



CHEMISTRY

BOOKS - ICSE

ELEMENTS, COMPOUNDS, SYMBOLS AND FORMULAE

Exercise I

1. Classify the following substances into elements and compounds.

Mercury, sulphur, sugar, water, sand, gold, carbon, oxygen, alcohol, iron, marble, baking soda.



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2. Give the symbols of : carbon, calcium, copper, chlorine, cobalt, argon.



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3. Define a pure substance. Name the types of pure substances you know.



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4. Define:

(a) Elements

(b) Compounds.



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5. Give two examples for each of the following :

(a) Metals

(b) Non-metals

(c) Metalloids

(d) Noble gases



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6. Name the elements which form water. State three characteristics of water to justify that it is a compound.



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7. Give three differences between metals and non-metals.

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8. State five different characteristics of compounds. Give three differences between elements & compounds with relevant examples.

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9. How is sodium chloride different from its constituent elements, sodium and chlorine in its properties ? Justify.



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10. Give two examples for each of the following

:

(a) Non-metals which are solids

(b) Metals which are soft

(c) Non-metals which are lustrous

(d) Elements which are liquids

(e) Inert gases



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11. Name the elements present in the following compounds.

(a) Sugar

(b) Ammonia

(c) Marble

(d) Washing soda



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12. What is the proportion of elements present in the following compounds ?



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Exercise 11

1. Define:

(a) Atom

(b) Molecule

(c) Atomicity

(d) Formula



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2. Why are symbols and formulae of substances important ?



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3. Mention three gaseous elements and write their molecular formulae.



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4. State the information's obtained from the formula of a compound.



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5. State the difference between the following :

(a) $2H$ and H_2 (b) H_2O and $3H_2O$?



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6. State the number of atoms of each element, present in

(a) $C_6H_{12}O_6$

(b) H_2SO_4

(c) HNO_3

(d) $CaCO_3$

Also name these compounds.



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7. Write the molecular formulae of compounds calcium oxide, hydrogen sulphide, carbon monoxide and lead sulphide.



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8. Give two examples each of compounds existing in the following states :

(a) Solid (b) Liquid (c) Gaseous



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Exercise Iii

1. Name:

- (a) Three different forms of carbon.
- (b) A form of carbon used as a gem.
- (c) Two substances used to make electric wires.
- (d) Two substances used to make jewellery.
- (e) A substance used as an insulator.



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2. Give one use of each of the following substances :

(a) Iron (b) Brass (c) Coal



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3. Give reason :

(a) A frying pan is made up of steel but its handle is made up of wood.

(b) Graphite is used to make lead of the pencils.

(c) Argon is filled in electric bulbs.



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4. Answer the following questions :

(a) Why are copper and aluminium used to make electric wires ?

(b) What do you understand by the statement : 'metals are ductile and malleable' ?



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Objective Type Questions

1. Fill in the blanks :

(a) refers to the number of atoms in the molecule of an element.



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2. Fill in the blanks :

(b) The most abundant element in the earth's crust is



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3. Fill in the blanks :

(c) A metal which is a liquid at room temperature is



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4. Fill in the blanks :

(d) The most abundant element in the atmosphere is



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5. Fill in the blanks :

(e) A metal which is a poor conductor of electricity is



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6. Fill in the blanks :

(f) A diatomic gaseous element is



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7. Fill in the blanks :

(g) A liquid non-metal is



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8. Match the columns :

Column A

Column B

(a) Metals

(i) Non-reactive

(b) Molecules

(ii) Brittle

(c) Non-metals

(iii) Lustrous

(d) Noble gases

(iv) Smallest unit of compound



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9. Indicate whether the following statements are true or false .

(a) A compound is made up of just one kind of atom.



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10. Indicate whether the following statements are true or false .

(b) Metals reflect light and are good conductors of electricity.



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11. Indicate whether the following statements are true or false .

(c) Metals can be polished.



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12. Indicate whether the following statements are true or false .

(d) Elements are made up of compounds.



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13. Indicate whether the following statements are true or false .

(e) All elements are artificially prepared.



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14. Indicate whether the following statements are true or false .

(f) Molecules can exist independently.



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15. Indicate whether the following statements are true or false .

(g) Molecules combine to form atoms.



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16. Indicate whether the following statements are true or false .

(h) Noble gases are highly reactive.



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17. Indicate whether the following statements are true or false .

(i) Ozone is a triatomic molecule.



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Objective Type Questions Multiple Choice Questions

1. All pure substances have

A. the same physical state

B. the same colour

C. the same composition

D. a definite set of properties

Answer:



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2. Name the elements present in the following compounds.

(a) Sugar

(b) Ammonia

(c) Marble

(d) Washing soda

A. carbon and hydrogen

B. hydrogen and oxygen

C. carbon, hydrogen and oxygen

D. hydrogen, carbon and sulphur

Answer:



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3. Atoms of different elements combine to form a molecule of

- A. an element
- B. a compound
- C. a mixture
- D. all of the above

Answer:



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4. Sulphur and carbon are

A. metals

B. non-metals

C. metalloids

D. noble gases

Answer:



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5. Gold is used to make jewellery because

A. it is dull

B. lustrous and attractive

C. highly reactive

D. very cheap

Answer:



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6. The most abundant elements in the universe are

A. neon and argon

B. hydrogen and helium

C. aluminium and copper

D. oxygen and nitrogen

Answer:



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7. The compound used as common salt is

A. sodium chloride

B. calcium chloride

C. sodium oxide

D. hydrogen chloride

Answer:



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8. Brass and bronze are

A. elements

B. mixtures

C. compounds

D. all of the above

Answer:



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9. Sand is a compound of

A. silicon and nitrogen

B. silicon and oxygen

C. oxygen and sulphur

D. none of the above

Answer:



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10. From the list given below select the correct substance which is most suitable to the statements given :

[oxygen, diamond, zinc, graphite, gold]

(a) A metal which is brittle

(b) A non-metal which is a good conductor of

electricity.

(c) The hardest naturally occurring substance.

(cl) The most ductile metal.

(e) A gaseous non-metal.



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