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Working together to make a difference

Science Curriculum – Cycle B
Lower Key Stage 2 – Autumn 2

Theme – States of matter (Chemisty)

Enquiry Question – How does temperature affect different substances?

National Curriculum Coverage

Pupils should be taught to:
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 or research the temperature at which this happens in degrees Celsius (°C)
Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Key Scientists: **Joseph Priestly**	**Comparative Test** Which liquid evaporates the quickest? **Fair Test** Does the mass of a block of ice affect how long it takes to melt?	**Observation over time** How does the level of water in a glass change when left on the windowsill?	**Pattern Seeking** Is there a pattern in how long it takes different sized lollies to melt?	**Research** What are hurricanes and why do they happen?

Objective	Challenge	Working Scientifically	Vocabulary
• To know some simple properties of different states of matter - To know particle formation of solids, liquids and gases and use this to know simple descriptions (solids hold their shape, liquid forms a pool, gases escape unsealed containers etc) • To compare and group materials together, according to whether they are solids, liquids or gases. • To know that materials change state when they are heated or cooled - To observe water as a solid, liquid and gas and note its changes when it is heated and cooled. • To research/measure the temperature at which different materials change state in degrees Celsius (°C). - To investigate/know the melting points of 3 familiar materials (ice 0°C, chocolate, 35°C, butter 32°C)	• To group and classify a variety of materials according to the impact of temperature on them • To explain what happens over time to materials such as puddles on the playground or washing hanging on the line • To relate temperature to change of state of materials **or own challenges*	See separate objectives sheet.	Solid, gas, liquid, melting, freezing, condensation, evaporation, states of matter, particles, properties, degrees Celsius, thermometer, water cycle, water vapour, precipitation, heated, cooled.

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• To make links between the rate of evaporation with temperature. - To know that evaporation rates are higher at higher temperatures and vice versa. • To know the part played by evaporation and condensation in the water cycle (Links with Geography)			

Prior to Teaching (Entry Point) What knowledge do we expect children to have remembered which we are going to build on in this unit?	**Assessment Exit Point** By the end of the unit, what knowledge must children know/remember to be ready for the next unit?
1. How does something freeze? It gets really cold. 2. Why do things melt? They get too hot. 3. Do you know a solid? 4. Do you know a liquid? 5. Do you know a gas? Vocabulary: Freeze, melt, solid, liquid and gas.	1. Can you label the solid, liquid and gas from the diagram? 2. Can you group the materials according to their properties? 3. What temperature does water freeze at? 0 degrees Celsius. 4. What temperature does water boil at? 100 degrees Celsius 5. Can you label evaporation and condensation on the water cycle? Vocabulary: evaporation, condensation, properties, particles, thermometer.