

Year 8- Chemistry Test

Please do not write anything on this booklet.

Section A. Multiple choice questions

Choose the correct answer for the multiple choice questions by shading the appropriate letter in the answer sheet provided along with this booklet.

1. The three states of matter are:

- a) Solids, gases and evaporation
- b) Solids, liquids and evaporation
- c) Solids, liquids and gases
- d) All of the above

2. Matter that is composed of only one type of atom is called:

- a) An element
- b) A compound
- c) A molecule
- d) A mixture

3. In salt water, the salt is called the:

- a) Solution
- b) Soluble
- c) Solute
- d) Solvent

4. When sugar dissolves in water, the water is called the:

- a) Solution
- b) Soluble
- c) Solute
- d) Solvent

5. Which separation technique is most suitable to separate salt from water?

- a) Evaporation
- b) Filtration
- c) Using a magnet
- d) Decantation

6. Density is a(n):

- a) chemical property
- b) compound
- c) element
- d) physical property

7. If ice is heated until it is changed into water vapour (gas), the phase changes which have occurred are:

- a) melting and evaporation
- b) condensation and melting
- c) freezing and evaporation
- d) condensation and freezing

8. If oil is mixed with water, the mixture will eventually separate into two separate layers with oil on top and water below. The best explanation of why oil forms the top layer and water forms the bottom layer is:

- a) Oil is less dense than water
- b) Water is less dense than oil
- c) Gravity pulls the water down but has no effect on oil
- d) It was pure chance that oil formed the top layer

9. What are the reactant(s) in the following chemical reaction?



- a) $\text{H}_2\text{O} + \text{O}_2$
- b) $\text{H} + \text{O}$
- c) $\text{H}_2 + \text{O}_2$
- d) H_2O_2

10. Thermal expansion occurs when a substance is:

- a) cooled
- b) heated
- c) compressed
- d) stretched

11. If pure baking soda is a compound, then it is certain that baking soda:

- a) contains some oxygen combined with other elements
- b) contains more than one element chemically bound to each other
- c) could be physically changed into elements and compounds
- d) is a simple mixture of elements

12. A solute may be recovered from a solution by:

- a) sublimation
- b) filtration
- c) evaporation
- d) decantation

The table below shows an unknown solid dissolved in some liquids.

Liquid	Number of teaspoons of solid dissolved
Water	2
Petrol	5
Alcohol	7
Kerosene	3

13. The solid was least soluble in:

- a) water
- b) petrol
- c) alcohol
- d) kerosene

14. The solid was most soluble in:

- a) water
- b) petrol
- c) alcohol
- d) kerosene

15. All atoms are made up of:

- a) protons, molecules and mixtures
- b) protons, neutrons and electrons
- c) electrons, compounds and neutrons
- d) electrons, protons and compounds

16. Out of the following lists of substances, which list contains all compounds:

- a) Ca, H₂ and NaCl
- b) H₂, He₂ and Ar₂
- c) H₂O, CO₂, NaCl
- d) Hydrogen gas, oxygen gas and carbon

Question 17 and 18 are based on the following information.

Sand and salt were placed in a beaker of water. The salt dissolved and the sand sank to the bottom.

17. Based on the above information salt is:

- a) insoluble
- b) a solvent
- c) an element
- d) soluble

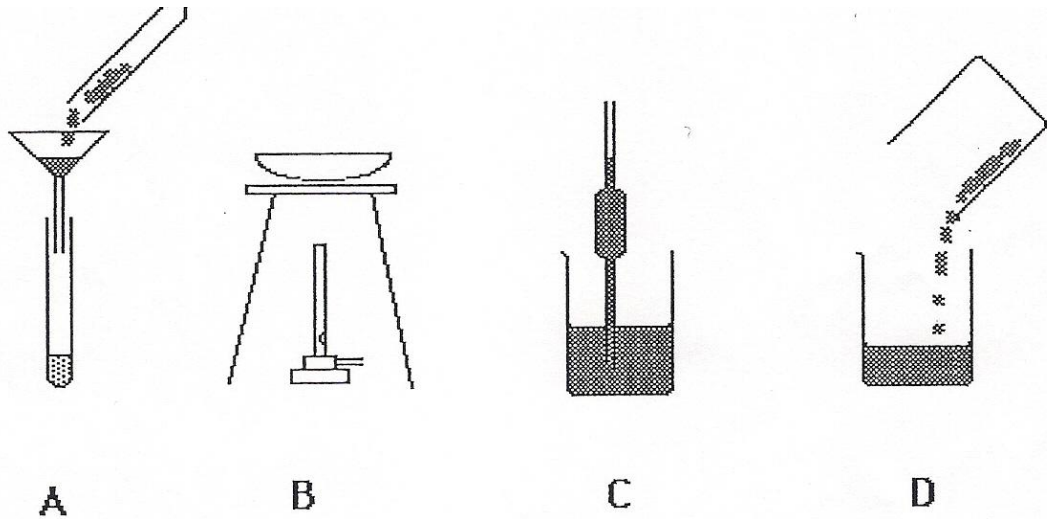
18. Based on the above information the sand is:

- a) insoluble
- b) a solvent
- c) an element
- d) soluble

19. A rock such as granite could be classified as a mixture because it:

- a) has only one kind of atom
- b) consists of more than one type of atom chemically combined
- c) may be broken down into separate compounds by physical means
- d) may be separated into separate compounds by chemical processes

20. Which of the following diagrams best shows filtration?



- a) A
- b) B
- c) C
- d) D

Chemistry

Section B: Answer sheet

1. Give the chemical symbol for each of the elements listed below. (3 marks)

a) Calcium_____

b) Beryllium_____

c) Phosphorous_____

d) Sodium_____

e) Potassium_____

f) Chlorine_____

2. State whether each of the following changes is physical (P) or chemical (C): (3 marks)

a) An ice block melting _____

b) The rusting of iron_____

c) The burning of wood_____

d) The souring of milk_____

e) Sublimation of dry ice_____

f) Trimming a hedge_____

3. State whether the following are an element (E), Compound (C) or mixture (M): (4 marks)

a) H₂O_____

b) H₂_____

c) Salt (NaCl) _____

d) A caesar salad_____

e) Calcium_____

f) CO₂_____

g) Sugar dissolved in water_____

h) HCl_____

4. Explain your understanding of the 'Kinetic Theory'. Be sure to include and explain the terms 'thermal expansion' and 'thermal contraction' with reference to the kinetic theory. (3 marks)

5. Give the definition for the following terms: (5 marks)

a) Mass

b) Volume

c) Density

d) Atom

e) Molecule

6. Appropriately label the following diagram with these terms: (3 marks)

Sublimation, condensation, solidification, deposition, evaporation, melting

Insert particle diagram

7. Read the following experiment carefully and answer the following questions.

A group of year eight students undertook an experiment involving placing a small piece of magnesium metal into hydrochloric acid. The students measured the temperature of the Hydrochloric acid before the experiment and at 1 minute intervals for 5 minutes. They tabulated their results as shown in the table below. They also recorded their observations and these are also shown below.

Time (minutes)	0	1	2	3	4	5	6	7	8	9	10
Temperature (c°)	20	30	35	38	36	28	26	25	24	23	22

Observations:

- the reaction produced heat
- a popping sound was heard when a flame was placed near the beaker
- the magnesium was shinier
- bubbling

a) Plot the results on the graph paper provided (4 marks)

The equation of this reaction is as follows:



b) What are the reactants in this reaction? (1 mark)

c) What are the products in this reaction? (1 mark)

d) Is this a physical or chemical reaction? (1 mark)

e) Give reasons/evidence for answer (d) above. (2 marks)

END OF TEST

Year 8
Chemistry Science Test

Name: _____

Section A: Multiple Choice Answers

Put a cross (X) through the correct answer.

- | | | | | |
|----|---|---|---|---|
| 1 | a | b | c | d |
| 2 | a | b | c | d |
| 3 | a | b | c | d |
| 4 | a | b | c | d |
| 5 | a | b | c | d |
| 6 | a | b | c | d |
| 7 | a | b | c | d |
| 8 | a | b | c | d |
| 9 | a | b | c | d |
| 10 | a | b | c | d |
| 11 | a | b | c | d |
| 12 | a | b | c | d |
| 13 | a | b | c | d |
| 14 | a | b | c | d |
| 15 | a | b | c | d |
| 16 | a | b | c | d |
| 17 | a | b | c | d |
| 18 | a | b | c | d |
| 19 | a | b | c | d |
| 20 | a | b | c | d |

Marks

Multiple Choice

/20

Short Answers

/30

Total

/50

