Science 9 – Chapter 5 Review Worksheet (prepare for the test!)

Chapter 5.1 - Classification of matter (page 152 to 155)

1. ***Concept summary chart***

Concept	**Definition**	**Diagram** (show how the concept is represented with atoms and molecules – KMT)	**Examples**
pure substances			
- Element			
- Compound			
Mixtures			
- Heterogeneous			
- Homogeneous			

2. ***Page 152 Figure 2: (draw the chart here)***

3. ***Predict test questions:*** Imagine that you are the teacher. Create 4 test questions (with answers) to assess students understanding of the concepts of section 5.1.
    a. Question
        i. Answer
    b. Question
        i. Answer
    c. Question
        i. Answer
    d. Question
        i. Answer

Chapter 5.2 – Properties of Matter (page 157 to 163)

1. ***Concept summary chart***

Concept	Definition
Physical Properties	
- States of Matter	
- melting point	
- boiling point	
- solubility	
- conductivity	
- density	
Chemical Properties	
- flammability	
- corrosion	
- reaction with acid	

2. ***Predict test questions:*** Imagine that you are the teacher. Create 4 test questions (with answers) to assess students understanding of the concepts of section 5.2.
    a. Question
        i. Answer
    b. Question
        i. Answer
    c. Question
        i. Answer
    d. Question
        i. Answer

<u>Chapter 5.3 – Changes in Matter (page 166 to 169)</u>

1. ***Concept summary chart***

Concept	Definition	Examples
Physical Change		
Chemical change		

2. ***Identifying Chemical and Physical Change –*** For each sentence, fill in the blank using one of the words written in *(brackets and italics)*:

   a. When a ***chemical change*** occurs, a new substance _____ *(is/is not)* formed.

   b. When a ***physical change*** occurs, a new substance _____ *(is/is not)* formed.

   c. _____ *(physical/chemical)* changes ***are*** reversible (the substance can be changed back to its original form – the change ***is not permanent***).

   d. _____ *(physical/chemical)* changes ***are not*** reversible (the substance cannot be changed back to its original form – the change ***is permanent***).

3. ***Predict test questions:*** Imagine that you are the teacher. Create 4 test questions (with answers) to assess students understanding of the concepts of section 5.3.
   a. Question

      i. Answer

   b. Question

      i. Answer

   c. Question

      i. Answer

   d. Question

      i. Answer

Chapter 5.4 – The Kinetic Molecular Theory and Changes of State

1. ***Kinetic Molecular Theory (KMT) -*** List the ***5 principles*** that make up the KMT (refer to page 172, top of the page)

   -
   -
   -
   -
   -

2. ***States of Matter explained with the Kinetic Molecular Theory (refer to page 172 - Table 2)***

State of Matter	Solid	Liquid	Gas
Distance of particles from each other			
Type of motion of particles			
Attractive forces between particles			
Energy of particles			
Diagram, showing the particles			

3. ***Complete each of the following sentences:***

   a. When heat is _____ *(added/removed)* a solid can change to liquid state.

   b. When heat is _____ *(added/removed)* a gas can change to liquid state.

   c. When heat is removed a liquid can change to _____ *(solid/gas)* state.

4. ***Dissolving – Use the kinetic molecular theory to explain how salt dissolves in water:***
   a. Explain in words (full sentences) – refer to the behaviour of the particles.

   b. Draw a diagram of salt dissolved in water, showing the particles and how they are mixed together.

5. When 10.0 mL of water is mixed with 10.0 mL of isopropyl alcohol (rubbing alcohol), the resulting mixture has a volume of 18.6 mL. Use the kinetic molecular theory to explain why the total volume of the two liquids is less after they are mixed, than it was when the two liquids were in separate containers?
   a. Explain in words (full sentences) – refer to the behaviour of the particles.

   b. Draw a diagram of isopropyl alcohol dissolved in water, showing the particles and how they are mixed together.

6. ***Predict test questions:*** Imagine that you are the teacher. Create 4 test questions (with answers) to assess students understanding of the concepts of section 5.4.
    a. Question

        i. Answer

    b. Question

        i. Answer

    c. Question

        i. Answer

    d. Question

        i. Answer