












States of Matter: Wonderful Water

<p>Aim: To 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) by exploring how water can change its state to a solid, liquid or a gas. I can explore how water changes state.</p>	<p>Success Criteria: I can identify the different states water can be in. I can identify the temperatures at which water changes state. I can identify and observe the processes that cause water to change state.</p>	<p>Resources: Lesson Pack Container of warm water with cling film stretched over it (warm water may need to be replenished as groups move round the activities) Ice cubes Kettle Plate Beakers Teaspoon Salt</p>
<p>Key/New Words: Melt, freeze, condense, evaporate, process, state, water, ice, water vapour.</p>	<p>Preparation: Three States of Water Questions Activity Sheet - one per group. Three States of Water Answer Cards cut up and placed at the front of the classroom. Differentiated Changing State Activity Sheet - one per child.</p>	

Prior Learning: The children will have learnt about changes of state in lessons 1 and 3.

Learning Sequence

	<p>The Three States of Water: Children work in groups to find answers to the questions on their Three States of Water Questions Activity Sheet. Place the eight Three States of Water Answer Cards at the front of the classroom. Each group should choose one child to come to the front to choose an answer card, then bring it back to their group. The group should work together to decide which question it answers, then write the answer card's letter next to the question. Finally, they choose a different group member to take the answer card back and swap it for a new one. They should continue until they have matched all the answers with their questions.</p>	
	<p>Exploring the Processes: Explain and clarify the children's understanding of the process of melting, freezing, evaporation and condensation by discussing the slides on the Lesson Presentation.</p>	
	<p>Ice Cube Investigation, Reversing Changes and Salt and Ice: Organise the children into groups. The children should draw and label their observations on their differentiated Changing State Activity Sheet as they work through the carousel of activities as described on the Lesson Presentation. 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.</p> <div style="display: flex; justify-content: space-around;"> <div>  <p>Children identify the different states of water in each activity. They should use the process prompts to help them.</p> </div> <div>  <p>Children identify the different states of water and the processes that occurred in each activity.</p> </div> <div>  <p>Children colour code the processes, using blue for those caused by cooling and red for those caused by heating.</p> </div> </div>	
	<p>Guess the Process: Children play this game in teams. Each group should choose an artist, who should come to you. Tell the artists the name of a process that causes a change of state. The artists go back to their groups, and without talking or writing words, draw a picture of the process for their group to guess. They group that guesses correctly first wins! This can be played several times.</p>	

Taskit

Answerit: Complete this worksheet by filling in the gaps to answer questions about changing state.

Actit: Work in groups to act as the water particles as it changes state. Think about how the particles behave as they are heated or cooled.

Explainit: Make a poster to explain the three states of water and the processes that change the states.