

# States of Matter: Evaporation Investigation

<p><b>Aim:</b> To associate the rate of evaporation with temperature by investigating the effect of temperature on drying washing. To make systematic, careful and accurate observations and measurements and report on findings from enquiries by displaying results and conclusions by investigating the effect of temperature on drying washing. I can investigate how water evaporates.</p>	<p><b>Success Criteria:</b> I can explain the effect of temperature on the process of evaporation. I can plan and carry out a comparative test using equipment accurately and display my results.</p>	<p><b>Resources:</b> <b>Lesson Pack</b> Tea towels - 3 per group Water and measuring jugs - 1 per group Weighing scales - 1 set per group Three washing lines and pegs Thermometers - 1 per group Clock Access to places in different temperatures, where the washing lines can be set up</p>
<p><b>Key/New Words:</b> Evaporation, particles, liquid, gas, weight, dry, energy, state, heat.</p>	<p><b>Preparation:</b> This lesson involves an investigation into how fast water evaporates in order to dry towels. It may be best to start the lesson in the morning, set up the investigation, then return to it in the afternoon to gather results and form conclusions. Alternatively, it could be set up in the afternoon and returned to the following day. <b>Evaporation Statements</b> stuck up around the classroom Differentiated <b>Evaporation Investigation Activity Sheet</b> - 1 per child <b>States of Matter Vocabulary Poster</b> - as required.</p>	

**Prior Learning:** The children will have learnt about the evaporation of water in lesson 4.

## Learning Sequence

	<p><b>How Do Wet Clothes Dry?</b> Recap the process of evaporation using the diagram on the <b>Lesson Presentation</b>. Explain that evaporation is responsible for the fact that clothes dry when you hang them on a washing line. Children read the <b>Evaporation Statements</b> 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 the answer using the <b>Lesson Presentation</b> and address any misconceptions.</p>	
	<p><b>Does the Temperature Affect How Fast Towels Dry?</b> Introduce the investigation. Ensure that children understand that when the towels dry, the water will evaporate from them. Describe the equipment the children will have access to. Encourage the children to think about the points on the <b>Lesson Presentation</b>. If necessary, point out the measuring jug and suggest they pour the same amount of water over each towel, or soak each towel in the same amount of water. You may want to point out the scales, and suggest they weigh the wet towels at the start, and then weigh them again at the end. The difference between the two weights will show how much water has evaporated from each towel. Ask the children to plan their investigation using their differentiated <b>Evaporation Investigation Activity Sheet</b>. <i>Look for children who can plan and carry out their investigation accurately.</i></p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="215 1366 766 1456">  Children use the prompts to answer questions in order to plan the investigation. Make a prediction.         </div> <div data-bbox="813 1366 1380 1456">  Children answer questions to plan the investigation and explain their prediction.         </div> </div>	
	<p><b>Finding the Answer:</b> Children carry out the investigation and record their results on their differentiated <b>Evaporation Investigation Activity Sheet</b>.</p>	
	<p><b>Displaying Your Conclusions:</b> Ask the children to look at their results. They should describe their results and come to a conclusion using their differentiated <b>Washing Line Conclusions Activity Sheet</b>. This sheet is designed for display, allowing the children to share their thoughts with others. <i>Look for children who can describe and explain the effect of temperature on evaporation in the context of drying washing.</i></p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="215 1713 582 1948">  Children use the prompts to describe their results, make a conclusion and explain what happened. They could use the <b>States of Matter Vocabulary Poster</b> for support.         </div> <div data-bbox="614 1713 981 1870">  Children use the prompts to describe their results, make a conclusion and explain what happened.         </div> <div data-bbox="1013 1713 1380 1803">  Children complete the activity sheet without prompts.         </div> </div>	
	<p><b>Sharing Ideas:</b> Display the <b>Washing Line Conclusions Activity Sheets</b> where others can see them. In this lesson (by placing them on tables so that the class can walk round and view them, or on a display board). Children look at each others' results and conclusions, and discuss whether they agree and if their conclusions and answers are similar. Discuss similarities and differences.</p>	

## Taskit

**Investigateit:** Set up a different evaporation investigation! Try placing beakers of water with different temperatures in the same location and see how much water evaporates from each one. Or use three differently shaped containers with the same amount of water and the same temperature.

**Writeit:** Can you write an acrostic poem about evaporation? Or how about a shape poem?

**Snapit:** After it has rained, take a photo of a puddle every hour. Take pictures until the puddle evaporates (this is best done on a sunny day!). Print out the photos and use them to create a time line of the evaporation process.