

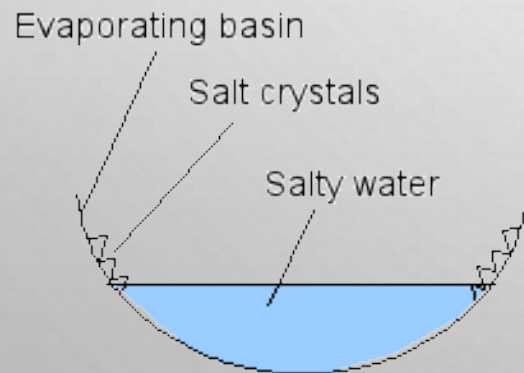
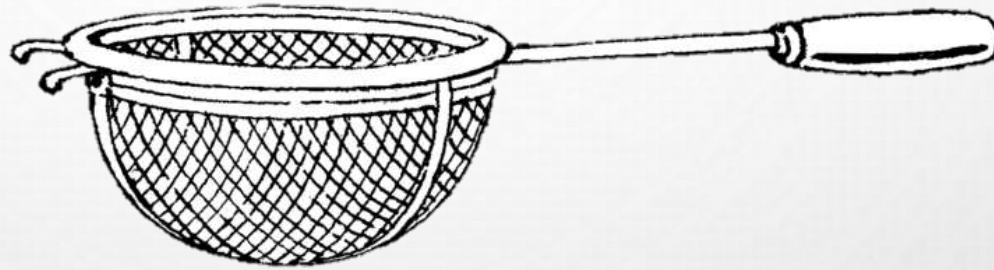
The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. The main title is centered in the middle of the page.

SEPARATING MIXTURES

CHAPTER 7

HOW WOULD YOU SEPARATE...

- Legos and rocks?
- Sand and rocks?
- Sand and water?



Three ways to separate:

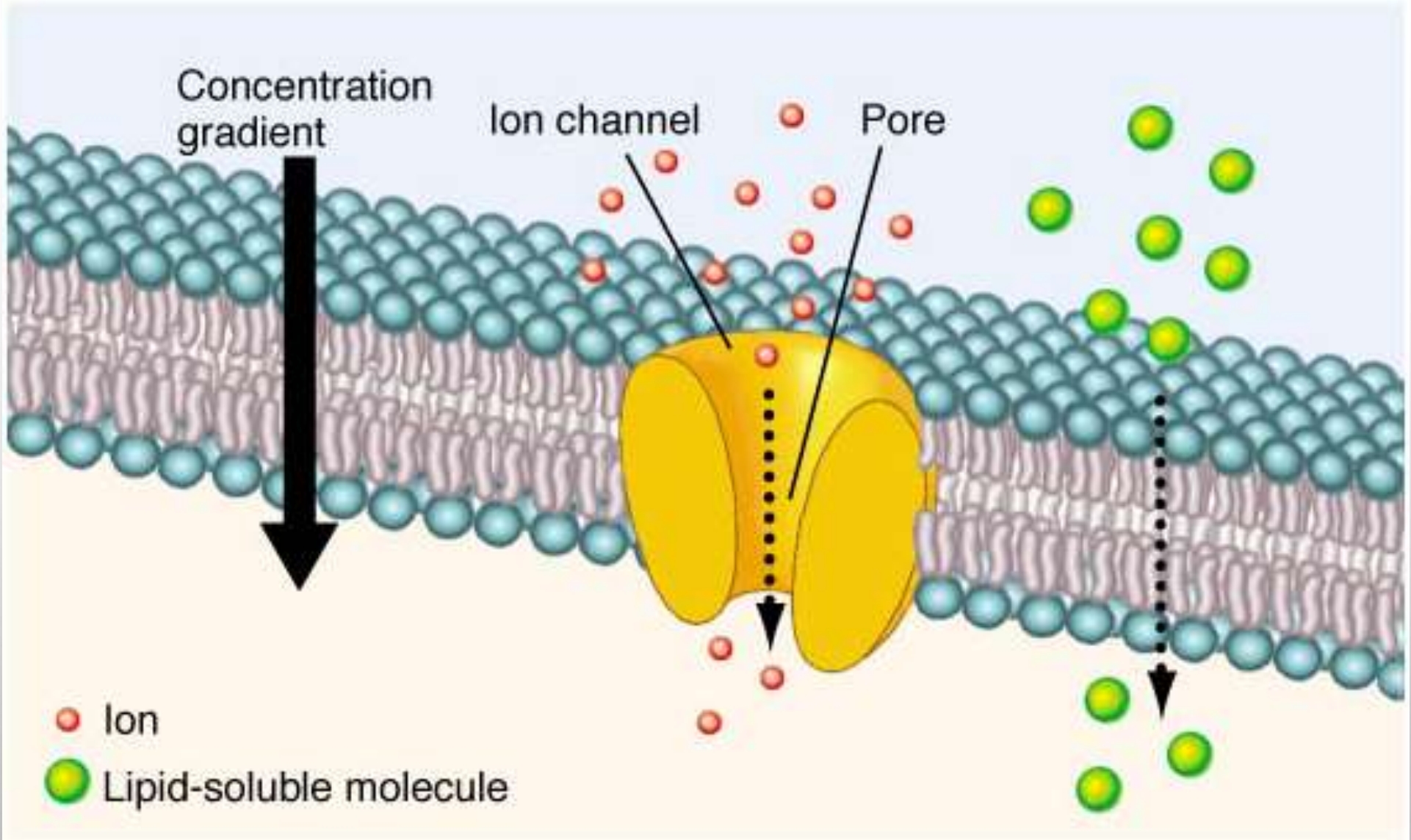
- Filtration
- Evaporation
- Chromatography

FILTRATION



- Separate mixtures of different sizes
 - Sieves
 - Cheesecloth
 - Coffee filters
- **Pore size** determines what can be separated
- Pores in cell membranes





EVAPORATION

- Can be used if only ONE substance is able to evaporate
 - Salt/water= yes
 - Rubbing alcohol/water= no, both evaporate
 - Baking soda/salt= no, neither evaporates



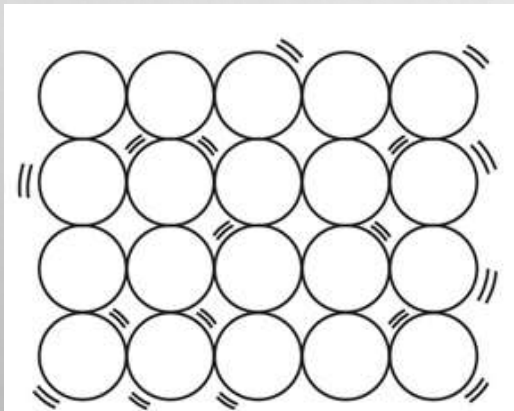
SOLIDS, LIQUIDS, GASES

Depends on how **tightly packed** the molecules are and how much **energy** molecules have

SOLID

Not much energy

Molecules tightly packed



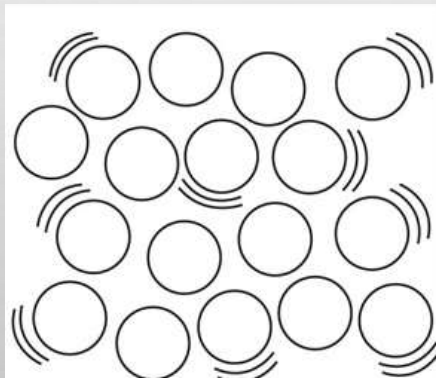
Solid

LIQUID

More energy

(shaking/wiggling)

Molecules still densely packed, slide past each other

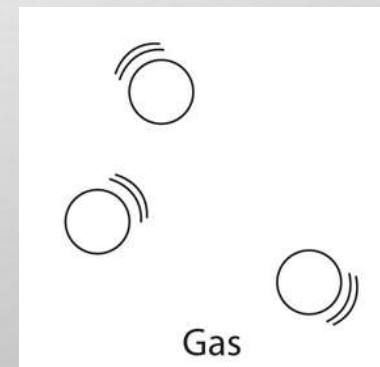


Liquid

GAS

Lots of energy lets them break free

Molecules move away



Gas

CHROMATOGRAPHY

- Molecules “stick” to a solid... adsorb
- Molecules move at different speeds and can be separated
- **Matrix**= porous material (paper, gas column, etc.)

“Chromato” = color
“Graphy”= to write

