

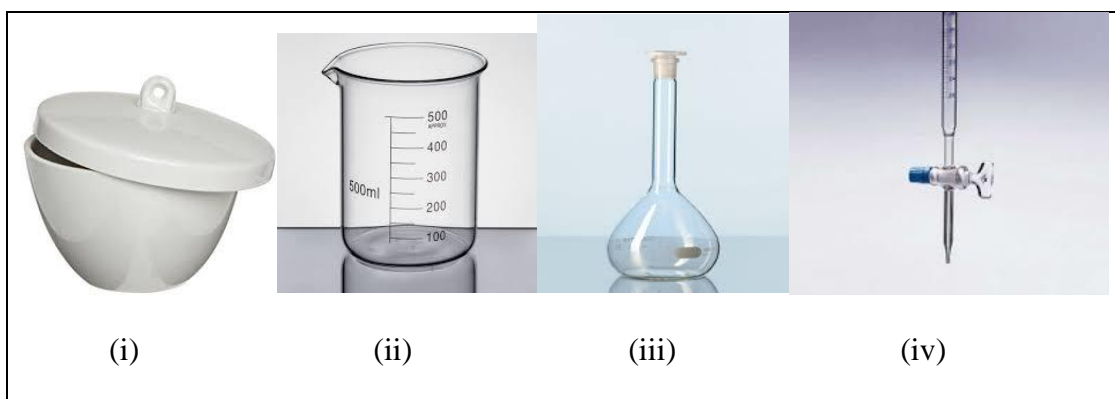
## RISHIKUL SANATAN COLLEGE

### YEAR 11 CHEMISTRY REVISION WORKSHEET 1

#### DAY 1 ACTIVITY

#### STRAND 1: GENERAL CHEMISTRY

- What would be the benefit of having a chemical base industry in our country?
  - More revenue for the government
  - Enforce cleanliness
  - Produce useful product
  - Advocate on climate change
- Which of the following rules can be classified as a laboratory rule?
  - Maintain silence
  - Shelve books after reading
  - Always hold the bottle by the neck
  - When diluting acid always add to water
- Given below are some important laboratory apparatus used in Year 11 Chemistry experiments.



State the **names** and **uses** of glassware (i) – (iv) given below.

	NAME	USE
(i)		

2.

(ii)		
(iii)		
(iv)		

**DAY 2 ACTIVITY**

**STRAND 1: GENERAL CHEMISTRY**

1. Study the diagram given below and answer the question that follow.



State the reading on the glassware shown above.

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3.

2. (a) Write the number of significant figures present in each of the following measurements.

(i)  $4.03 \times 10^{-4}$  \_\_\_\_\_

(ii) 205mL \_\_\_\_\_

(b) Given in the table below are four different readings of the same amount of acid in a burette taken during a Chemistry class.

Reading	1	2	3	4
Volume	7.5mL	8.01mL	7.73mL	7.9mL

Calculate the average volume of water to the correct number of significant figures.

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**DAY 3 ACTIVITY****STRAND 2:****INVESTIGATING MATTER**

1. Particles in a solid are
  - A. far apart and able to move.
  - B. close together and able to move.
  - C. far apart and vibrating in one place.
  - D. close together and vibrating in one place.
  
2. The **energy** that causes particles in ice to change to water is known as
  - A. melting.
  - B. freezing.
  - C. enthalpy of fusion.
  - D. enthalpy of vapourisation.
  
3. Isotopes are atoms of the same element that have the same number of
  - A. protons.
  - B. neutrons.
  - C. molecules.
  - D. protons and neutrons.
  
4. A covalent substance
  - A. conducts electricity in molten or solution form.
  - B. has higher solubility in water than ionic substances.
  - C. has lower melting and boiling points than ionic substances.
  - D. has higher melting and boiling points than ionic substances.
  
5. Which of the following is an example of an element?
  - A. Water
  - B. Magnesium
  - C. Orange juice
  - D. Ammonia gas
  
6. Physical change is reversible, which of the following can be classified as physical change?
  - A. Digestion
  - B. Photosynthesis
  - C. Melting of ice caps

5.

D. Reaction between oxygen and metal.

7. Enthalpy of fusion is the amount of heat energy needed to:

A. make the particles move.

B. change water from liquid to gas.

C. change water from solid at  $0^{\circ}\text{C}$  to liquid at  $0^{\circ}\text{C}$ .

D. change water from solid at  $0^{\circ}\text{C}$  to liquid at  $100^{\circ}\text{C}$

8. Gas pressure is caused by

A. The weight (mass) of the molecules of gas.

B. The repulsion between gas molecules.

C. The collision of the molecules with the walls of the container.

D. The kinetic energy of the gas molecules.

#### DAY 4 ACTIVITY

##### STRAND 2:

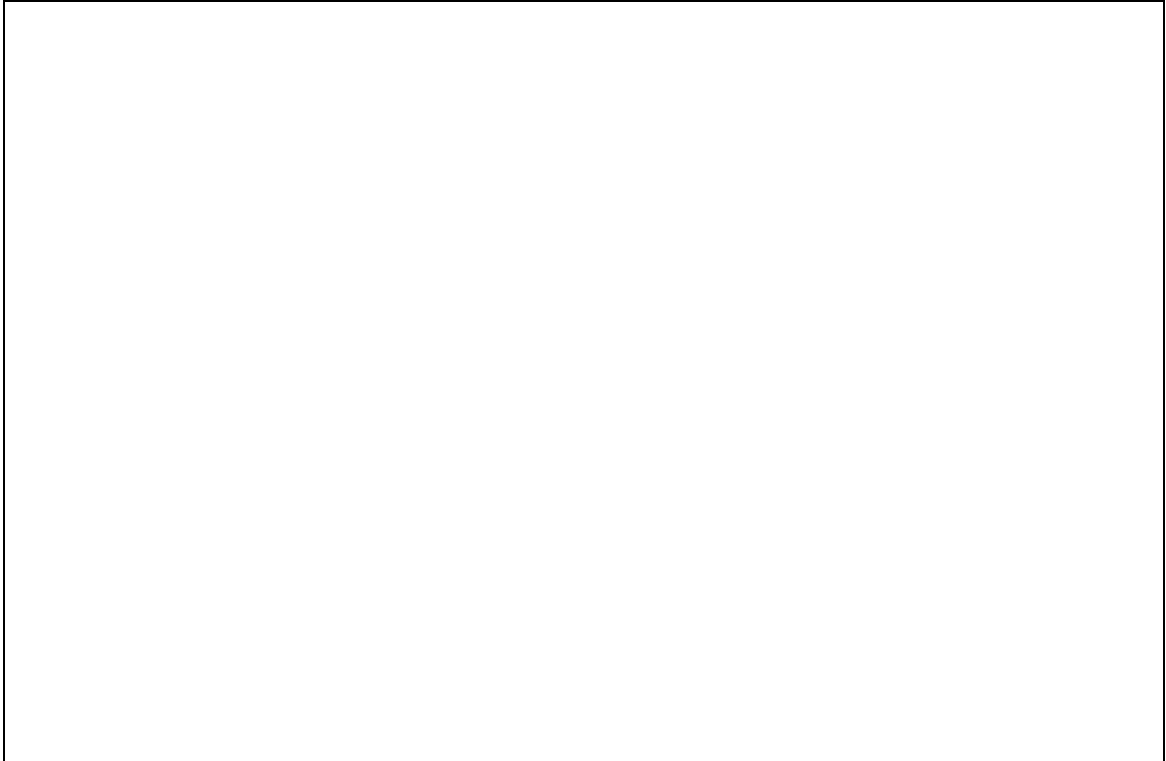
##### INVESTIGATING MATTER

1. During the pressure-volume relationship experiment, the following results were obtained.

Pressure (Number of books)	Volume of gas ( $\text{cm}^3$ )
1	60
2	38
3	26
4	21
5	18

6.

(i) Using the results given, plot a graph of **volume against pressure**.



(ii) Describe the relationship between volume and pressure as illustrated by the graph drawn.

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(iii) Will the volume ever become zero if the pressure is increased further?

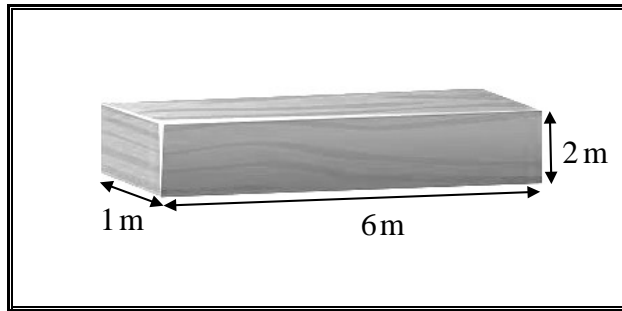
Provide a reason for it.

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2. In an experiment to determine the **density of a regular solid**, the following rectangular wood block which has a mass of 50 g was used as shown below.



Calculate the **density** of the rectangular wood block.

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3. (a) Complete the missing Steps 2 and 4 that need to be followed to determine the density of a liquid.
1. Weigh a dry measuring cylinder and record its mass.
  2. \_\_\_\_\_.
  3. Then weigh the measuring cylinder with the liquid to determine the mass of the liquid.
  4. \_\_\_\_\_.

8.

- (b) In an experiment on **diffusion of gases**, it was concluded that ammonia gas travelled faster than hydrogen chloride gas.

Provide a reason for this.

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- (c) The density of a liquid changes as its temperature changes.

- (i) State what happens to the density if the temperature is increased.

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- (ii) Provide an explanation for your answer in part (i) above, using the **particle model of matter**.

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4. The element magnesium ( ${}_{12}^{24}\text{Mg}$ ), forms a positive ion.

- (i) State if magnesium loses or gains electrons.

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- (ii) Write the electron configuration of the magnesium ion.



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(iii) Explain why atoms form ions.

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5. (a) Differentiate between elements and compounds. Examples can be used to support your answer.

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(b) The solubility of a substance depends on the temperature.

(i) Define **solubility**.

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(ii) Describe what happens to the solubility of a substance as the temperature increases.

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(c) Calculate the formula mass of  $\text{CuSO}_4$ .

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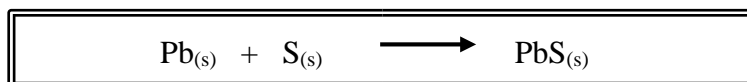
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**DAY 5 ACTIVITY****STRAND 3: REACTIONS**

1. The reaction of lead and sulphur to form lead sulphide is an example of a \_\_\_\_\_ reaction.



- A. synthesis  
B. combustion  
C. neutralisation  
D. decomposition
2. In an electrolysis set-up, the current is supplied by \_\_\_\_\_.
- B. ions  
C. battery  
B. anode  
D. cathode
3. When solutions of silver nitrate ( $\text{AgNO}_3$ ) and sodium chloride ( $\text{NaCl}$ ) are mixed together, a precipitate is formed.

- (i) Define precipitate.

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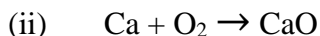
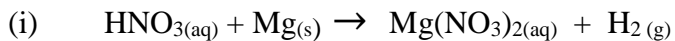


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- (ii) Write a balanced net ionic equation for the reaction.

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4. Balance the unbalance equation shown below.

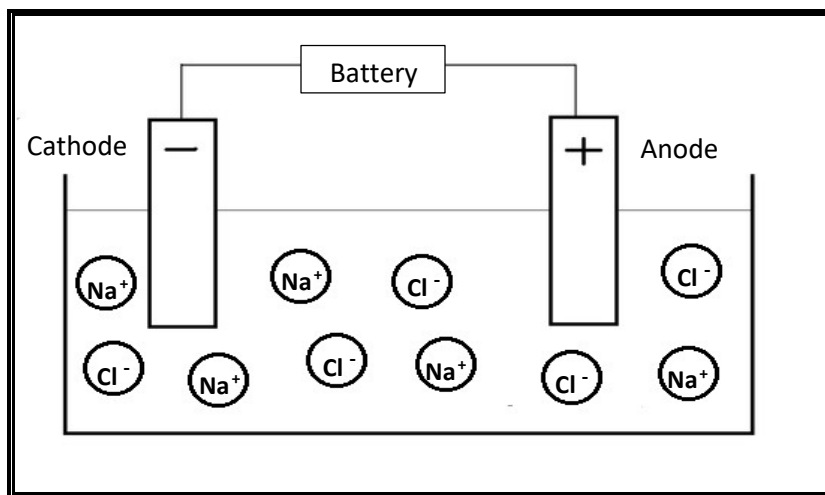


5. Oxidation-reduction reaction always occur simultaneously. Use the unbalanced oxidation - reduction reaction equations given below to answer the question



Balance the half equations I and II.

6. The diagram below shows the set-up for the electrolysis of molten sodium chloride.



- (i) Use arrows to show the direction of the movements of positive and negative ions on the diagram.

(Note: The direction of only one of the positive and negative ions need to be shown)

- (ii) In the **same diagram** indicate the direction of the flow of electrons.

13.

- (iii) Write the equation for the oxidation reaction that will take place in the electrolysis.
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