

## Mix and Flow of Matter Summary & Review

<p><b>Key Concepts</b> Science Focus 8 (Unit At A Glance p. 90)</p>	<p>Guiding Questions and Activities to Help you Study</p>
<p><b>Topic 1</b> The <u>Particle Model of Matter</u></p>	<ul style="list-style-type: none"> <li>- What properties distinguish solids, liquids and gases (p.7)?</li> <li>- What are the key ideas in the Particle Model of Matter (p. 8)?</li> <li>- Describe the action of particles in solids, liquids and gases. (p. 9-10)</li> <li>- Describe the Changes of State and the terminology used, when a substance undergoes a specific change of state. (p. 11-12)</li> </ul>
<p><b>Topic 2</b> Classification of Matter <u>WHMIS</u></p>	<ul style="list-style-type: none"> <li>- How is matter classified? (p. 13)</li> <li>- What is the difference between a homogenous and a heterogeneous mixture? (p.14)</li> <li>- Describe a suspension, a colloid, and an emulsion. (p.15)</li> <li>- What conditions must be present to enable a material to dissolve in another material? (p.17)</li> <li>- Explain the difference between a solute and a solvent. (p.18)</li> <li>- Why is water called 'the universal solvent'? (p.19)</li> <li>- What affects the rate at which a material will dissolve? (p.19)</li> <li>- What is a saturated solution? (p.21)</li> <li>- Why are some substances insoluble? (p.24)</li> </ul>
<p><b>Topic 3</b> Solutions (mixing, dissolving, solute, solvent)</p>	<ul style="list-style-type: none"> <li>- Describe the 'desert tent' method of separation. (p.28)</li> <li>- What is desalination? (p.28)</li> <li>- Describe how distillation is able to separate the parts of a solution. (p.29)</li> <li>- How is petroleum separated and the fractional parts collected? (p.30)</li> <li>- How is ore (such as gold) mined and collected? (p.31)</li> <li>- Describe, in general terms, how sugar is processed from sugar cane. (p.36)</li> </ul>
<p><b>Topic 4</b> Viscosity and Flow Rate</p>	<ul style="list-style-type: none"> <li>- How is the thickness or a thinness of a fluid measured and what is it called? (p. 40)</li> <li>- Describe some practical applications of the knowledge about viscosity. (p.45)</li> <li>- How is viscosity in different fluids affected by temperature? (p. 48-49)</li> </ul>
<p><b>Topic 5</b> Density</p>	<ul style="list-style-type: none"> <li>- Calculate density using a formula. (p.57)</li> <li>- How are mass and volume related, when determining density?</li> <li>- Describe the density of solids liquids and gases, using the particle model. (p.51)</li> </ul> <p>(Calculated by dividing mass by volume) Response to change in temperature</p>
<p><b>Topic 6</b> Buoyancy</p>	<ul style="list-style-type: none"> <li>- How is buoyancy determined?</li> <li>- Describe how a ship (made out of steel) can float..</li> <li>- How does a '<i>cartesian diver</i>' work?</li> <li>- What is average density and what benefits does it have?</li> <li>- Explain '<i>Archimedes Principle</i>' and how he came to formulate it.</li> <li>- Describe how scuba gear works. (p. 69)</li> </ul>
<p><b>Topic 7</b> Fluid Pressure (Calculated by dividing force by area)</p>	<ul style="list-style-type: none"> <li>- Calculate pressure using a formula.</li> <li>- What conditions must be met to compress a gas? (p. 73)</li> <li>- Provide some examples of the advantages of compression.</li> <li>- What effect does atmospheric pressure have on our body? (p.75)</li> <li>- How is atmospheric pressure affected by altitude? (p.75)</li> </ul>
<p><b>Topic 8</b> Fluid Systems Hydraulics Pneumatics</p>	<ul style="list-style-type: none"> <li>- Describe how a fire extinguisher works. (p.79)</li> <li>- Describe the components needed to make a hydraulic system. (p.80)</li> <li>- What is the primary difference between hydraulic systems and pneumatic systems? (p.81)</li> </ul>
<p>Design a Concept Map linking the ideas introduced and reinforced in this Unit on <b>Mix and Flow of Matter</b></p>	
<p>Try some of the <b>Practice Quizzes</b> to see how much you have recalled from this Unit</p>	