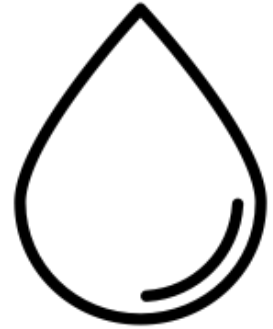


# REVERSE OSMOSIS

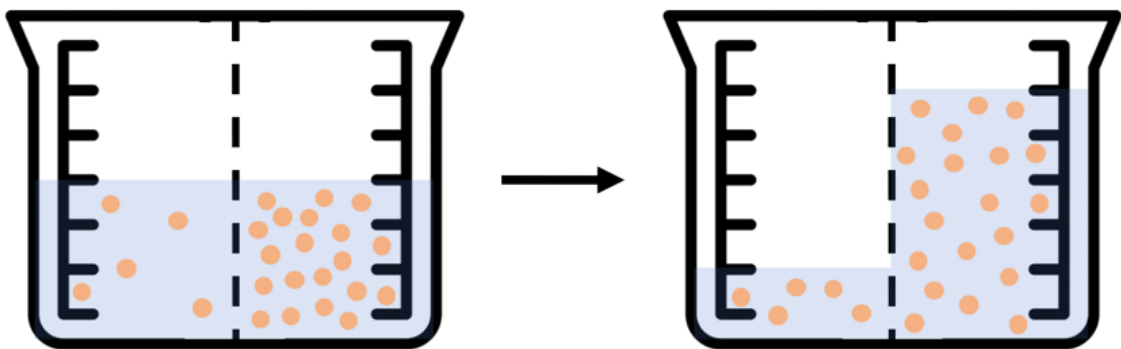
## WHAT IS THE REVERSE OSMOSIS?

Reverse osmosis removes impurities from feed water to produce potable water. Through applying pressure, the method overcomes osmotic pressure to separate undesirable ions and other molecules, even bacteria from water. The external pressure reverses the flow of water. After the feed water flows through a series of cylinder-shaped pressurized vessels, purified water is separated from the rest of the unwanted solution.

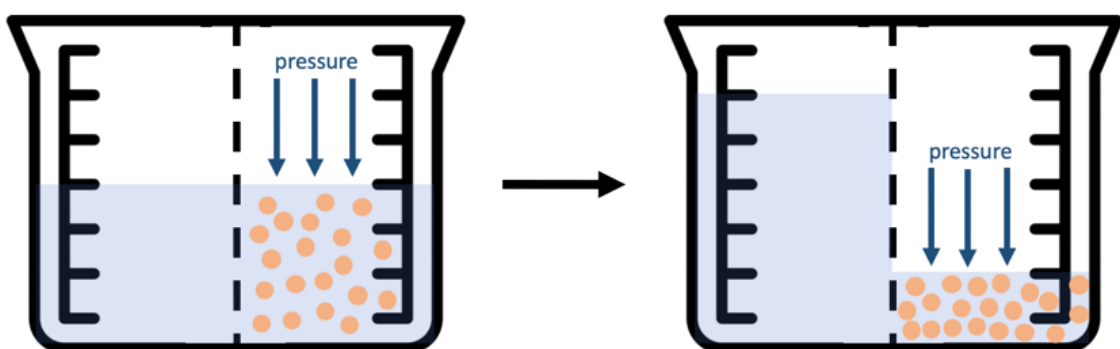


## HOW DOES IT WORK?

In regular osmosis, water moves from a region of low solute concentration to a region of high solute concentration via a semipermeable membrane. As shown in the picture below, water flows from a region with low solute concentration to a region with high solute concentration in normal osmosis.



However, when external pressure is applied, the water flows in the opposite direction as normal osmosis. In reverse osmosis, the pressure forces the water to flow from an area of high solute concentration to an area of low solute concentration. As depicted in the diagram below, reverse osmosis collects purified water without other unwanted solutes.



## ***WHY IS IT IMPORTANT?***

Reverse osmosis is crucial to places where there is limited or no surface water nor groundwater available. For seawater is one of the common sources of water in such places, desalination is the major way to produce drinking water. Since reverse osmosis can thoroughly remove impurities from large quantities of water, reverse osmosis is commonly the preferred method for desalination.

