

Water is **dipolar** = oxygen is slightly negative and two hydrogens are slightly positive (water has no overall charge).

Hydrogen bonding between water molecules hinders the molecules from escaping as vapour. A large input of heat energy is needed to break the bonds.

Different poles attract = positive pole of one water molecule will be attracted to the negative pole of another. The attractive force between these opposite charges is called a hydrogen bond.

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The temperature of a substance is a measure of the motion of its molecules. The more heat absorbed the greater the molecular motion = temperature of substances increase.

Water

Water can absorb more heat than most fluids before its temperature increases noticeably = water has a high heat capacity. This helps damp down large swings in temperature = stable environment for chemical reactions in cells/organisms living in water.

Cohesion (the capacity of something to resist pulling apart under tension) water has high cohesion because its molecules are joined by hydrogen bonds.

Water is used to break down many complex molecules by hydrolysis. Water is also produced in condensation reactions.

