Overview – Year 4 Autumn 1 States of Matter

Lesson	Objectives	Scientific enquiry	Equipment list
1. What are the states of matter?	• Recall some solids, liquids and gases • Group solids, liquids and gases • Describe the properties of solids, liquids and gases	Investigating solids, liquids and gases Observation over time, Identify and classify	Balloon, 4 Alka seltzers (effervescent tablets), 1 bottle, water
2. Can we turn a solid into a liquid?	• Recall the change of state that happens in melting • Give some examples of melting • Investigate melting	Investigating melting ice cubes Set up simple practical enquiry, comparative test, predicting, conclusion based on evidence, evaluation and suggestions for improvement Melting point independent research Using secondary sources	Ice cubes, water, salt, sugar, bicarbonate of soda, teaspoons
3. What is the opposite of melting?	• Recall the change of state that happens in freezing • Give some examples of freezing • Investigate freezing	Making ice cream Follow a simple practical procedure, observation over time, make conclusions based on evidence	Cream (or milk), sugar, vanilla, measuring cup, measuring spoon, towel (or oven mitts), small sealable plastic bag, large sealable plastic bag, salt, ice cubes, timer
4. Why do puddles disappear?	• Recall the change of state that happens in evaporation	Investigating the evaporation of water	Plastic cup or beaker, marker pen, water

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	• Give some examples of evaporation • Investigate evaporation	Follow a simple practical procedure, observation over time, variable, fair testing, making conclusions based on evidence	
5. Can we make rain?	• Recall the change of state that happens in condensation • Give some examples of condensation • Investigate condensation	Set up a simple practical procedure, observation over time, make a conclusion based on evidence	Marker pens, 150ml water, blue food colouring, Ziploc bag, strong tape, window
6. Do we drink the same water as the dinosaurs?	• Correctly sequence the stages of the water cycle • Know how to create a model of the water cycle • Describe each stage of the water cycle	Model of the water cycle Conclusion based on evidence (used to explain a model)	Paper plate, range of crafts