

STUFF AND SUBSTANCE: TEN KEY PRACTICALS IN CHEMISTRY LINKS TO E-RESOURCES

The multimedia package that accompanies the booklet *Stuff and Substance: Ten Key Practicals in Chemistry* can be accessed from the National STEM Centre eLibrary:

[Stuff and Substance e-resources](#)

The table below has links to the main sections of the e-resources related to each activity in the booklet. (Each link goes to the first page of the section – use the *Next* button to browse the subsequent pages.) Within each section of the package, animations and videos of particular relevance to the booklet have been given separate links.

<p>Activity 1 Melting points</p>	<p>Section A: Melting and freezing</p> <ul style="list-style-type: none"> • Animation: melting and sample size • Video: sodium chloride melting • Video: lead melting <p>Section O: Change of state</p> <p>Section B: Particle theory</p> <ul style="list-style-type: none"> • Animation: wax at 20 °C and 50 °C • Animation: wax at the melting point
<p>Activity 2 Predicting with the particle model</p>	<p>Section C: The gas state</p> <ul style="list-style-type: none"> • Animation: particles in a 'drop' being heated • Video: drop of water injected into hot syringe • Video: bubbles forming in boiling water • Video: boiling candle wax <p>Section D: Substances and the three states</p> <ul style="list-style-type: none"> • Graph: melting points and boiling points
<p>Activity 3 Melting behaviour of materials</p>	<p>Section F: Melting behaviour Video: wax and chocolate compared</p> <p>Section C: The gas state</p> <ul style="list-style-type: none"> • Animation: boiling behaviour of water • Animation: boiling of a mixture (Section F) <p>Section I: Recognising dissolving</p> <ul style="list-style-type: none"> • Mixtures that are not solutions
<p>Activity 4 Recognising dissolving</p>	<p>Section I: Recognising dissolving</p> <ul style="list-style-type: none"> • Animation: sugar dissolving in water • Animation: glycerine dissolving in water <p>Section J: Solubility</p> <ul style="list-style-type: none"> • Video: crystal formation • Video: solvents other than water <p>Section K: Separating Mixtures</p> <ul style="list-style-type: none"> • Video: Filtering

<p>Activity 5 Dissolving gases</p>	<p>Section I: Recognising dissolving</p> <ul style="list-style-type: none"> • Animation: gas dissolving in liquid • Video: ammonia dissolving in water <p>Section K: Separating Mixtures</p> <ul style="list-style-type: none"> • Video: air bubbles in heated rainwater
<p>Activity 6 Investigating evaporation</p>	<p>Section G: Evaporation of water</p> <ul style="list-style-type: none"> • Video: water evaporating over five days • Animation: water evaporating and boiling compared <p>Section H: Condensation of water</p> <ul style="list-style-type: none"> • Video: water condensing on cold metal block
<p>Activity 7 What kind of change?</p>	<p>Section L: Structures</p> <ul style="list-style-type: none"> • Animation: zooming in to see structures of ice and salt • Animation: molecular structures and low melting points • Image: calcium carbonate as a complex giant structure <p>Section M: Substances changing</p> <ul style="list-style-type: none"> • Animation: chemical change as a re-arrangement of atoms • Video: reaction between ammonia and hydrogen chloride • Video: reaction between calcium and water
<p>Activity 8 Magnesium and oxygen</p>	<p>Section M: Substances changing</p> <ul style="list-style-type: none"> • Video: reaction between magnesium and oxygen • Video: reaction between potassium iodide and lead nitrate solutions • Video: thermal decomposition of copper carbonate
<p>Activity 9 Investigating rusting</p>	<p>There are no e-resources directly related to the pupil activity on rusting.</p>
<p>Activity 10 A lighted candle</p>	<p>Section V: Fire</p> <ul style="list-style-type: none"> • Video: hydrogen burning in air • Video: methane burning in air • Video: combustion of propanone • Video: combustion of oleic acid • Video: melting candle wax, combustion and the use of a wick • Video: reaction of carbon with oxygen (without a flame) • Video: decomposition of sugar when heated