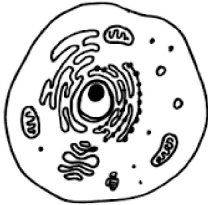
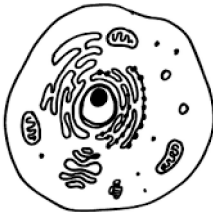
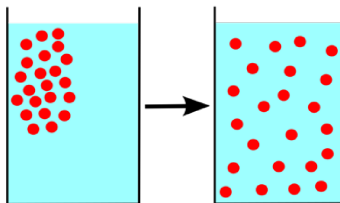


Diffusion & Osmosis

In a cell, particles move within the cell and also in and out of the cell.

Within the cell:	In and out of the cell:
	
Particles can move in <u>all directions</u> .	Particles move <u>across a membrane</u> .
Size of particles <u>doesn't matter</u> .	Size of particles <u>matter because they may not be able to fit through a membrane</u> .
Results in an <u>equal concentration throughout the cell</u> .	Results in an <u>equal concentration inside and outside of the cell</u> .

MOVEMENT OF PARTICLES IN GENERAL:



How would you describe the movement of particles?

DIFFUSION:

THE MOVEMENT OF PARTICLES FROM AN AREA OF HIGH CONCENTRATION TO AN AREA OF LOW CONCENTRATION.

Provide 3 examples of diffusion in every day life:

1. *Pouring chlorine in a pool*
2. *Dropping food colouring in water*
3. *Spraying febreze in a room.*

MOVEMENT OF WATER PARTICLES:

Concentration

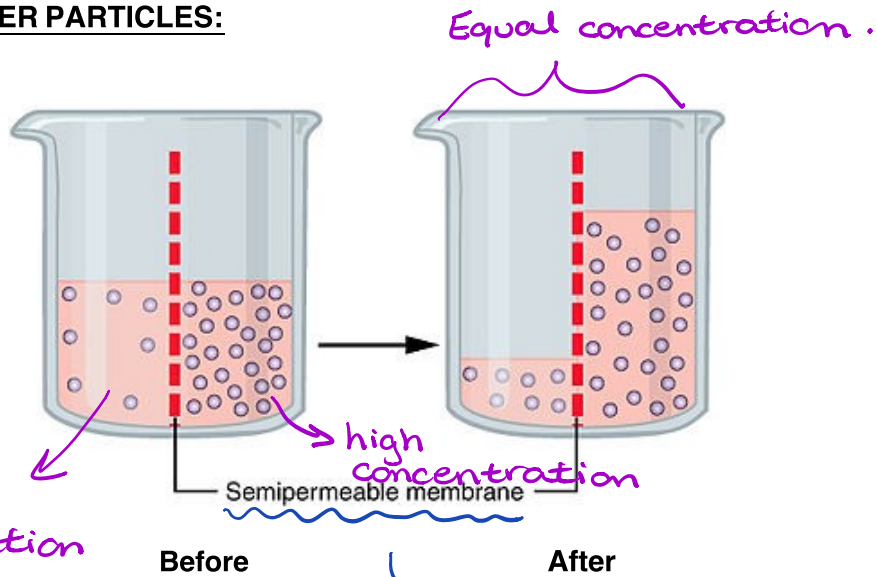
↳ The amount of particles in a given volume.

✦ The particles can't move

Low

concentration

Only the water moves!



a membrane that allows some particles to pass through

Look at the **BEFORE** picture.

- Which side has a higher concentration of particles?

the right

- In order to even out the concentration of particles, which way must the water move?

it moves to the right

Look at the **AFTER** picture.

- Which side has a higher concentration of particles?

Both sides have the same concentration

- Which side has more water?

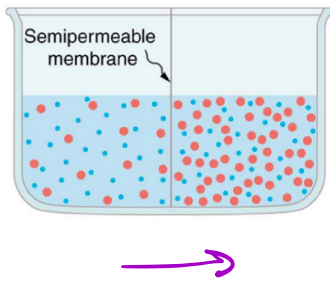
Right

OSMOSIS:

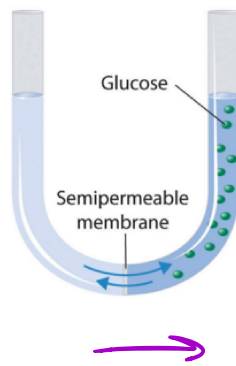
THE MOVEMENT OF WATER PARTICLES THROUGH A SEMI-PERMEABLE MEMBRANE TO ACHIEVE AN EQUAL CONCENTRATION.

For the pictures below, which direction do you think the water will move? Show your answer with an arrow.

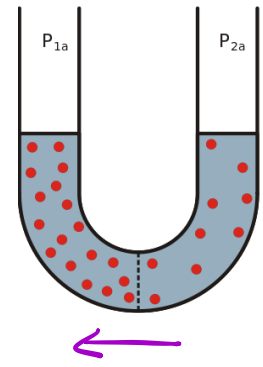
(1)



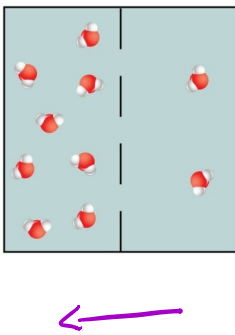
(2)



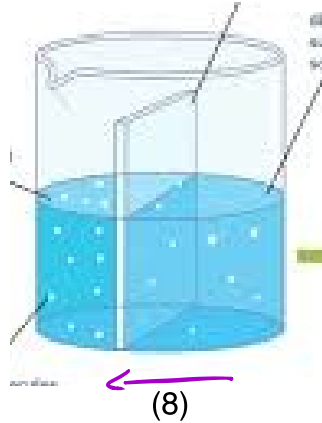
(3)



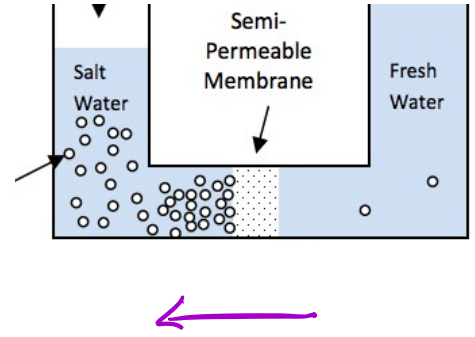
(4)



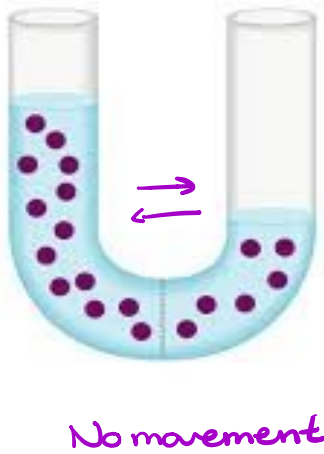
(5)



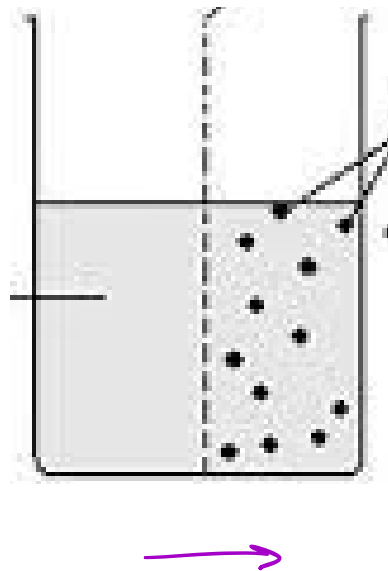
(6)



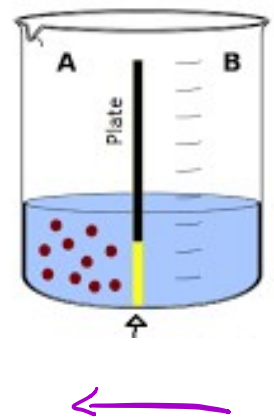
(7)



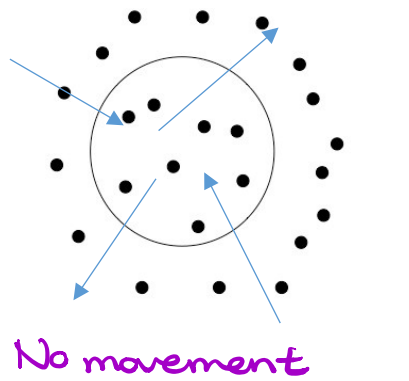
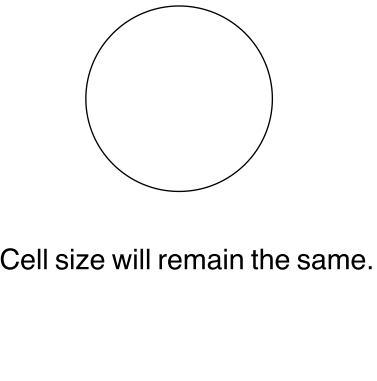
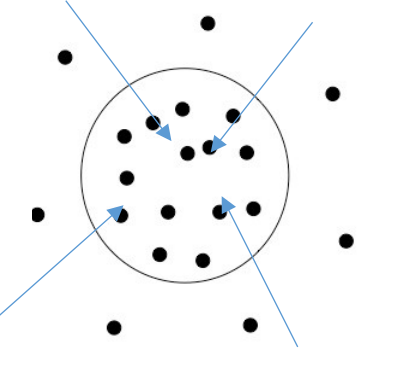
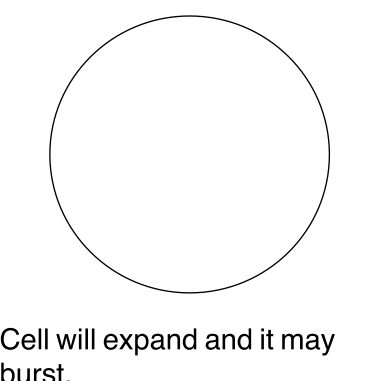
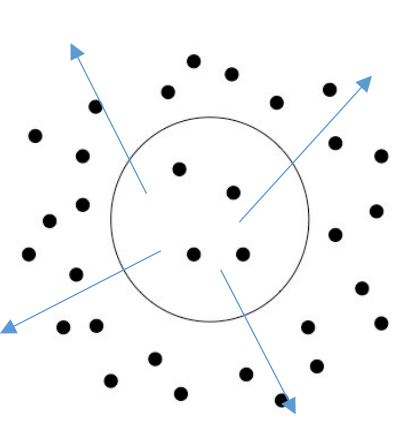
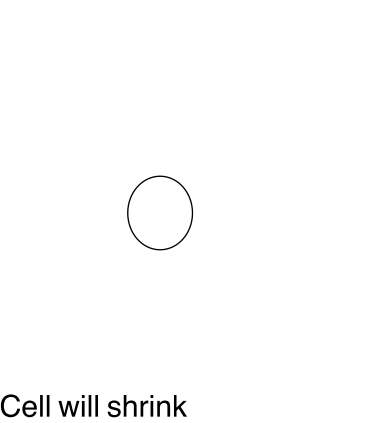
(8)



(9)



There are three situations where there is a movement of water particles through a membrane.

<p>1. Concentration inside and outside of the cell is the same.</p> <p>Inside = Outside</p>	<p>Before Osmosis</p>  <p>No movement</p>	<p>After Osmosis</p>  <p>Cell size will remain the same.</p>
<p>2. Concentration of particles inside the cell is higher than the solution outside the cell.</p> <p>Inside > Outside</p>	<p>Before Osmosis</p> 	<p>After Osmosis</p>  <p>Cell will expand and it may burst.</p>
<p>3. Concentration of particles inside the cell is lower than the solution outside the cell.</p> <p>Inside < Outside</p>	<p>Before Osmosis</p> 	<p>After Osmosis</p>  <p>Cell will shrink</p>