

## 20 Multiple choice questions

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- is the heat content of a system; the total of all the kinetic and potential energies for one mole of a substance
  - calorimetry
  - enthalpy ( $\Delta H$ )
  - equilibrium
  - density
- the number of moles of solute per litre of solution
  - dilution
  - density
  - molarity
  - calorimetry
- is the strongest of the intermolecular forces; the slightly positive charge on the hydrogen of one molecule is strongly attracted to the slightly negative charge on the F, O or N of another molecule
  - density
  - hydrogen bonding
  - cohesion
  - dilution
- is where energy is released to the surroundings
  - cohesion
  - dilution
  - exothermic reaction
  - endothermic reaction
- the mass of a substance divided by its volume; units are  $\text{g/cm}^3$ ; i.e.. lead has a density of  $11.3 \text{ g/cm}^3$ 
  - molarity
  - cohesion
  - density
  - kelvin
- the unequal charge distribution between two atoms so that the atoms of a bond have a  $\delta^+$  and a  $\delta^-$ 
  - kelvin
  - dipole
  - density
  - joule

7. the forces between molecules; e.g.. dispersion forces, dipole-dipole forces and hydrogen bonding
  - a. non-polar molecule
  - b. dipole-dipole force
  - c. dispersion force
  - d. intermolecular forces
  
8. the dissolving of a substance in a liquid
  - a. dissolution
  - b. dilution
  - c. dipole
  - d. cohesion
  
9. or state symbols- (s), (l), (aq), (g), -in equations show the state of each substance
  - a. calorimetry
  - b. dipole
  - c. cohesion
  - d. phase descriptors
  
10. in terms of a solution; refers to the addition of water to a solution to decrease concentration; the number of moles of a solute is unchanged
  - a. dissolution
  - b. dilution
  - c. cohesion
  - d. kelvin
  
11. the attraction between the molecules of a liquid; it holds the particles of the liquid together
  - a. cohesion
  - b. dilution
  - c. density
  - d. molarity
  
12. for a reversible reaction occurs when the rate of the forward reaction equals the rate of the back reaction
  - a. molarity
  - b. equilibrium
  - c. dilution
  - d. dynamic equilibrium

13. an equilibrium where molecules are undergoing the forward as well as the back reaction, at the same rate; e.g.. liquid water and water vapour in a sealed container
- dynamic equilibrium
  - molarity
  - dilution
  - equilibrium
14. a weak attractive force between molecules due to the attraction between negative electrons of one molecule and the positive nucleus of another molecule
- dipole
  - cohesion
  - dispersion force
  - dipole-dipole force
15. is where energy is absorbed from the surroundings
- dilution
  - cohesion
  - endothermic reaction
  - exothermic reaction
16. an attractive intermolecular force between the dipoles of neighbouring polar molecules
- dispersion force
  - dipole-dipole force
  - dissolution
  - dipole
17. has no overall dipole; some molecules are non-polar if they are symmetrical so dipoles cancel, as in linear  $O = C = O$ ; elements such as  $O_2$  are non-polar as the atoms share the electrons equally and there is no dipole
- dipole
  - calorimetry
  - non-polar molecule
  - dipole-dipole force
18. the scientific temperature scale with absolute zero as 0 K; a change of one kelvin is the same as a change of one degree Celsius;  $K = ^\circ C + 273$
- dilution
  - kelvin
  - dipole
  - density

19. is the SI unit for energy, such as heat

- a. joule
- b. density
- c. kelvin
- d. dipole

20. the measurement of heat changes associated with chemical reactions and physical processes

- a. density
- b. molarity
- c. calorimetry
- d. joule