



Model of Matter – Core Homework 1

1. Substances can be classified as solids, liquids and gases.
 - (a) Draw a table to group the following substances as "solid", "liquid" or "gas".

water, salt, wood, helium, paper, alcohol, sand, bleach, oxygen
 - (b) State what word is used in Science to mean "solid, liquid or gas".

2. The following sentences describe the properties of two unknown substances. Decide if the substance described is a solid or liquid or gas.
 - (a) No fixed shape but a fixed volume....what is it?
 - (b) A fixed shape and a fixed volume.....what is it?

3. Which of the following are examples of liquids?
 - A wood and paper
 - B shampoo and oil
 - C shoes and socks

4. "When water is _____ it eventually changes from a liquid to a solid."

The missing word is

 - A cooled
 - B heated
 - C boiled

5. Once a solid has turned to a liquid, can it be changed back to a solid again?
 - A No, it can never be turned back into a solid
 - B Yes, by heating it
 - C Yes, by cooling it

6. Which process is the opposite of condensation?
 - A melting
 - B freezing
 - C evaporation

7. What happens during evaporation?
 - A gas changes to liquid
 - B solid changes to liquid
 - C liquid changes to gas



Model of Matter – Core Homework 2

1. A blown up balloon is left in the fridge for a few days. It is observed that the balloon shrinks in size.
Give 2 reasons why this happens. (2)

2. When perfume is sprayed at the front of the classroom the smell can later be detected at the back of the room. This is because the gas particles from the perfume move through the spaces between the air particles.

State the name of this process. (1)

3. The table shows information about the solubility of a gas.

Temperature(°C)	0	20	30	40	50	60
Solubility (units)	22·0	10·0	6·0	3·0	2·0	1·5

On graph paper, draw a line graph to show these results. (3)

4. The table shows how the solubility of oxygen, in water, changes with temperature.

Temperature /°C	Solubility /mg per litre
10	52
15	36
20	24
25	16
30	

Predict the solubility of oxygen, in water, at 30 °C. (1)

(continued on next page)

5. Part of a process to separate the gases in air is to cool air down to very low temperatures.

The three main gases in air are nitrogen, oxygen and argon.

Gas	Approximate percentage (%)	Boiling point (°C)
Nitrogen	78	-196
Oxygen	21	-183
Argon	0.9	-186

- (a) State which gas would be first to become a liquid as the air is cooled. (1)
- (b) The test for oxygen is that it relights a glowing splint.
Explain why glowing splints **do not** relight in ordinary air? (1)
- (c) State which gas in the atmosphere, not listed in this table, is the main cause of global warming ? (1)

Total (/10)