




States of Matter Year 4

<p>Science Concepts</p>	<p>Nature Knowing about the natural world</p>  <p>Nature</p>	<p>Phenomenon Observing facts and events</p>  <p>Phenomenon</p>	<p>The Real World Knowing about scientists and science in our everyday lives</p>  <p>The Real World</p>
<p>National Curriculum</p>	<ul style="list-style-type: none"> Compare groups of materials, 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 Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature 		<ul style="list-style-type: none"> Observing and measuring Identifying and classifying Gathering and recording data
<p>Lesson</p>	<p>Learning Intention</p>	<p>Overview</p>	
<p>1. What are states of matter?</p>	<ul style="list-style-type: none"> Identify the states of matter as solid, liquid, gas Know some of the properties of each state 		
<p>2. Does the volume change?</p>	<ul style="list-style-type: none"> Make careful observations and measurements of volume recording in tables and use them to draw conclusions Know that liquids do not change in volume when they are poured into a different container 		
<p>3. Do solids behave like liquids?</p>	<ul style="list-style-type: none"> Know that solids consisting of very small pieces behave like liquids in some ways 		
<p>4. What happens when you mix a solid with a liquid?</p>	<ul style="list-style-type: none"> Know that changes occur when some solids are added to water Make careful observations, recording results in tables and make comparisons 		
<p>5. What are the properties of solid, liquids and gases?</p>	<ul style="list-style-type: none"> Describe what is meant by the property of a substance Name the properties of solids, liquids and gases Explain which state of matter a substance is in based on its properties 		

6. How do particles behave inside solids, liquids and gases?	<ul style="list-style-type: none"> • Describe what a particle is • Describe how particles are arranged in solids, liquids and gases • Explain how we know particles in liquids and gasses are moving
7. What happens when you heat or cool each state of matter?	<ul style="list-style-type: none"> • Describe what happens to particles when a substance is heated or cooled • Predict what happens to a solid, liquid or gas when it is heated or cooled • Give evidence to show that each state expands when heated and contracts when cooled
8. What are changes of state and why do they take place?	<ul style="list-style-type: none"> • Describe what happens to the arrangement of particles when a substance changes state • Name each of the changes of state • Give an example of each change in state
9. What are melting points and boiling point?	<ul style="list-style-type: none"> • Describe what is meant by melting point and boiling point • Describe how it is possible to measure the melting point and boil point of a substance • Suggest which state of matter a substance will be in given its temperature
10. Can you melt metals?	<ul style="list-style-type: none"> • Know that different solids melt at different temperatures • Know that melting and solidifying or freezing are changes that can be reversed and are the reverse of each other
11. Which substances do not fit into one state of matter?	<ul style="list-style-type: none"> • Give examples of substances that do not show typical properties of any state of matter • Explain how some substances do not show typical properties of one state of matter • Describe what a non-Newtonian fluid is
12. Review	<ul style="list-style-type: none"> • End of unit quiz