



Wheeler Lane Primary School Curriculum Concepts and Knowledge Journey

STEM Faculty: Science

The building blocks of learning. Our concepts stem from our whole school curriculum intent and thread through our entire school curriculum.

Strand	Year 3						Year 4 (5 half terms of topics + 1 revisited seasonally*)					
Focus	Forces and magnets	Light and shadow	Rocks and soils (shorter topic)	Plants	Animals, inc humans (shorter topic)		Habitats throughout the year (ongoing*)	Electricity (long topic)	Sound	Teeth and digestion	Living things and their habitats (Geog link - environment)	States of matter
Key Question	How does a compass work?	How is a rainbow formed?	If rocks could talk what would they say?	What would happen if there were no bees?	Bones are hard, are they heavy?		How are animals adapted to a habitat?	What would a world be like without electricity?	What's the quietest thing you can hear?	What is poo?	Why do scientists want to find new species?	What type of matter is plasma?
Concept 1 Heritage (Birmingham)			Thinktank	Can you make honey in Birmingham?	Can you make honey in Birmingham?		Martineau Gardens	Where is our electricity generated in Birmingham?	UB40, Laura Mvula, Ocean Colour Scene (ex WLPS pupil)		What different habitats are there in Birmingham?	
Concept 2 Communication		Lighthouses Braille	Listen to a Geology Rocks Podcast		Beyond Bionic				How can whales communicate over hundreds of miles?	The Science of Poop podcast	Watch live webcam of animals in their habitat.	
Concept 3 Powerful Stories		Day Light Night Light book	Mary Anning Florence Bascom The Pebble in my Pocket	Story of Frog Belly Rat Bone			The Vanishing Rainforest	Thomas Edison	Evelyn Glennie	The Little Mole Who knew it was none of his business	Good Housekeeping Podcast	Spencer Silver and The Post it Note
Concept 4 Sustainability, Rights and Responsibilities	How do magnets help us recycle?	What is light pollution?	What are fossil fuels?	Why are bees endangered?	Do we need to eat animals to survive?		Look at positive/negative impact of humans on the environment	Can our school generate its own electricity?	What is sound pollution?		Look at positive/negative impact of humans on environment.	What is air pollution?
Concept 5 Creativity and Enrichment	Orienteering using a compass What is a magnet?	Shadow puppet show	Mrs Crompton-rock specialist	Allotment visit	Learn Dem Bones song			Make a robot with light up eyes	Make own instruments.	Visit from a dentist	Visit Martineau gardens.	Make slime.
Concept 6 Me - now and in the future		Looking after my eyes		Will I grow my own food?	How will I keep my body healthy?		Would I prefer to live somewhere hot or cold? Why?	How can I save electricity?	How can I protect my hearing?	How can I look after my adult teeth?	What environmental organisations could I support?	
Subject area 1 Investigation 1	Testing cars on different surfaces	Length of shadow in playground	How hard are different rocks?	Celery experiment	Observe movement different animals in different environments			Building an electrical circuit	String Telephones	Effect of different liquids on egg shells.	Woodlouse habitat experiment.	Gas investigation. Does air have mass?
Subject area 2 Investigation 2	Paperclip challenge		Worms and soil investigation	Dissect and identify a flower	Pattern seeking investigation Is there a link between height and shoe size?			Testing the effect of length of wire in a circuit	Best material for soundproofing.	How does food travel through the body?		Temperature of melting.

