W-PS Physical Science Week 19

Temperatures	Time dissolve	
134 °F	→ 102 s	1:42
98 °F	→ 166 s	2:46
48 °F	→ 194 s	3:14

quantitative data "numbers"

Control - making sure all other factors are the same or consistent throughout the experiment other than the variables you are testing.

Linear Regression → model tendency of data

$-1.04x + 251$

$0°F \rightarrow -1.04(0) + 251$

251 s

$100°F \rightarrow -1.04(100) + 251$

$-104 + 251$

147 s → 2:27

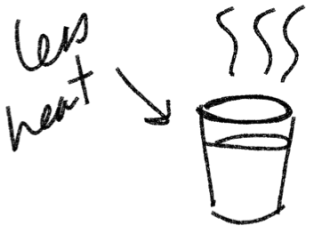
qualitative data "describing"

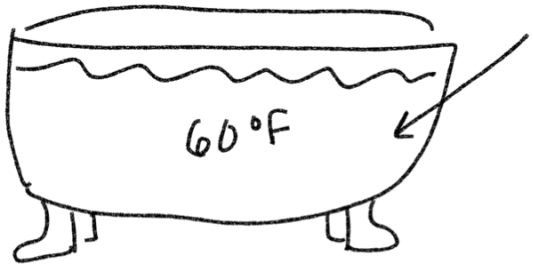
"cold" → 3:01

"moderate" → 2:58

"hot" → 3:26

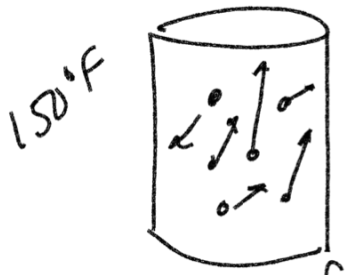
Temperature is the average movement of particles



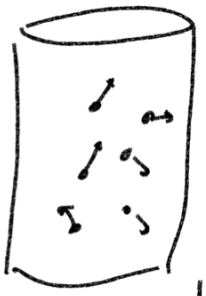


Heat → sum of energy

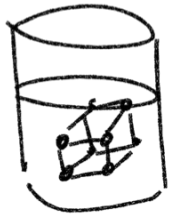
Temperature = movement!



incredibly fast



not nearly as fast

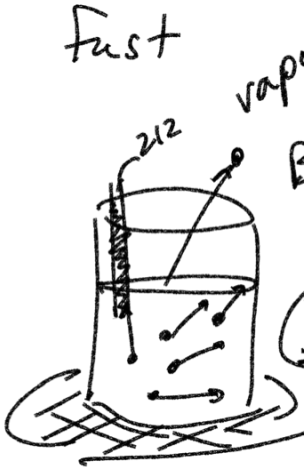


Freezing Point

32 °F

0 °C

more hydrogen bonds



"Boil water" set oven to 212°F

less hydrogen bonds

Celsius temperature scale was developed based on the freezing and boiling points of water

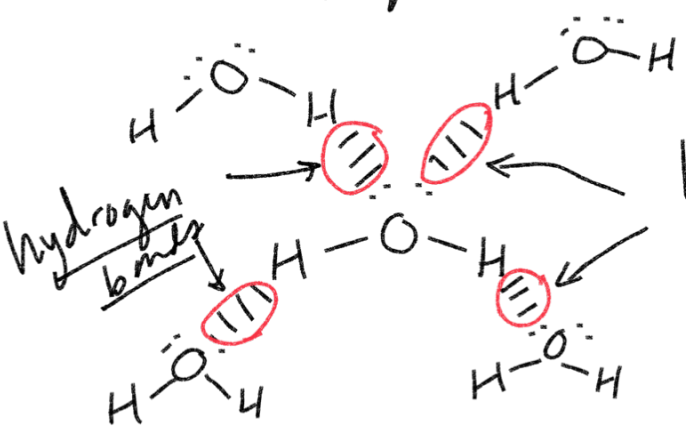
At 32°F

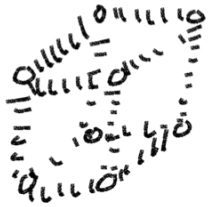
little/no relative movement of water

Rigid/Locked in

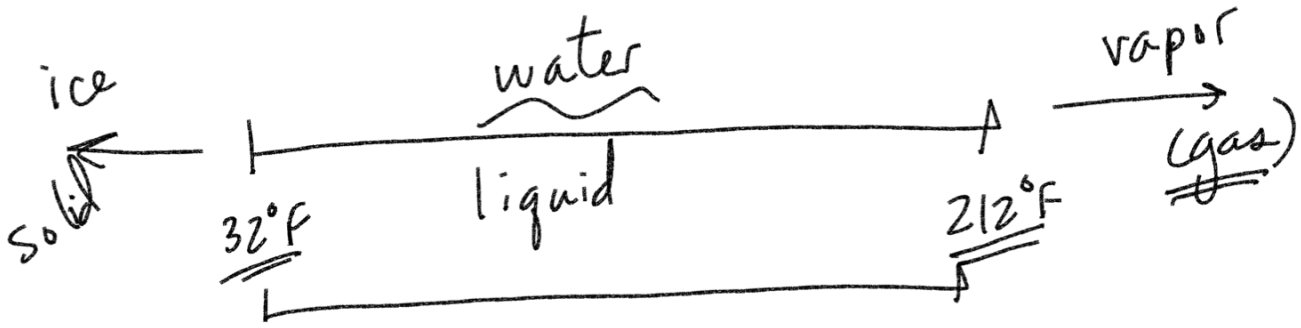
water → H_2O

2 hydrogen 1 oxygen





lattice



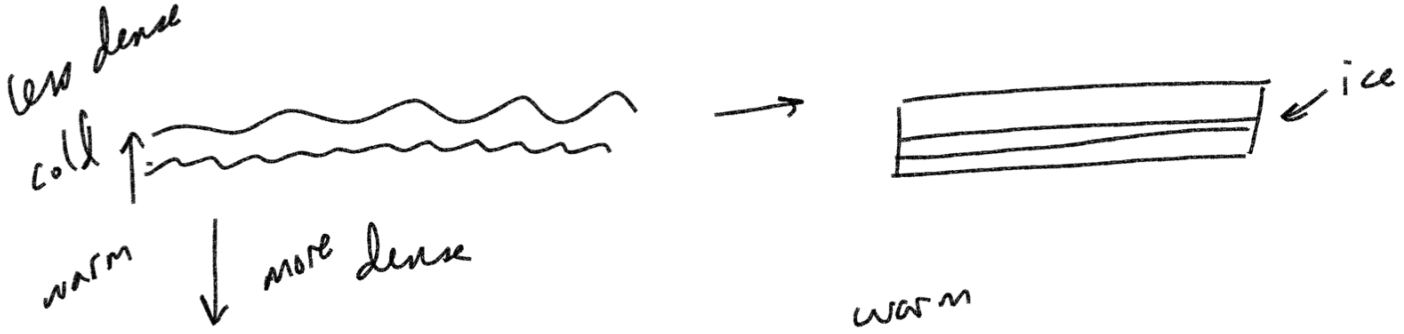
Increase temperature → increase movement of water molecules

Increase movement of water molecules → increase the rate the salt dissolves

water surrounds and "solvates" the salt more quickly.

Frozen water (ice) is less dense than Liquid water and floats.

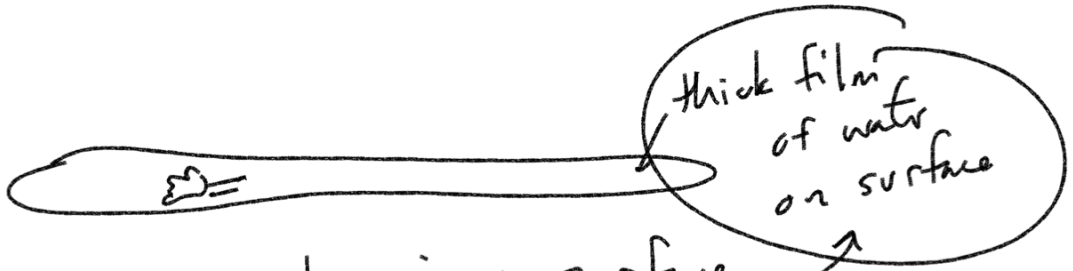
This is very rare and particularly in water



cohesion → water's ability to stick to itself
water grouping

adhesion → water's ability to stick to other things

Plants used both adhesion and cohesion to transport water up a root system/stem.



cohesion → surface tension → allows bugs to walk on the surface of water.

HW

Online HW 19

Quiz 19

HW | Quiz 17 due today (ions)

HW | quiz 18 due Feb 17th-ish (compounds)