**Vocabulary: Sticky Molecules**

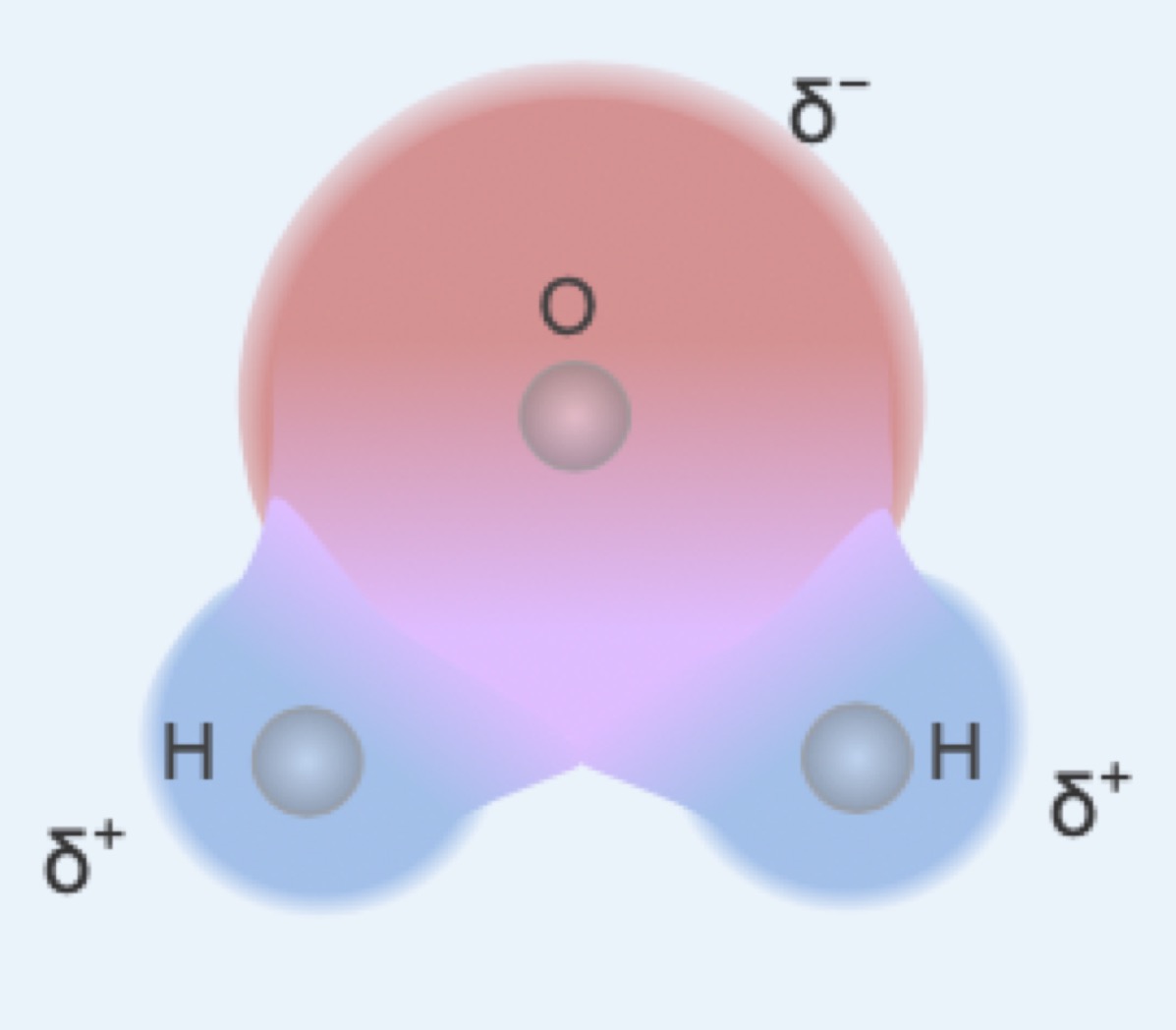
dictionary2

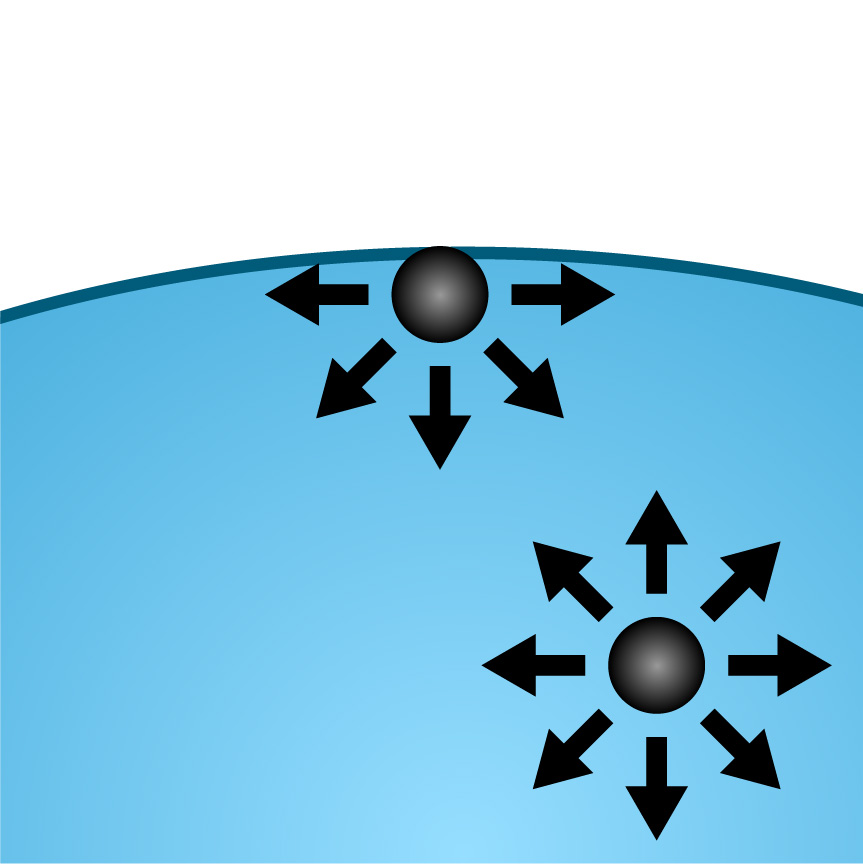
**Vocabulary**

* Adhesion – the tendency of unlike molecules or surfaces to be attracted to one another.
  + Adhesion occurs as a result of intermolecular forces.
  + Adhesion enables drops of water to cling to a pane of glass or particles of lint to stick to your clothes.
  + Adhesive forces tend to be weaker than cohesive forces.
* Capillary action – the movement of a liquid through a tube or other narrow space, often in defiance of gravity.
  + Capillary action occurs when the adhesive forces between the liquid and walls of the tube overpower the cohesive forces holding the liquid molecules to one another.
  + The smaller the diameter of the tube, the greater the capillary rise.
  + Polar liquids tend to experience more capillary action than nonpolar liquids.
* Capillary tube – a thin-walled tube through which liquids can travel via capillary action.
* Cohesion – the tendency of like molecules to be attracted to one another.
  + Cohesion is due to relatively strong intermolecular forces.
  + Water drops form as a result of cohesion between H2O molecules.
  + Polar molecules tend to have stronger cohesive forces between them than do nonpolar molecules.

A drawing of a cartoon character

Description automatically generated

* Hydrogen bond – a special type of intermolecular force in which the positive hydrogen atom of one molecule is attracted to the negative atom (often oxygen) of an adjacent molecule.
  + Hydrogen bonds are among the strongest types of intermolecular force.
* Intermolecular force – (IMF) a weak bond, or force of attraction, between molecules.
* Molecule – a stable particle composed of two or more atoms.
  + A water molecule (H2O) is made of two hydrogen atoms and one oxygen atom.
* Newton – (N) SI unit of force.
  + 1 newton is the force needed to accelerate a 1 kg mass at a rate of 1 m/s2.
* Nonpolar – having an overall even distribution of positive and negative charges.
  + Intermolecular forces between nonpolar molecules are weaker than those between polar molecules.
* Partial negative charge – the label given to that region of a polar molecule with a greater concentration of electrons.
  + A partial negative charge has a smaller absolute value than a full negative charge (–1).
  + A partial negative charge is represented by a – sign.
* Partial positive charge – the label given to that region of a polar molecule with a greater concentration of positive charge.
  + A partial positive charge has a value less than that of a full positive charge (+1).
  + A partial positive charge is represented by a + sign.
* Polar – having distinct regions of positive and negative charge.
  + A polar substance, such as water, will have both a partial positive and a partial negative side but will be neutral overall
  + Intermolecular forces between polar molecules are relatively strong.



* Surface tension – the force exerted by a liquid’s surface, due to cohesive forces between its molecules.
  + Surface tension acts on the surface of a liquid as there is no opposing force to counteract the net inward pull from the interior molecules.
  + The SI unit for surface tension is N/m.
  + The surface tension of some polar liquids can be strong enough to prevent denser objects, such as paper clips and razor blades, from sinking.
* Tensiometer – an instrument used to measure surface tension.
  + A tensiometer measures the force required to lift a ring out of a fluid.
  + Fluids with greater surface tension require greater force to break the film that forms when a ring is lifted from the fluid.