Babaroo the Alien and the Magic of Healthy Food • Oliver's Fruit Salad	

Year 3	Light	Forces & Magnets	Animals Inc. Humans	Rocks	Plants	Aut 1 – Iron Age and Stone Age Aut 2 – Mysterious Forces Spr 1 – Away From Home Spr 2 – Food Glorious Food Sum 1 – Great Explorers Sum 2 – Romans
	 Can everything make a shadow?  Which pair of sunglasses will be best at protecting our eyes?	 Which materials are magnetic?  Which shoe has the best grip?	 Why do different types of vitamins keep us healthy and which foods can we find them in?  How do the skeletons of different animals compare?  What questions can I ask about the human skeleton?	 Who was Mary Anning and what did she discover?  Can you use the identification key to find out the name of the rocks in your collection?  Is there a pattern in where we find volcanoes on planet Earth?	 What happens to celery when it is left in a glass of coloured water?  What are the parts of a flowering plant?  How much water do plants need?	
	• Light (Step Into Science) – Peter Riley • Light Waves	• Forces and Magnets (Step Into Science) • All About Physics – Richard Hammond • Forces and Magnets (Moving up with Science)	• What happens when you eat? – Emily Bone • The Kew Gardens Children's Cookbook: Plant, Cook, Eat • Tell Me About: The Human Body	• The Pebble in my Pocket: A History of Our Earth - Meredith Hooper & Chris Coady • A Rock Is Lively - Dianna Hutts Aston & Sylvia Long • The Street Beneath My Feet - Charlotte Guillian & Yuval Zommer	• The Big Book of Blooms (The Big Book series) by Yuval Zommer • I Ate Sunshine for Breakfast Michael Holland & Philip Giordano • Grow: A First Guide to Plants and How to Grow Them - Rizanino Reyes & Sara Boccacini Meadows	
			• STEM Ambassador	• Testwood Lakes	• Forest trip	

Year 4	Animals Inc. Humans	Living Things & Habitats	Electricity	States of Matter	Sound	
	 How do liquids effect our teeth?  In our class, are omnivores taller than vegetarians?  Are foods that are high in energy always high in sugar?  How does the digestion system work?	 Why do animals need different habitats?  Can we use classification keys to identify all the animals that we caught pond dipping?  What living things are in our local area?	 How would you group these electrical devices based on where the electricity comes from?  Does the amount of batteries in a circuit affect the brightness of a bulb? How can I use a circuit in a product?	 How does the level of water in a glass change when it is left on the windowsill?  Does sea water evaporate quicker than fresh water?  Where is the best place to dry your washing?	 Do all animals have the same hearing range?  Is there a link between how loud it is and the time of day? Is this the same in every area?  How can a string make a telephone?  How can I change the pitch of an instrument?	Aut 1 – Thunderbolts and Lightning Aut 2 – In and Out Spr 1 – Natural Disasters Spr 2 – Go with the Flow Sum 1 – Invasion Sum 2 – Other Worlds
	- Gut Garden - Katie Brosnan - The Digestive System - Care for Your Teeth (Health and My Body)	- New Forest National Park Pocket Map: The perfect guide to explore this area of outstanding natural beauty - National Trust: Out and About Minibeast Explorer: A children's guide to over 60 different minibeasts - The Vanishing Rainforest - The Great Kapok Tree	- Electricity (Step Into Science) - Horrible Science: Electricity	- Water Cycles (DK Life Cycles) - Once Upon a Raindrop: The Story of Water - The Rhythm of the Rain	- Discover and Do: Sound - Sound – SOUND BOOM - Shattering Sounds	
		- STEM Ambassador visit - Trip to forest	Scientist visit	Trip to Hamble River	Audiologist visit	

Year 5	Plants/Living Things	Forces	Earth and Space	Properties of Materials	Animals Inc. Humans (PSHE-linked unit)	
	 How does a seed change as it germinates?  What are the differences between the life cycle of an insect and a mammal?  How do different seeds in the local area disperse?	 How can we make a paper plane fly further?  Do all objects fall through water in the same way?  Can you label and name all the forces acting on [object]?	 How have our ideas about the solar system changed over time?  How does the length of daylight hours change in each season?  Is there a pattern between the size of a planet and the time it takes it to travel around the Sun?	 How does a sugar cube change as it is put in a glass of water?  Can we clean dirty water?	 Why do people get grey hair when they get older?  Can you identify all the stages of the human life cycle?  How do humans change as they grow older?	Aut 1 – Frozen Kingdoms Aut 2 – WW1 Spr 1 – Space Spr 2 – Crime and Punishment Sum 1 – Ancient Egypt Sum 2 – Unfortunate Events
	• Botanicum • When Plants Took Over the Planet: The Amazing Story of Plant Evolution • Jane Goodall • The Big Book of Bugs	• Why Doesn't the Moon Fall Down? And Other Questions about Forces	• Neil Armstrong • The Mysteries of the Universe: Discover the best-kept secrets of space (DK Children's Anthologies) • Planetarium		• Your Body and You Growing and Changing • Life Cycles	
	• Forest trip • STEM Ambassador visit – Arctic man • Astronomer visit (theme-linked) - Auroras		• Winchester Science Centre • STEM Ambassador visit • Astronomer visit		• Visit from parent (pregnant?)	

Year 6	Living Things and their Habitats	Animals Inc. Humans	Evolution	Light	Electricity	
	 What happens to a piece of bread if you leave it on the windowsill for two weeks?  How would you make a classification key for vertebrates/invertebrates or microorganisms?  What can I learn about invertebrates?	 Which type of exercise has the greatest effect on our heart rate?  How does my heart rate change over the day?  Is moving the only thing that changes heart rate?	 Can you classify these observations into evidence for the idea of evolution and evidence against?  Is there a pattern between the size and shape of a bird's beak and the food it will eat?  How can fossils help us learn about the past?	 What do I want to know about light and how will I find the answer to these questions?  How does the distance of the light source affect the size of a shadow?	 Which type of fruit makes the best fruity battery?  How has our understanding of electricity changed over time?  Which factors affect the brightness of a bulb?	Aut 1 – What a Wonderful World Aut 2 – WW2 Spr 1 – Save the Rainforest Spr 2 – Ancient Greeks Sum 1 – Every Child an Artist Sum 2 – Moving On Up
	• Karl, Get Out of the Garden!: Carolus Linnaeus and the Naming of Everything • Animalium	• Professor Astro Cat's Human Body Odyssey: 3 • Knowledge Encyclopedia Human Body	• The Story of Life: Evolution • See Inside Evolution • On The Origin of Species • Moth	• Why does a mirror show things back to front? And other questions about light • The Speed of Starlight: How Physics, Light and Sound Work • Ludicrous Light	• Physics for Beginners	
	• Forest trip		• STEM Ambassador		• STEM Ambassador	