Science – States of matter – Year 4	ybliri,	
Year 4 NC - pupils should be taught to:	How we do this in Year 4	Year 4 Vocabulary
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Compare and group materials together, according to whether they are solids,	Explain that there are three states of matter: solid, liquid and gas. Ask the children to sort given cards. Share the answers from the sorting card activity	Solid, liquid, gas, particles, state, material, properties.
liquids or gases	using. Point out and explain the trickier materials: honey is a liquid even though	properties.
inquires or gases	it is viscous; a sponge is a solid, but the spaces inside the sponge are full of air,	
	which is a gas; and the bubbles are a thin film of soapy water (liquid)	
How working scientifically can be met	surrounding air (gas).	
sortingdescribing	Ask children to talk to a partner to match the states to their properties on the IWB.	
describing	Share key information about particles. Look at how they are arranged and how	U ·
	they behave in solids, liquids and gases.	
	Particle Behaviour: Organise children into three equal groups to demonstrate	
	the difference between the particles in solids, liquids and gases using drama and movement.	
	Children to match the three states with their particles and properties.	
	Ask the children to spot the different materials and their states while they look	
	through them. Collect responses.	
explain	Place a clear bottle of fizzy drink on each table. Children identify the materials	Gas, carbon dioxide, state, matter,
• investigate	they can see, as well as their states. Explain how all three states can be seen in	material, weight, mass.
3	the fizzy drink bottle.	
	Look more closely at the bubbles in the fizzy drink. Children discuss the uses of	
	carbon dioxide. Do Gases Weigh Anything? Show children the concept cartoon and ask them to	
	talk to a partner about which child they agree with and why. Ensure that	
	children understand that gases do have a mass and do weigh something.	
	Comparing the Weight of Gases: Explain the context and method of the	
6	investigation. Ensure that they understand how to find the weight of the carbon	
	dioxide present in each drink. Children complete predictions and answer given questions.	
	Children decide if statements are true or false.	
Observe that some materials change state	Explain the processes of melting and freezing, and how a material's particles	Solid, liquid, particles, melt, freeze,
when they are heated or cooled, and	behave when they change state. Explain freezing and melting points.	thermometer, temperature.
	AIN Dr.	

Children match materials with their melting and freezing points.	Science – States of matter – Year 4	vollri.	
How working scientifically can be met		Melting Chocolate: Introduce the context for the investigation. Model the investigation by placing a square of chocolate in three different foil tins, and	
 plan predict investigate predict investigate predict investigate freezing Chocolate: Children discuss Maya's idea (put chocolate outside to freeze). Their thoughts may depend on what the weather is like, leading to discussion of the freezing point of chocolate. "Perhaps make chocolate crispy cakes to demonstrate melting and freezing* close observations label diagrams The Three States of Water: Find out more about the processes and temperatures that cause changes of state using a game http://www.bbc.co.uk/schools/4f0.shml Exploring the Processes: Explain and clarify the children's understanding of the process of melting, freezing, evaporation and condensation using scientific diagrams. Ice Cube Investigation, Reversing Changes and Salt and Ice: Organise the children into groups. The children should draw and label their observations as they work through the carousel of activities. Look for children who can identify the different states that the water is in, and who can explain the processes that change the state of the water. Guess the Process: Children play game in teams - draw a picture of the process for their group to guess. Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature Recap the process of evaporation. Explain that evaporation is responsible for the fact that clothes dry when you hang them on a washing line. Children read statements about evaporation stuck around the room, and think about whether they disagree or agree with each one. They can write their thoughts and ideas around the statements. Share and address any misconceptions. Does the Temperature Affect How Fast Towels Dry? Introduce the investigation. Ensure that children understand that when the towels dry, the water will evaporate from them		temperature. State that they will observe how long it takes the chocolate at	
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accurately. Children are to record their results. results Displaying Your Conclusions: Ask the children to look at their results. They should describe their results and come to a conclusion. Look for children who can describe and explain the effect of temperature on evaporation in the context of drying washing. Sharing Ideas: Children look at each other's results and conclusions, and discuss whether they agree and if their conclusions and answers are similar. Discuss similarities and differences. Discuss each part of the water cycle and locate labels on the diagram (IWB). Evaporation, condensation, precipitation, identify Explain the four stages of the water cycle: evaporation, condensation, collection, clouds, rain, sleet, hail, snow. describe precipitation and collection. Ensure children understand that the water changes explain state as a result of these processes. Address any misconceptions. Mini Water Worlds: Ask the children to work in pairs to make mini water worlds. Children will be able to view evaporation, condensation and precipitation in action over the next few days. (You could take photos of the water worlds as they develop, and stick the printed photos into the children's books/working wall). Water Wheel: Children to create an interactive model of the water cycle. Look for children who know the stages of the water cycle and can explain what happens at each stage. Sort the Stages: Children try to solve the anagrams of the four stages of the water cycle on IWB before placing the stages in the correct order.