

Unit 1 – Mix and Flow of Matter









Complete each of the following questions, relating to the specific learner outcomes, covered this year in Grade 8. The questions in this review reflect what you should have mastered and will be tested on in the **Final Achievement Exam**. The answers will be covered in class.

Part 1 – Fluids are used in Technological devices and common everyday materials

What does the acronym W.H.M.I.S. stand for?

W _____ H _____ M _____ I _____ S _____

Identify the WHMIS symbols illustrated and explain what Safety procedures should be followed.

Symbol	Type of Hazard	Safety Procedure
		
		
		
		
		
		
		
		

Describe 'Slurry' technology

Part 2 – Properties of matter, using the Particle Model

What properties distinguish **solids**, liquids and gases (p.7)?

Solids	Liquids	Gases

What are the key ideas in the **Particle Model of Matter** (p. 8)?

Describe the action of **particles** in solids, liquids and gases. (p. 9-10)

Solids	Liquids	Gases

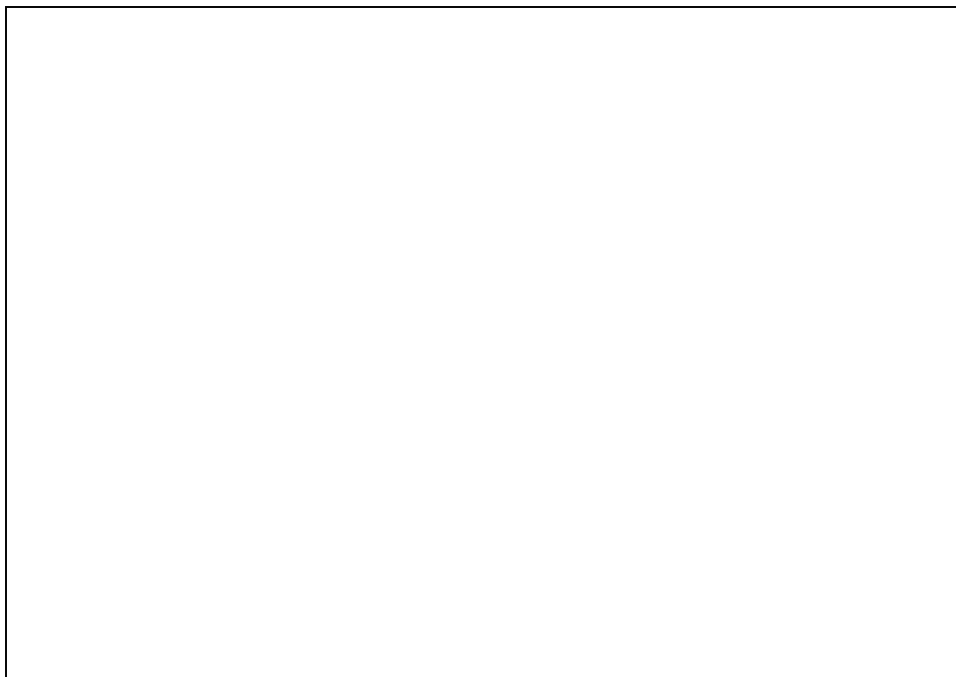
Part 3 – Changes of State

Describe the Changes of State and the terminology used, when a substance undergoes a specific change of state. (p. 11-12)



Part 4 – Classification of Matter

How is matter classified? (p. 13)



Part 5 – Solutions

Describe a **suspension**, a **colloid**, and an **emulsion**. (p.15)

What conditions must be present to enable a material to **dissolve** in another material? (p.17)

Explain the difference between a **solute** and a **solvent**. (p.18)

Why is water called '**the universal solvent**'? (p.19)

What affects the **rate** at which a material will dissolve? (p.19)

What is a **saturated** solution? (p.21)

Why are some substances **insoluble**? (p.24)

Part 6 – Separation Methods

Describe the '**desert tent**' method of separation. (p.28)

What is **desalination**? (p.28)

Describe how **distillation** is able to separate the parts of a solution. (p.29)

How is petroleum separated and the **fractional parts** collected? (p.30)

How is **ore** (such as gold) mined and collected? (p.31)

Describe, in general terms, how sugar is **processed** from sugar cane. (p.36)

Part 7 – Properties of gases and liquids (using the Particle Model)

Viscosity – Density - Buoyancy - Pressure

How is the **thickness or a thinness** of a fluid measured and what is it called? (p. 40)

Describe some **practical applications** of the knowledge about viscosity. (p.45)

How is viscosity in different fluids affected by **temperature**? (p. 48-49)

Calculate density using a formula. (p.57)

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How are **mass and volume related**, when determining density?

Describe the density of solids liquids and gases, using the **particle model**. (p.51)

How is **buoyancy** determined?

Describe how a ship (made out of steel) can **float**.

How does a '*cartesian diver*' work?

What is **average density** and what benefits does it have?

Explain '*Archimedes Principle*' and how he came to formulate it.

Describe how **scuba gear** works. (p. 69)

Calculate pressure using a formula.

What conditions must be met to **compress** a gas? (p. 73)

Provide some examples of the **advantages of compression**.

What effect does **atmospheric pressure** have on our body? (p.75)

How is atmospheric pressure affected by **altitude**? (p.75)

Describe how a **fire extinguisher** works. (p.79)

Describe the components needed to make a **hydraulic system**. (p.80)

What is the primary difference between **hydraulic systems** and **pneumatic systems**? (p.81)
