St. Andrews Scots School

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Class VIII (2026-2027)
Science

Chapter: 8 - Nature of Matter: Elements, Compounds and Mixtures

(Worksheet)

Q.1. Fill in the blanks:

a) A pure substance made up of only one kind of atom is called an _____.

b) A substance formed when two or more elements combine chemically is called a _____.

c) Air is an example of a _____.

d) The components of a mixture can usually be separated by _____ methods.

e) Water is a compound made up of hydrogen and _____.

Q.2. State True or False:

a) Elements can be broken down into simpler substances by ordinary chemical methods.

b) A compound has properties different from those of its constituent elements.

c) The composition of a mixture is fixed.

d) Salt solution is a mixture.

e) Iron and sulphur, when mixed without heating, form a compound.

Q.3. Choose the correct answer:

1. Which of the following is an element?

(a) Water

(b) Oxygen

(c) Common salt

(d) Carbon dioxide

2. Which of the following is a compound?

(a) Air

(b) Brass

(c) Water

(d) Soil

3. Which of the following is a homogeneous mixture?

(a) Sand and water

(b) Oil and water

(c) Salt solution

(d) Soil

4. Which method can be used to separate iron filings from sand?

(a) Filtration

(b) Evaporation

(c) Magnetic separation

(d) Distillation

5. Which statement about mixtures is correct?

(a) They always have a fixed composition.

(b) Their components retain their individual properties.

(c) Their components are chemically combined.

(d) They can never be separated physically.

Q.3. Answer in one sentence:

a) What is an element? Give two examples.

b) What is a compound? Give two examples.

c) What is a mixture? Give two examples.

Q.4. Differentiate between the following :

a) Elements and compounds (any three points).

b) Compounds and mixtures (any three points).

Q.5. Case-based question:

Riya takes iron filings and sulphur powder in a dish and mixes them thoroughly. She observes that both substances retain their individual properties, and the iron filings can be separated using a magnet. Later, the mixture is heated strongly, forming a new substance called iron sulphide.

Answer the following:

a) What is formed when iron filings and sulphur powder are mixed without heating?

b) How can iron filings be separated from the unheated mixture?

c) Is iron sulphide a compound or a mixture?