Our Science curriculum aims to enthuse children and hep them to be curious and develop a sense of excitement about the world. Through a range of teaching, learning and extra-curricular opportunities, children will develop scientific knowledge and conceptual understanding to recognise the uses and implications of Science, today and for the future. We encourage children to ask their own questions; predict how things will behave and analyse causes, using Science to explain what is happening.

Inspiring and enabling our school community to live life to the full

YEAR 5

Subject: Science
Separating mixtures and changing materials

Characteristics of an Effective Learner

Courage
Commitment
Collaboration
Creativity
Curiosity

Prior Learning:	**Key Vocabulary taught in this unit:**
- Children learn about solids, liquids and gases in Year 4 and the water cycle, including the processes of evaporation, condensation and freezing.	Combine, flow chart. Grade, inflate, particle, proportion, puncture, recommendation, room temperature, sieve, contamination, dissolve, filter, insoluble, non-reversible, react, reaction, reversible, saturated, separate, soluble, solution, accurate, comparative test, control variable, conclude, conclusion, data, evidence, explain, explanation, evaluate, fair test, observe, pattern, predict, prediction, secondary source, condense, carbon dioxide, crystal, crystalline, evaporate, evaporation, gas, liquid, solid.

Key Questions:
Q How can we separate mixtures?
Q What happens when we mix liquids and solids?
Q What makes a difference to how fast sugar or salt dissolves?
Q How can we clean up contaminated water?
Q What makes a change non-reversible?
Q How much gas can be produced by a non-reversible change?

Intent: What do we want the children to know/be able to do by the time they complete this unit?

Solid, dry mixtures of materials can be separated by sieving. Some solids dissolve in water while others do not. Materials that do not dissolve can be separated from a liquid by filtering. Solids which dissolve do so faster in certain conditions and can be retrieved from a solution if the liquid is evaporated.

Filtering processes can be used to decontaminate polluted water and make it useful for a variety of purposes. Some changes of state are reversible, and others are non-reversible. Non-reversible changes result in the formation of new materials, in this case carbon dioxide gas.

Working Scientifically

Planning different types of scientific enquiries to answer questions, including recognising, and controlling variables, where necessary.

Using test results to make predictions to set up further comparative and fair tests.

Learn to use apparatus and techniques, such as filtering, sieving and evaporating, to separate materials.

Reporting and presenting findings from enquiries, including conclusions, causal relationships, and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.

Impact / Outcome:
What will the final product / result be?

Children will learn about the methods scientists use to build scientific knowledge about materials and how they behave when mixed together.

They will learn that scientists make systematic and careful observations to build explanations about the natural world.

They will develop an understanding of the following types of enquiry: grouping and classifying things, planning comparative and fair tests, and using a wide range of secondary sources of information.

P4C Inquiry (where appropriate)
NA

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