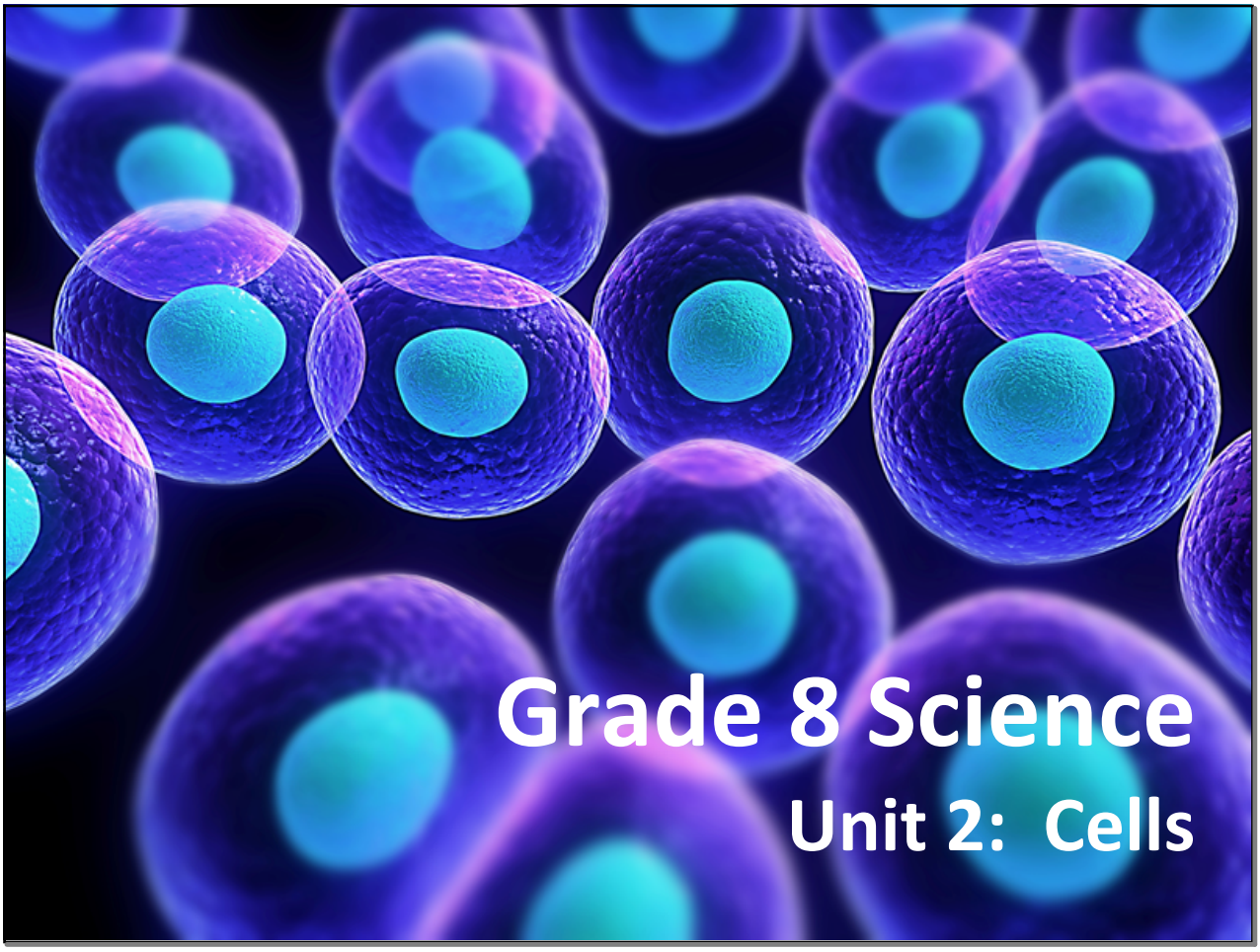


Diffusion

What is diffusion?

The movement of particles in liquids and gasses from an area of higher concentration to an area of lower concentration.

What do you call diffusion when the substance moving is water?

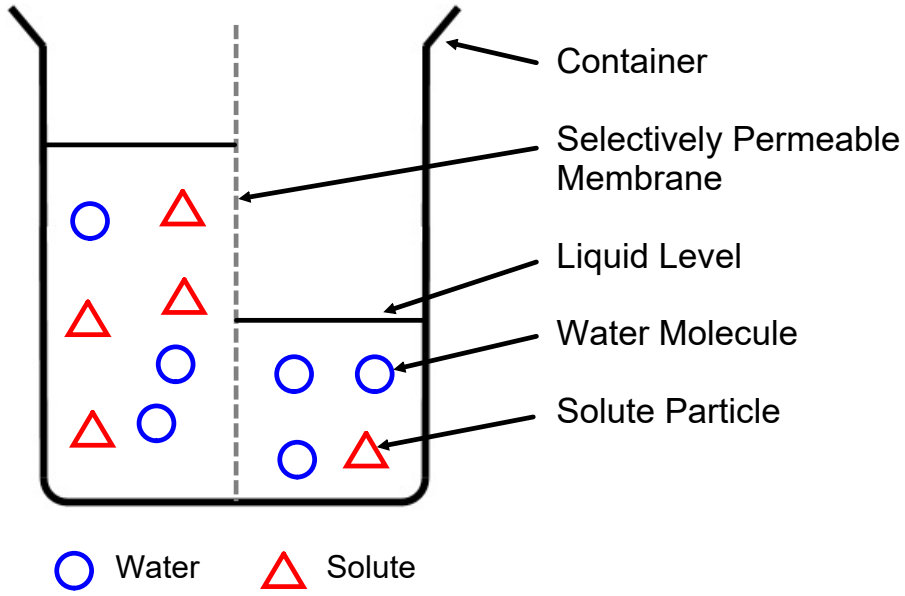
Osmosis

Today we will look more at the idea of diffusion, specifically we will look at the idea of a solution attempting to reach equilibrium through diffusion.

Equilibrium *The state in which the concentrations of the diffusing substance in the two compartments are the same or become equal.*

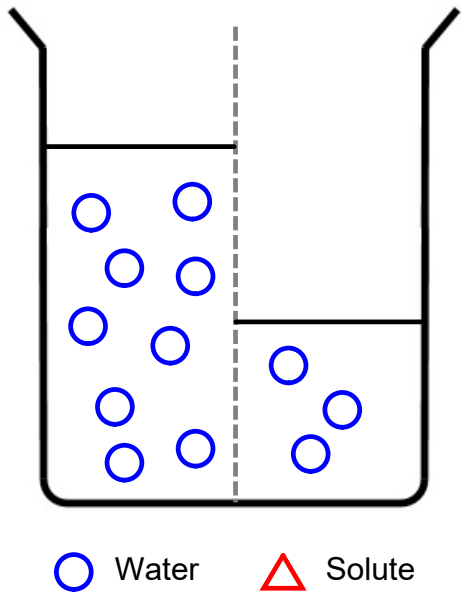
Diffusion

The questions we will do today will all use this diagram. Let's look at what everything represents:



Diffusion

In this example the selectively permeable membrane will allow water to pass through.

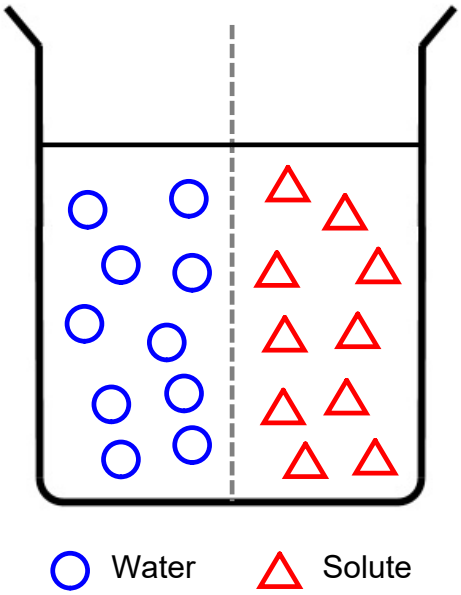


What would happen in this situation?

- Explain with words
- Use numbers to explain the final outcome
- Would the final outcome be considered to be in equilibrium?

Diffusion

In this example the membrane is permeable to both substances.

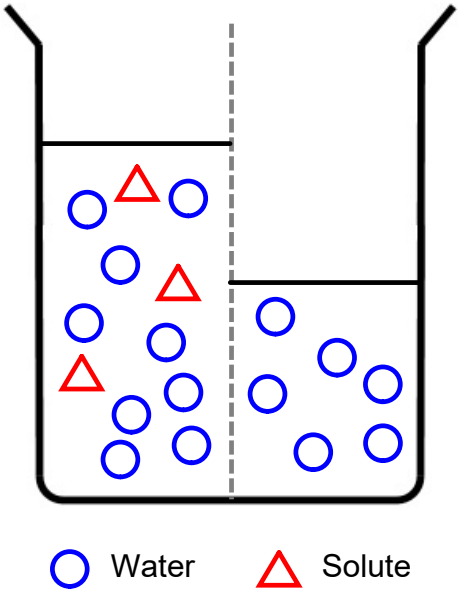


What would happen in this situation?

- > Explain with words
- > Use numbers to explain the final outcome
- > Would the final outcome be considered to be in equilibrium?

Diffusion

For this example, let's add solute particles to the diagram so that it is in equilibrium.

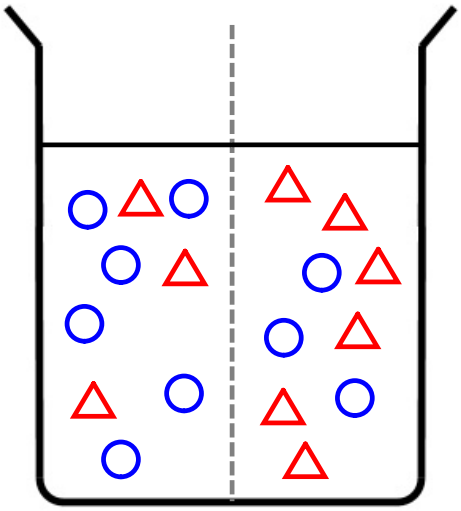


What do we need to do to reach equilibrium?

- > Explain with words
- > Use numbers to explain the final outcome
- > What do you notice about the quantity of particles when it is in equilibrium?

Diffusion

In this example the selectively permeable membrane will allow solute to pass through, but not water.



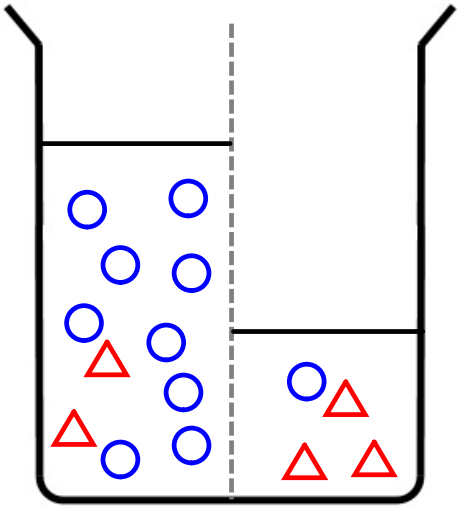
Water Solute

What would happen in this situation?

- > Explain with words
- > Use numbers to explain the final outcome
- > Would the final outcome be considered to be in equilibrium?

Diffusion

In this example the selectively permeable membrane will allow water to pass through, but not solute.



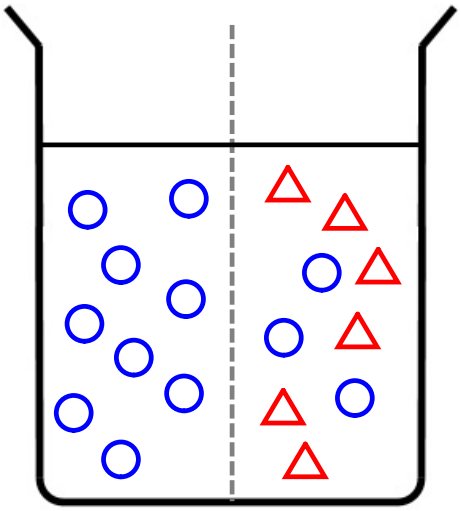
Water Solute

What would happen in this situation?

- > Explain with words
- > Use numbers to explain the final outcome
- > Would the final outcome be considered to be in Equilibrium?

Diffusion

In this example the selectively permeable membrane will allow water to pass through, but not solute.



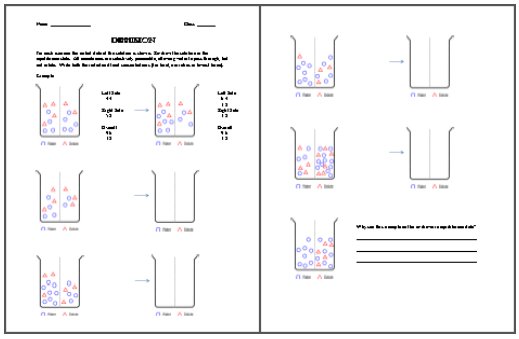
Water Solute

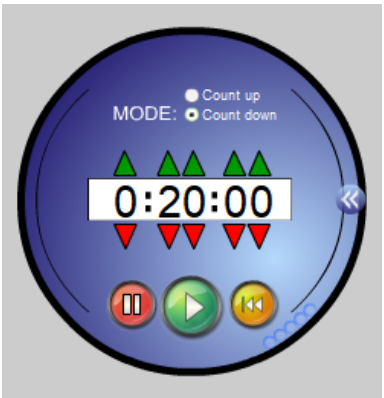
What would happen in this situation?

- > Explain with words
- > Use numbers to explain the final outcome
- > Would the final outcome be considered to be in Equilibrium?

Diffusion

Please take a copy of the Diffusion worksheet. You may use any remaining time to work on this.

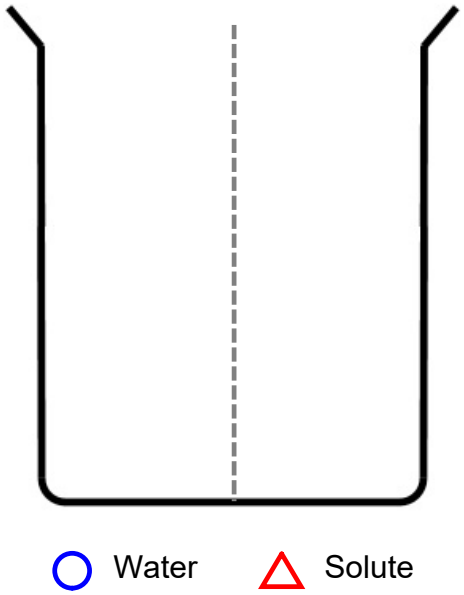




We will take up this sheet at the beginning of next class, please have it done by then.

Diffusion

In this example the selectively permeable membrane will allow _____ to pass through, but not _____.



Water Solute

Attachments

2-16 Diffusion.pdf