

Name	Class	Roll no.	Date	Marks	/ 34
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1 Key words

[4]

Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

atom chemical change compound density element mixture molecule neutron
physical change relative density

The mass per unit volume of a substance is its _____. The ratio of the density of a substance to the density of water at 4 °C is its _____. A pure substance that can't be broken down into simpler substances by any chemical process is an _____. The smallest particle of an element that can take part in a chemical reaction is an _____. A group of two or more atoms joined together is a _____. A pure substance formed when two or more elements combine chemically in a fixed proportion is a _____. A change in which no new substance is formed is a _____, and a change that forms a new substance with new properties is a _____.

2 Multiple choice

[5]

Choose the correct option for each of the following questions.

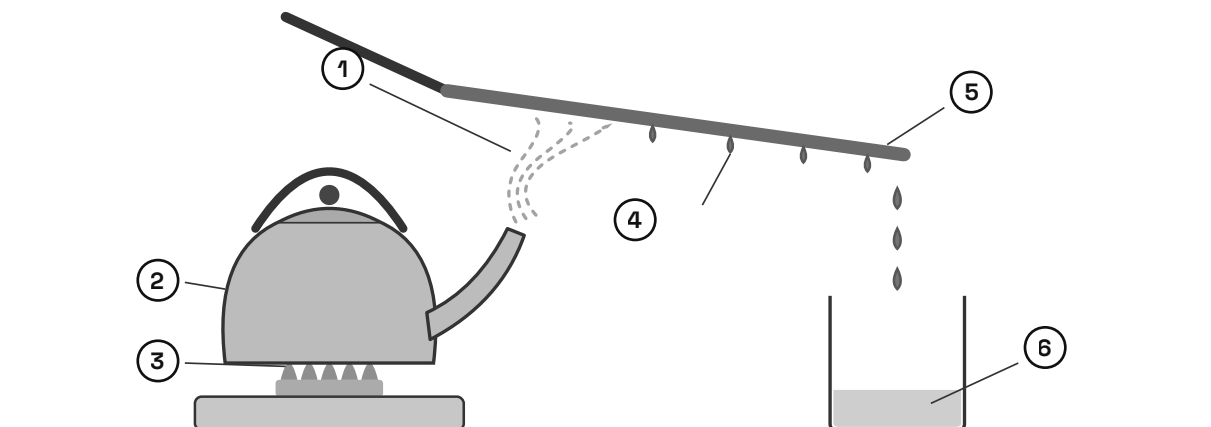
- i. What is the density of water? [1]
 - a. 1 g/cm^3
 - b. 10 g/cm^3
 - c. 100 g/cm^3
 - d. 1000 g/cm^3
- ii. Which of the following best defines a molecule? [1]
 - a. the smallest particle of matter
 - b. the smallest particle having all the properties of the substance
 - c. the smallest particle having the properties of all substances
 - d. the smallest particle having a mixture of properties
- iii. Which group shows only physical changes? [1]
 - a. breaking a lump of salt, cooling water to make ice, making furniture from wood
 - b. making curd from milk, cooling water to make ice, making furniture from wood
 - c. making furniture from wood, breaking a lump of salt, rusting of iron
 - d. rusting of iron, forming ice on cooling, grinding spices
- iv. Which of the following is true for potassium? [1]
 - a. Its atomic number is 19 and its symbol is P, as its name begins with P.
 - b. Its atomic number is 15 and its symbol is P, as its name begins with P.
 - c. Its atomic number is 19 and its symbol is K, from its Latin name, kalium.
 - d. Its atomic number is 15 and its symbol is K, from its Latin name, kalium.



- v. A piece of candle wax (relative density 0.9) is dropped into kerosene (relative density 0.8). [1]
What happens?
- a. it floats, because wax is lighter than water
 - b. it sinks, because wax is denser than kerosene
 - c. it floats half under, because 0.9 is close to 0.8
 - d. it can't be told without knowing its mass

3 Label the diagram [3]

The diagram shows water changing to vapor and back. Write the names of the parts numbered 1 to 6. Each carries 0.5 mark.



- | | |
|----------|----------|
| 1. _____ | 2. _____ |
| 3. _____ | 4. _____ |
| 5. _____ | 6. _____ |

4 Very short answers [4]

Write very short answers to the following questions.

- a. What is the SI unit of density? [1]

- b. What is the mass of an electron? [1]

- c. Write the symbol of sodium. [1]

- d. How many atoms of each element are there in a molecule of water (H_2O)? [1]



5 Short answers

[8]

Write short answers to the following questions.

- a. Write any two differences between a chemical change and a physical change.

[2]

- b. Give a reason: an egg sinks in pure water but floats in salty water.

[2]

- c. Give a reason: an atom is electrically neutral.

[2]

- d. Give a reason: an iron frame must be painted regularly, but an aluminium frame needs no paint.

[2]

6 Long answer

[4]

Write a long answer to the following question.

Using the figure, describe how elements, molecules, compounds and mixtures are related.

