

Name: \_\_\_\_\_

## Exam for Unit 5: Matter and Energy

1. **Use the words** in the box **to complete the text.**

|      |               |           |             |     |
|------|---------------|-----------|-------------|-----|
| heat | temperature   | separated | cool        | mix |
|      | heterogeneous | liquid    | homogeneous |     |

Matter exists in 3 states: solid, i) \_\_\_\_\_ and gas. To change from one state to another, we change the ii) \_\_\_\_\_ of the material. To change a solid into a liquid, we must iii) \_\_\_\_\_ the material. To change a gas into a liquid, we must iv) \_\_\_\_\_ the material. When we v) \_\_\_\_\_ two or more materials, we create mixtures. In a vi) \_\_\_\_\_ mixture, we can see different materials in the mixture. In a vii) \_\_\_\_\_ mixture, all parts of the material look the same because the materials are well combined. Many mixtures can be viii) \_\_\_\_\_ using different methods.

2. Choose the **odd one out**.

- a) ice / water / water vapour / chocolate
- b) solid / oil / liquid / gas
- c) combustion / evaporation / condensation / solidification
- d) kinetic / potential / mechanical / distillation
- e) evaporation / chemical / filtration / decantation



3. How can knowing the **properties** of a material help us?

**Explain** and **give an example**.

4. Read the definition. **Choose the correct property:**

- a) light passes through easily and objects are seen clearly
- b) will stop energy such as heat from transferring through
- c) will bend easily
- d) will not allow light energy to pass through
- e) transfers energy such as heat or electricity through the material
- f) strong and does not bend or stretch
- e) can produce electricity when light touches the surface

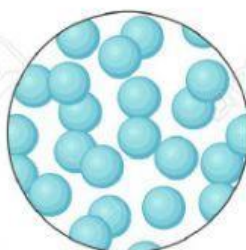
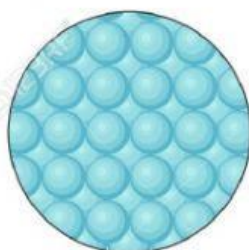
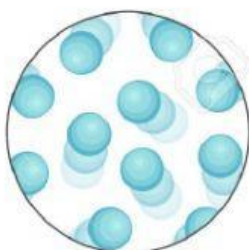
5. Read the descriptions of these mixtures. **Choose the best method to separate the materials:**

- a) Iron and sand
- b) Sand and water
- c) Water and ethanol
- d) Salt and water
- e) Coronavirus and air

6. Look at these examples of separation methods. **Identify the separation method:**



7. a) Look at the 3 diagrams of states of matter. **Choose the correct state.**



b) Explain how we change **a solid into a liquid:**

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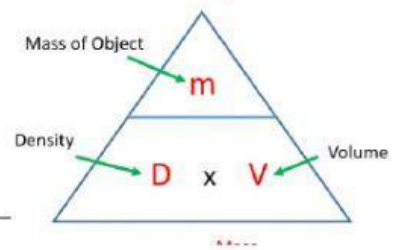
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c) Explain how we change **a gas into a liquid:**

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8. **Write a definition** for these three things:



a) *Mass is* \_\_\_\_\_

\_\_\_\_\_

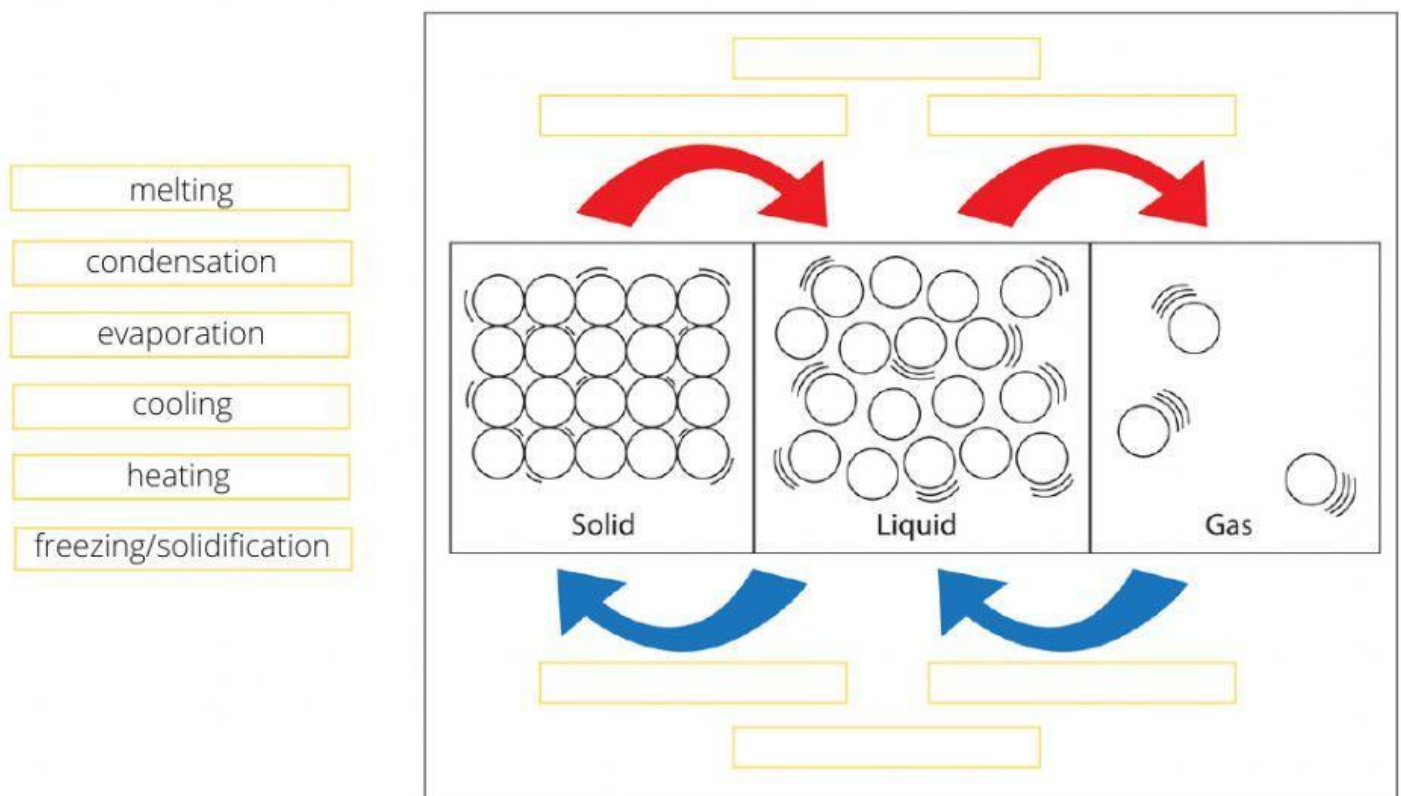
b) *Volume is* \_\_\_\_\_

\_\_\_\_\_

c) *Density is* \_\_\_\_\_

\_\_\_\_\_

9. **Complete the diagram** of changing states by moving the words.



10. Complete the sentences with **chemical or physical**:

a) \_\_\_\_\_ changes are irreversible, eg. fermentation of milk.

b) \_\_\_\_\_ changes can sometimes be irreversible but this depends on the material, eg. melting chocolate.

c) Changes of state are \_\_\_\_\_ changes, eg., changing ice into water.

