

Year Group	4
Term	Spring 1
Subject	Science

Topic	States of Matter
Curriculum Intent	To recognise and identify properties of different states of matter and to know how materials can change between them.

Key Vocabulary	Solid, liquid, gas, states of matter, melt, freeze, evaporate, condense, water cycle
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Scientific Skills	• To generate and ask questions about solids, liquids and gases that can be investigated • To set up simple practical investigations to explore a question • To plan a fair test to explore and investigate questions • To make systematic and careful observations and accurate measurements • To record and present data in a variety of ways including charts and graphs • To use results to draw simple conclusions and to raise further questions • To identify differences, similarities or changes related to simple scientific ideas and processes
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Scientific Knowledge	• To compare and group materials together, according to whether they are solids, liquids or gases • To identify some properties of solids, liquids and gases • To observe that some materials change state when they are heated or cooled • To measure or research the temperature at which materials change state in degrees Celsius (°C) • To identify the part played by evaporation and condensation in the water cycle • To associate the rate of evaporation with temperature
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Week	Learning Objective	Activities	Outcome
1	To identify the properties of solids, liquids and gases.	Observe closely a range of solids and liquids. Feel, touch and pour samples. Explore making gases visible e.g. squeezing sponges under water to see bubbles, and showing their effect. Classify materials according to whether they are solids, liquids and gases. Include good range to challenge thinking e.g. foam, sand.	To be able to explain the differences between solids, liquids and gases.
2	To explore the melting points of different solids. Make detailed observations to draw conclusions.	Observe a range of materials melting e.g. ice, chocolate, butter. Explore freezing different liquids e.g. tomato ketchup, oil, shampoo. Make comparisons and record detailed observations.	To make detailed observations and draw detailed conclusions from these.
3/4	To plan and complete an investigation exploring melting.	Investigate how to melt ice more quickly. Generate a question and plan a fair test. Record data using thermometers and present findings in tables and charts.	To complete a full scientific investigation to answer a question.
4/5	To plan and complete an investigation exploring rates of evaporation.	Set up investigations to explore changing the rate of evaporation e.g. washing, puddles, handprints on paper towels, liquids in containers. Collect data and record in tables and charts. Draw conclusions in groups and present findings to the class.	To complete a full scientific investigation to answer a question.
6	To recognise and explain the changes of state in the water cycle.	A range of information sources to learn about the water cycle. Present an oral explanation to an audience.	To explain how water changes state as it goes through the water cycle.