Al Amal Learning Center

Class 9 Chemistry Chapter 2 MCQ Quiz Online | Level 2

Class 9 Chemistry · Chapter 2: Matter

Name: _____ Date: _____ Score: _____ / 40

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1. Why are solids almost incompressible?

A) Their particles move very fast
B) Their particles are packed closely with almost no empty space
C) Their particles are the lightest of all states
D) Their particles repel each other strongly

2. Why do gases have low density at normal conditions?

A) Their particles are packed tightly together
B) Their particles cannot move
C) Their particles are heavier than those of solids
D) There are large spaces between their molecules

3. A substance can flow and is moderately compressible. Which state of matter is it?

A) Liquid
B) Solid
C) Gas
D) Plasma

4. Boiling water into steam is a physical change because:

A) A new substance is formed
B) The composition of water changes
C) Only the physical state changes while the chemical composition stays the same
D) The atoms of water are destroyed

5. What happens to the particles of a solid when it is heated until it melts into a liquid?

A) They lose energy and stop moving
B) They change into new atoms
C) They gain energy and move more freely
D) They become lighter

6. Why is plasma not found in everyday conditions on Earth?

A) Temperatures on Earth are not high enough to ionize atoms
B) Plasma is heavier than solids
C) Plasma can only form at very low temperatures
D) Atoms on Earth can never be ionized

7. A cloudy liquid crystal is heated further. What will happen to it?

A) It will turn into a solid
B) It will turn into plasma
C) It will become a BEC
D) It will change to a transparent liquid

8. A Bose-Einstein condensate can be observed only under:

A) Very high pressure
B) Extreme cold, very close to absolute zero
C) A strong electric field
D) Very high temperature

9. An element cannot be broken down by chemical means because it is made up of:

A) Atoms of the same type
B) Two or more kinds of atoms
C) Molecules of different substances
D) A mixture of compounds

10. Hydrogen and oxygen combine chemically to form water. How does the water compare with the two gases?

A) It keeps the properties of both gases
B) It behaves as a mixture of the two gases
C) It is a completely new substance with different properties
D) It can be separated back into the gases by filtration

11. Why is tea considered a mixture?

A) It contains only one type of atom
B) Its parts are chemically bonded together
C) Its parts are chemically identical
D) It is made of substances with different chemical compositions that are physically combined

12. Which of the following can be separated into its components by physical methods alone?

A) Carbon dioxide
B) Sugar solution
C) Pure water
D) Pure iron

13. Diamond and graphite are both pure carbon but have different properties because:

A) They have different numbers of protons
B) Their carbon atoms are arranged differently
C) Graphite contains other elements
D) Diamond is a compound

14. Why is graphite soft and slippery?

A) Strong bonds hold its layers firmly together
B) It has no covalent bonds
C) Weak intermolecular bonds between its layers let them slide over each other
D) It is made of hollow spheres

15. Why does diamond not conduct electricity?

A) All its carbon atoms are bonded to four others, so there are no free electrons
B) It is too hard
C) It has weak forces between its layers
D) It does not contain carbon

16. Why does diamond have a very high melting point?

A) Its layers slide over each other easily
B) It has weak forces between its atoms
C) It contains free electrons
D) Its atoms are held in a rigid network by strong covalent bonds

17. The football-like structure of a buckyball (C-60) is made up of:

A) 12 hexagons and 20 pentagons
B) 60 hexagons only
C) 30 pentagons and 30 hexagons
D) 20 hexagons and 12 pentagons

18. In a soft drink, which substances act as solutes?

A) Sugar, salts and carbon dioxide
B) Water only
C) Water and sugar
D) Water and carbon dioxide

19. In air, which gas acts as the solvent?

A) Oxygen
B) Carbon dioxide
C) Nitrogen
D) Argon

20. Why does the solute not separate from a solution on standing?

A) Its particles are large and heavy
B) Its particles are microscopic (less than 1 nm) and evenly mixed
C) The solution is a heterogeneous mixture
D) The solute is chemically bonded to the solvent

21. A saturated solution has undissolved solute at the bottom. What is true at the particle level?

A) Dissolving has stopped completely
B) Crystallization has stopped completely
C) Dissolving and crystallization continue at the same rate, so the dissolved amount stays constant
D) Solute keeps dissolving faster than it crystallizes

22. A crystal of solute is added to a supersaturated solution. What happens?

A) The crystal dissolves completely
B) The excess solute crystallizes out, leaving a saturated solution
C) The solution turns into a suspension
D) Nothing happens

23. What is an easy way to obtain a supersaturated solution?

A) Add more solvent to a saturated solution
B) Stir an unsaturated solution at a low temperature
C) Heat the solvent without any solute
D) Prepare a saturated solution at high temperature and then cool it

24. What happens when more solvent is added to a solution?

A) It becomes more dilute and its concentration decreases
B) It becomes more concentrated
C) It becomes saturated
D) The solute changes into a solvent

25. Which of these does NOT affect the solubility of a substance?

A) The colour of the solute
B) The solvent used
C) The temperature
D) The pressure

26. According to Table 2.2, which salt shows the greatest increase in solubility between 20 °C and 100 °C?

A) NaCl
B) KCl
C) Ca(OH)?
D) NH?Cl

27. A saturated solution of Ca(OH)? is heated. What will be observed?

A) More Ca(OH)? dissolves
B) Some Ca(OH)? comes out of the solution
C) There is no change at all
D) The solution turns into a colloid

28. Why do colloid particles stay dispersed while suspension particles settle down?

A) Colloid particles are larger than suspension particles
B) Suspension particles dissolve completely
C) Colloid particles are smaller (1 to 1000 nm) than suspension particles (above 1000 nm)
D) Colloids are heavier than suspensions

29. A beam of light is passed through a clear liquid and its path cannot be seen. The liquid is most likely a:

A) Colloid
B) True solution
C) Suspension
D) Heterogeneous mixture

30. A mixture leaves a residue when passed through ordinary filter paper. It is a:

A) Suspension
B) Solution
C) Colloid
D) Compound

31. Why should milk of magnesia be shaken before use?

A) It is a solution that evaporates
B) It mixes with the air
C) It is a suspension whose particles settle on standing
D) It is a colloid that turns solid

32. Which group contains only colloids?

A) Sea water, milk, ink
B) Chalk in water, blood, jelly
C) Milk, muddy water, toothpaste
D) Milk, ink, blood

33. Brass is an example of:

A) A gaseous solution
B) A liquid solution
C) A suspension
D) A solid solution

34. Sea water is an example of:

A) A gaseous solution
B) A suspension
C) A liquid solution
D) A solid solution

35. Water is called the universal solvent because it:

A) Is the only liquid on Earth
B) Dissolves the majority of compounds present in the earth's crust
C) Never contains any solute
D) Never evaporates

36. The solubility of a solute decreases as the temperature rises. Dissolving of that solute is:

A) Exothermic
B) Endothermic
C) Neither exothermic nor endothermic
D) A chemical change

37. Why is the Tyndall effect not seen in a true solution?

A) Its particles are too small to scatter light
B) Its particles are too large
C) Its solute settles down
D) Its particles absorb all the light

38. A student adds a spoonful of sugar to 100 g of water at a fixed temperature and it dissolves. Another spoonful also dissolves. The solution is:

A) Saturated
B) Unsaturated
C) Supersaturated
D) Heterogeneous

39. In fog, which component is the solvent?

A) Liquid water
B) Carbon
C) Sunlight
D) Air

40. Which set correctly classifies iron, carbon dioxide and tea?

A) Iron: compound, carbon dioxide: element, tea: mixture
B) Iron: element, carbon dioxide: mixture, tea: compound
C) Iron: element, carbon dioxide: compound, tea: mixture
D) Iron: mixture, carbon dioxide: compound, tea: element

Answer key

1-B 2-D 3-A 4-C 5-C 6-A 7-D 8-B 9-A 10-C

11-D 12-B 13-B 14-C 15-A 16-D 17-D 18-A 19-C 20-B

21-C 22-B 23-D 24-A 25-A 26-D 27-B 28-C 29-B 30-A

31-C 32-D 33-D 34-C 35-B 36-A 37-A 38-B 39-D 40-C