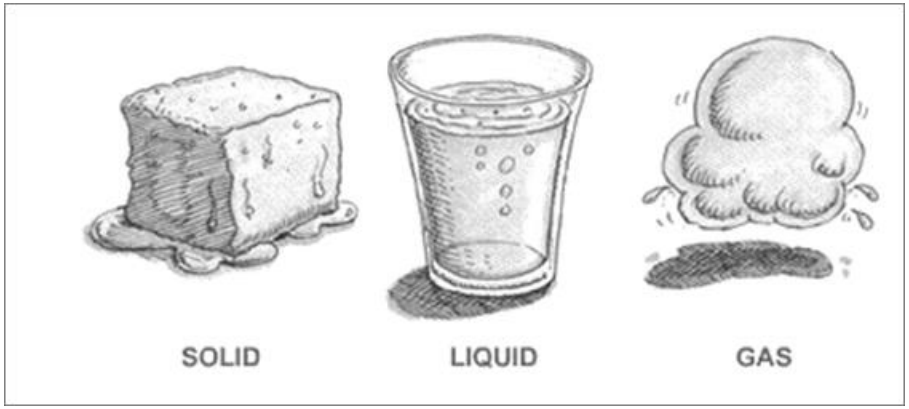
Topic Title: There's no turning back! Year 4 Term Summer 1



Key question?

Why do states of matter change?

Skills Taught:

Understand the difference between a solid, liquid and gas

Understand solubility and recover dissolved substances

Observe changes in materials and changes that are irreversible

Apply knowledge to everyday situations

Big Questions:

How many states of matter are there?

Does temperature affect changes?

How do different states fill a container?

Where so we see reversible and irreversible change?

How do changes help in our everyday lives?

Immersion Activity/Provocation:

Harry Potter spells

Topic Title: No Turning Back

Focus Texts: Harry Potter and the Philosopher's Stone

Challenge for All:

	Skills and Knowledge
Some children will:	• Recognise a solid, liquid and gas. • Observe basic differences of solid, liquid and gases
Most children will:	• Compare and group materials together, according to whether they are solids, liquids or gases. • Observe that some materials change state when they are heated or cooled, and measure the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics. • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
Some children will progress further and will:	• Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. • Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. • Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. • Demonstrate that dissolving, mixing and changes of state are reversible changes.

Enrichment/Outdoor Learning:

Experiments can be carried out outdoors. Links to magic create opportunities to develop imaginative ideas.

Previously….Links to prior learning

Year 2 Marvellous Materials – Changes we can make to materials – new materials that have changed things Dunlop/ McAdam

Distinguish between an object and the material from which it is made.

Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.

Describe the simple physical properties of a variety of everyday materials.

Compare and group together a variety of everyday materials on the basis of their simple physical properties.

Key Vocabulary: state, solid, liquid, gas, reversible, irreversible, temperature, material, dissolve, saturate, properties, condense, condensation, evaporate, evaporation, cycle

Cross-curricular links:

English: 'Harry Potter and the Philosopher's Stone' by J.K. Rowling – text and audio book

Non-fiction: Super Science Experiments; Science is Magic; All About Chemistry; Making with States of Matter; Science in Infographics – Materials; Home Lab – Exciting Experiments for Budding Scientists How to be a Scientist; The Age of the Atom; Go facts-Materials

Maths

Measuring and scales

Time for experiments

English

Procedure / instructions Explanations Descriptive writing

Celebration of knowledge and skills gained (opportunities for assessment):

Can the children apply what they have learnt about states of matter to new everyday situations? E.g. Why is salt added to roads? Why do we put sugar in warm tea not cold tea?