






Science LTP



Intent	Implementation
<p>Through our science curriculum, we harness our pupils natural curiosity through the wonderful everyday: we explicitly teach children about the phenomena that impact our daily life and give them opportunities to explore these in detail. We understand the critical importance of STEM knowledge and seek to lay foundations that will broaden the life chances of our pupils and prepare them to live and work in an increasingly scientific world. We take an evidence-informed approach to our curriculum design, as well as our pedagogy so that our pupils can remember and apply what they have learnt. Throughout every unit, pupils have the opportunity to engage in a wide range of enquiry approaches, developing both their scientific knowledge and skill.</p> 	<p>Our knowledge-rich curriculum equips pupils with the knowledge and vocabulary needed to explain and analyse their understanding of scientific content and scientific process. The medium-term planning and lesson sequencing is provided by the subject lead. Using the expected knowledge, teachers devise their exposition around key principles such as retrieval practice, teaching subject-specific vocabulary and using direct instruction to teach the core knowledge. Teachers use targeted questioning to elicit pupil understanding, expecting answers from all through talk partners. They clearly model the enquiry process and plan when to use and remove scaffolds to provide support and challenge for individual learners. They provide clear feedback on how to improve when circulating to obtain a high success rate and use daily review checkpoints to consolidate.</p> 
Impact	
<p>The impact of our science curriculum is measured by triangulating lesson observations, work scrutinies and pupil discussions to gauge what pupils have learned and how well they remember this. Leaders sample retrieval practise to see how much prior content pupils have retained as well as using termly summative standardised assessments, to benchmark pupil performance against a national sample. These are moderated across the primary academies.</p> 	
Progression	
<p>Units are carefully mapped out over both each key stage and the whole of the primary science curriculum so that key concepts and core knowledge is regularly revisited. Knowledge is centred around a 'Big Question' for the unit to help support children's schemas and the various types of enquiry become progressively more challenging over the primary phase. Vocabulary is carefully mapped from the Early Years to Y6 to ensure progression in key terms are taught and learnt.</p> 	
Enrichment	
<p>Our engagement with the local environment ensures that pupil learn through varied and first-hand experiences of the world around them. Through various workshops, trips and interactions with experts, pupils develop the understanding that science has changed our lives and that it is vital to the world's future prosperity; our science week plays a large part in the academy's enrichment offer. Pupils learn the possibilities for careers in science as a result of our community links and connection with national agencies such as the STEM association.</p> 	

Science Year Group Map



Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	Biology Animals including humans <i>What can my body do?</i>	Chemistry Uses of Everyday Materials Winter Weather	Physics: Light and Dark	Physics Forces <i>Pushes and Pulls</i>	Biology Plants <i>Plant Life Cycle</i>	Chemistry <i>Everyday Materials</i> Recycling Plastic
Reception	Biology Animals including Humans <i>The Human Body</i>	Biology Animals including Humans <i>Looking after my body</i>	Chemistry: Everyday Materials: <i>Making Planes</i>	Biology Animals including Humans <i>Life Cycle of Birds</i>	Physics Earth and Space <i>Stars and Space</i>	Biology Living Things and their Habitats <i>Beasts: Mini & Massive</i>
Year 1	Biology Animals including Humans <i>The Five Senses & Me</i>	Physics Seasonal Change <i>Our Changing Earth</i>	Chemistry Use of Everyday Materials <i>Describing & Grouping</i>	Biology Animals including humans <i>The Animal Kingdoms</i>	Biology Plants <i>Common British Plants</i>	Consolidation
Year 2	Biology Living things and their habitats <i>Microhabitats, Food & Adaptations.</i>	Chemistry Use of everyday materials <i>Changing materials & their usefulness.</i>	Biology Plants <i>What Plants need to grow.</i>	Biology Animals including humans <i>Life Cycles & Hygiene</i>	Consolidation KS1 SATs	Physics Electricity <i>Where Electricity comes from</i>
Year 3	Biology Animals including humans <i>Vertebrates</i>	Chemistry Rocks and Soils	Physics Light <i>Light and Shadow</i>	Physics Electricity <i>Making Simple Circuits</i>	Biology Plants <i>How parts function</i>	Physics Magnets Forces <i>Movements</i>
Year 4	Biology Animals including humans <i>Digestive System</i>	Chemistry States of Matter <i>Solids, Liquids & Gases</i>	Physics Sound <i>Vibrations & Patterns</i>	Biology Living things and their habitats <i>Environmental Changes</i>	Consolidation	Chemistry Properties of change and materials (Y5, Part 1) <i>Uses of Materials</i>
Year 5	Biology Living things and their habitats <i>Life Cycles & Reproduction</i>	Physics Earth and Space <i>The Milky Way</i>	Physics Forces <i>Gravity, Friction, Air & Water Resistance</i> <i>Gear, Levers & Pulleys</i>		Biology Animals including humans <i>From Cradle to Grave</i>	Chemistry Properties of change and materials <i>Separating Mixtures & Solutions</i>
Year 6	Biology Animals including humans <i>The Circulatory System</i>	Physics Light <i>Reflection & Refraction</i>	Biology Living things and their habitats <i>Micro-organisms & Classification</i>	Biology Evolution and Inheritance <i>Adaptation, Mutation & Inheritance</i>	KS2 SATs Physics Electricity <i>Circuits and Symbols</i>	Consolidation & <i>Life skills e.g. first aid</i>



Nursery

The Human Body
How can we look after ourselves?

Reception

The Human Body
How can our bodies move?

The Animal Kingdoms
How are animals different? How can we group them?

The Five Senses
How do our senses help us to learn about the world?

Year One

Birds
What are the features of birds? How are they born?

Being Hygienic
How can we take care of our bodies?

Year Two

Being Healthy
How do we keep fit and healthy?

Life Cycles
Do all animals look like their young?

Year Three

Nutrition
What do humans need to stay healthy? What does this look like in practise?

Year Five

Digestive System
What happens to food inside our bodies?

Year Four

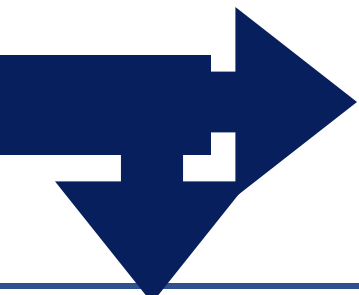
Skeletons
What is the role of skeletons and muscles? How do invertebrates fit in?

From Cradle to Grave
How do humans change as they age?

Year Six

The Circulatory System
How does the heart work, and how does lifestyle affect it?

Adaptation, Mutation & Inheritance
How do animals & humans change over generations?



Science

**Biology:
Animals, including
Humans
Road Map**



Mossbourne Parkside Academy



Nursery

Plants are Alive
What is a plant?

Reception

Minibeasts
What minibeasts live in our environment?

Year Two

Habit Adaptation
How do living things adapted for their environment?

Native British Plants
What trees and flowers live in our local area?

Year One

Year Three

Growing Plants
What conditions do plants need to thrive?

Parts of a Plant
How do the parts of a plant ensure its survival?

Year Four

Reproduction
How do plants and animals reproduce?

Environmental Risks
What currently threatens living things?
How has this occurred?

Year Six

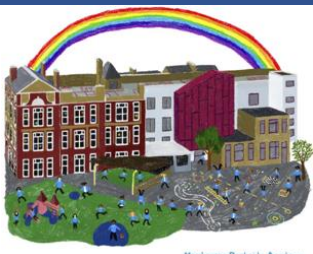
Microorganisms
What are microorganisms and why are they important?

Adaptation, Mutation & Inheritance
How do living things change over generations?

Science

Biology:
Living Things, and
Plants
Road Map





Mossbourne Parkside Academy

Nursery

What is it?
What objects are around me and what are they for?

Reception

Materials
How are materials different?

Classifying Materials
How can we describe and group materials?

Year One

Rocks and Soils
What different rocks and soils are there and how are they formed?

Year Two

Changing Materials
What materials can we physically change and how?

Year Three

Year Four

States of Matter
How can materials change state?

Properties of change
What changes can, and cannot, be reversed?

Year Five

Properties of change
How can we separate mixtures and solutions?

Science
Chemistry
Road Map



Nursery

Weather in Seasons
What do we do or need in different weather?

Light and Dark
When does darkness happen?

Forces: Push & Pull
How do objects move?

Year Two

Seasonal Change
What are seasons and why do we have them?

Year One

Earth and Space
What is Earth? What is the moon? What are stars?

Reception

Everyday Electricity
What items need electricity and where do they get it from?

Year Three

Light and Shadow
Why do we have shadows and how do they change?

Magnets & Forces
Do all forces need contact? What affects how things move?

Our Solar System
What is in our solar system? How do we know?

Year Five

Sound
How are sounds made and how well do they travel?

Year Four

Electric Circuits
What is a circuit? How does it work?

Forces
What natural forces are in action? How can we use forces in engineering?

Year Six

Reflection and Refraction
How does the way light travels affect what we see?

Science
Physics
Road Map

