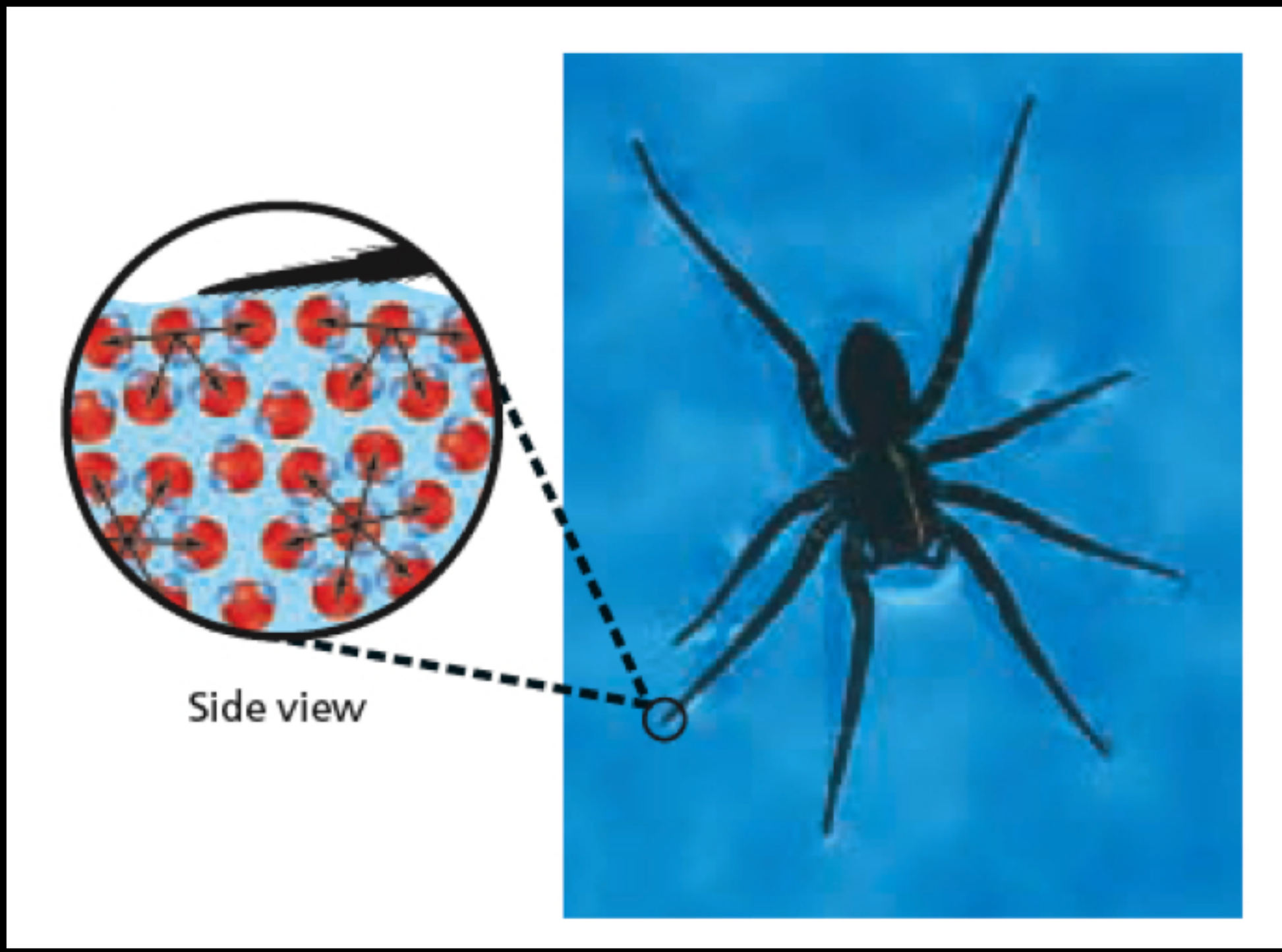
Properties of Water

Surface tension

a property at the surface of a liquid that allows it to resist an external force, caused by the intermolecular forces between surface molecules.

Surface tension



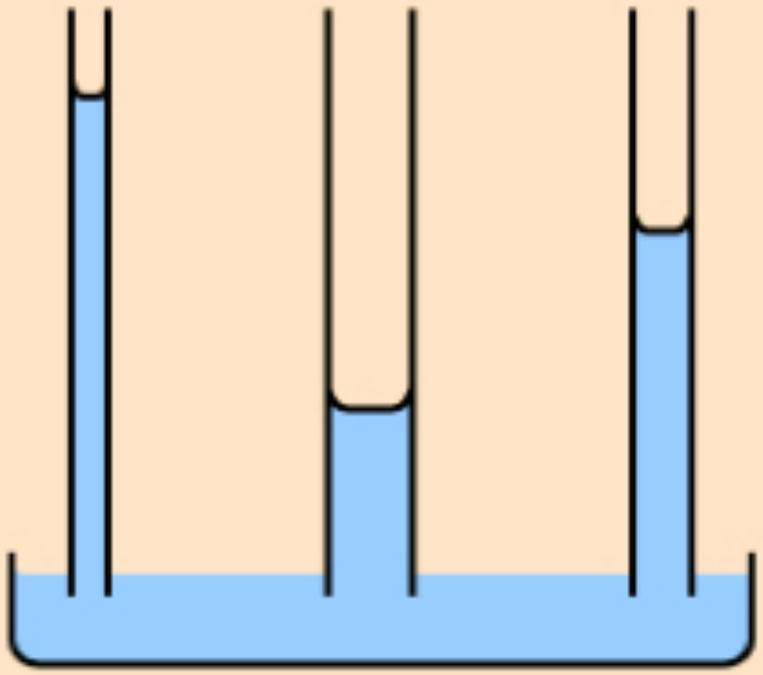
Surface tension

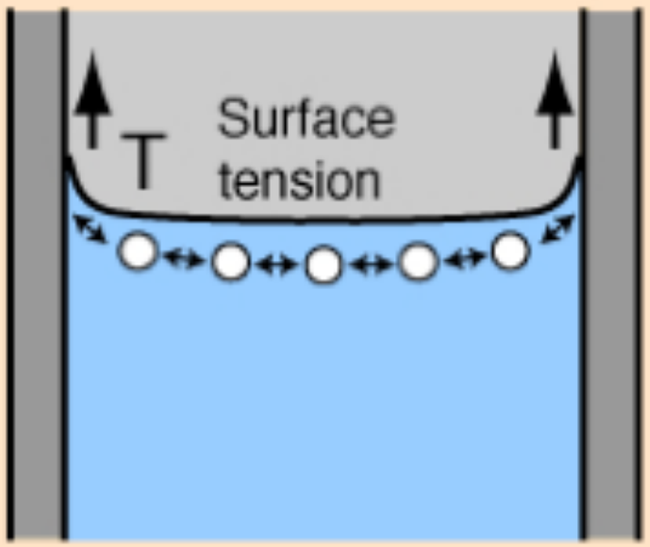
Surface tension
and bubbles

Surface tension
and droplets

Capillary Action

Capillary action is the result of adhesion and surface tension. Adhesion of water to the walls of a vessel will cause an upward force on the liquid at the edges and result in a meniscus which turns upward. The surface tension acts to hold the surface intact, so instead of just the edges moving upward, the whole liquid surface is dragged upward.





Why will water rise higher in a smaller tube?

Capillary action: the flow of liquids through narrow spaces due to the attractive forces between a liquid the walls of its container.

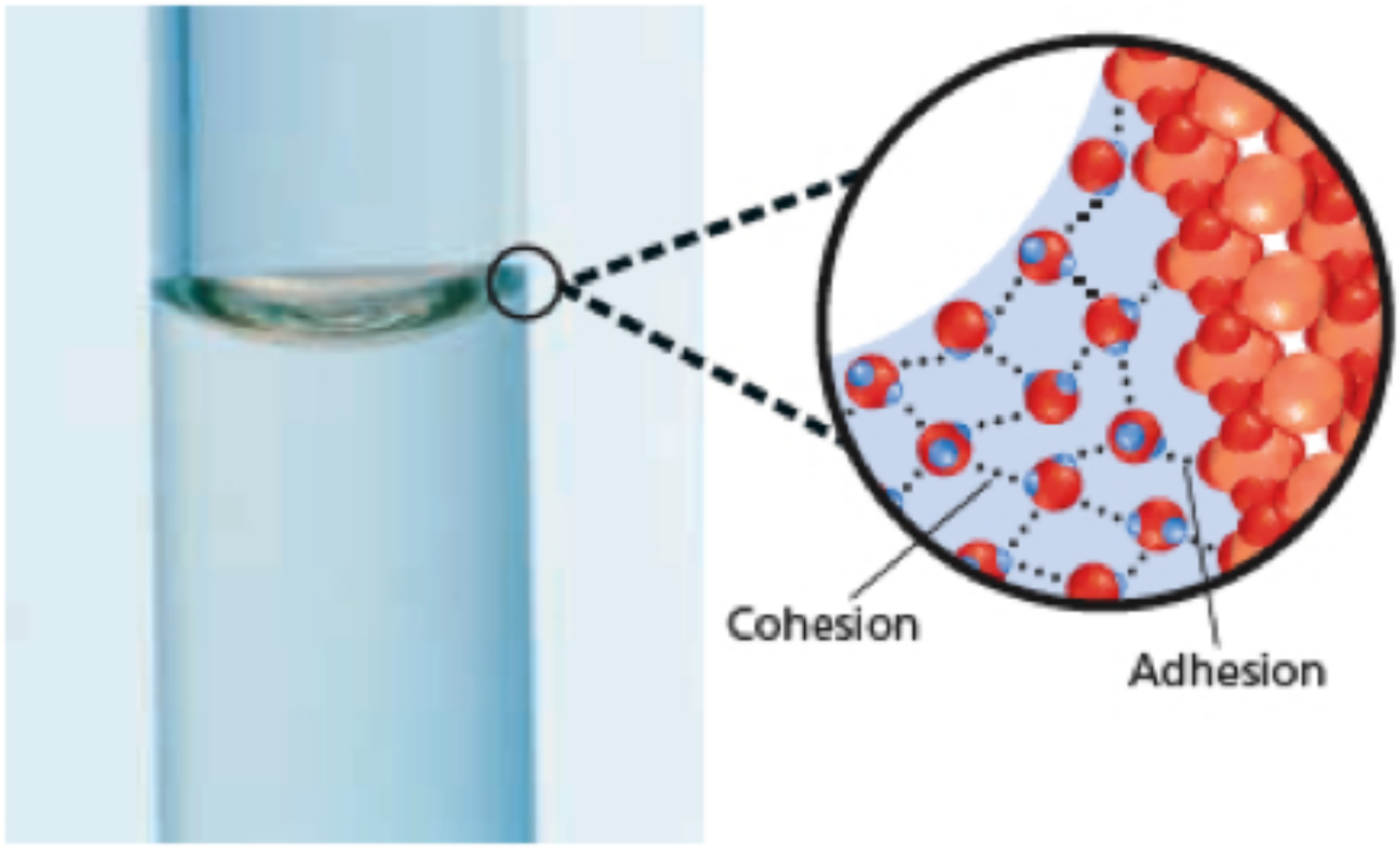


Figure 13-15

The surface of the water in a graduated cylinder is concave because water molecules are more strongly attracted to the silicon dioxide in glass than to other water molecules.

Hydrogen bonds are why water expands as it freezes...the molecules rotate to maximize bonding.

This is why ice floats,

it is less dense as a solid...

A very unique physical property!