Instructions

Read each question carefully and answer to the best of your ability. The questions are divided by chapter and subtopic. Good luck!

Chapter 5: Properties of Matter

5A: Properties of Evaporation

1. Fill in the blanks to complete the sentences about evaporation.

   Evaporation is the process where a liquid turns into a _____ without boiling. The rate of evaporation can be increased by increasing the _____ of the liquid, increasing the _____ area exposed to the air, and by increasing the _____ flow (wind) over the surface.

5B: Boiling and Evaporation

2. Complete the table below to compare boiling and evaporation.

Feature	**Evaporation**	**Boiling**
Temperature	Can occur at any temperature.	
Location in Liquid		Occurs throughout the entire liquid.
Bubbles		Bubbles are formed.

Chapter 6: Physical and Chemical Changes

6A: Physical Changes

3. Are the following statements True or False? Circle the correct answer.
   - a) Tearing a piece of paper is a physical change. **(True / False)**
   - b) In a physical change, a new substance is formed. **(True / False)**
   - c) Melting an ice cube is an example of a physical change. **(True / False)**

6B: Dissolving

4. Match the term with its correct definition.

   A. Solute — 1. The liquid in which a substance dissolves.

   B. Solvent — 2. The mixture formed when a substance dissolves in a liquid.

   C. Solution — 3. The substance that dissolves in a liquid.

6C: Chemical Reactions

5. List three signs that a chemical reaction (a chemical change) may have occurred.
6. _____
7. _____

8. _____

Chapter 7: Effects of Forces

7A: Mass, Weight, and Gravity

6. Choose the correct word to complete each sentence.

   a) The amount of 'stuff' in an object is called its (mass / weight) and is measured in kilograms (kg).

   b) The force of gravity pulling on an object is its (mass / weight) and is measured in Newtons (N).

   c) If you travelled to the Moon, your (mass / weight) would change, but your (mass / weight) would stay the same.

7B: Forces in Action

7. What is friction? Give one example of when friction is helpful.
8. _____

9. When are forces on an object described as 'balanced'? What happens to the object's movement when forces are balanced?
10. _____

Chapter 8: Movement of Light

8A: Reflection of Light

9. When light hits a smooth, shiny surface like a mirror, it bounces off. This is called reflection. The "Law of Reflection" states that the angle of incidence is equal to the angle of _____.

8B: Refraction of Light

10. Explain briefly why a straw placed in a glass of water appears to be bent.
11. _____
    _____

Chapter 9: More About Electrical Circuits

9A: Circuit Symbols and Diagrams

11. Match the circuit component to its standard symbol description.

A. Bulb (Lamp)	1. A long line and a short line, representing positive and negative terminals.
B. Switch (Open)	2. A circle with a cross inside it.

C. Cell	3. A break in the line with a small circle at the end of each line segment.
D. Buzzer	4. A circle with a semi-circle inside it, like a small dome.

9B: Types of Circuit

12. Imagine you have two circuits, each with two light bulbs. One is a series circuit and the other is a parallel circuit. What happens in each circuit if one of the bulbs breaks?

    Series Circuit: _____

    Parallel Circuit: _____

Chapter 10: More about Rocks

10A: Types of Rocks

13. Fill in the blanks with the correct type of rock (Igneous, Sedimentary, or Metamorphic).

    a) _____ rocks are formed from cooled magma or lava.

    b) _____ rocks are formed from layers of sand, mud, and pebbles that are squeezed together over a long time.

    c) _____ rocks are formed when other rocks are changed by intense heat or pressure.

10B: The Rock Cycle

14. Complete the sentences describing the rock cycle.

    When rocks are weathered and eroded, they break down into small pieces called _____. When magma cools and hardens, it becomes _____ rock. When a rock is subjected to intense heat and pressure, it can change into a _____ rock.

Chapter 11: Soil

11A: Types of Soil

15. For each soil type, state if its particles are large or small, and if it drains water quickly or slowly.
    - **Sandy Soil:** Particles are _____, and it drains water _____.
    - **Clay Soil:** Particles are _____, and it drains water _____.

11B: Soil Composition and Plant Growth

16. List the four main components of healthy soil.
17. 1. _____
18. 2. _____
19. 3. _____

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20. 4. _____

21. What is 'humus' and why is it important for plant growth?
22. _____

Answer Key

Chapter 5: Properties of Matter

1. gas, temperature, surface, air

Feature	Evaporation	Boiling
Temperature	Can occur at any temperature.	**Occurs only at a specific temperature (the boiling point).**
Location in Liquid	**Only occurs on the surface of the liquid.**	Occurs throughout the entire liquid.
Bubbles	**No bubbles are formed.**	Bubbles are formed.

Chapter 6: Physical and Chemical Changes

3. a) True, b) False, c) True
4. A - 3, B - 1, C - 2
5. Any three of the following: color change, gas produced (bubbles), heat or light produced, a new solid (precipitate) is formed, a new smell is produced.

Chapter 7: Effects of Forces

6. a) mass, b) weight, c) weight, mass
7. Friction is a force that opposes motion between two surfaces in contact. A helpful example is the grip between car tires and the road, or the grip of your shoes on the ground.
8. Forces are 'balanced' when they are equal in size and opposite in direction. When forces are balanced, a stationary object stays still, and a moving object continues to move at a constant speed and direction.

Chapter 8: Movement of Light

9. reflection
10. Light travels at different speeds in different materials (mediums). When light passes from the water to the air, it bends (refracts) because it speeds up. This bending makes the part of the straw in the water appear to be in a different position.

Chapter 9: More About Electrical Circuits

11. A - 2, B - 3, C - 1, D - 4
12. **Series Circuit:** The other bulb will go out because the break in the first bulb creates a gap in the single path for the electricity.
    Parallel Circuit: The other bulb will stay lit because the electricity still has a complete, separate path (branch) to flow through.

Chapter 10: More about Rocks

13. a) Igneous, b) Sedimentary, c) Metamorphic
14. sediment, igneous, metamorphic

Chapter 11: Soil

15. **Sandy Soil:** Particles are **large**, and it drains water **quickly**.
16. **Clay Soil:** Particles are **small**, and it drains water **slowly**.

17. The four main components are: 1. Minerals (from weathered rock), 2. Organic matter (humus), 3. Air, 4. Water.

18. Humus is the dark, organic material in soil, formed from decomposed plants and animals. It is important because it is rich in nutrients that plants need to grow and it helps the soil hold water.