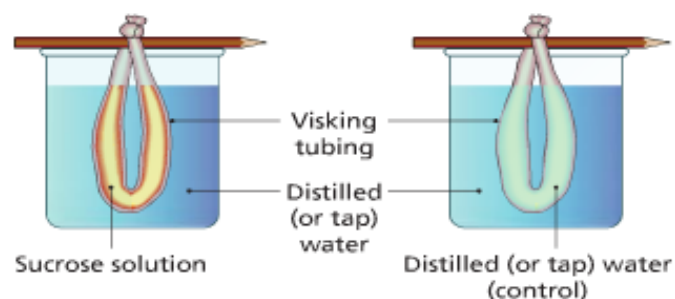


Activity 14 To demonstrate osmosis

Note: Visking tubing is a selectively permeable membrane. Water can pass freely through visking tubing, but sucrose cannot.

1. Soak two strips of visking tubing in water (this softens them).
2. Tie a knot in one end of each of the strips.
3. Dissolve a large amount of sucrose in warm water in a beaker. This forms a concentrated sucrose solution (warm water is a better solvent than cold water).
4. Almost fill one piece of visking tubing with distilled (or tap) water. Tie a knot to seal the contents (this bag acts as a control).
5. Almost fill the second piece of visking tubing with sucrose solution. Tie a knot to seal the contents.
6. Dry each tube. Note the 'fullness' (or turgidity) of each tube and record its mass.
7. Place each tube of visking tubing in a container of distilled (or tap) water, as shown in diagram 13.13.
8. Leave the apparatus for about 30 minutes.
9. Remove the bags, dry them and note and record the 'fullness' and mass of each bag.
10. Record the results as follows:



13.13 To show osmosis

Contents of tube	Sucrose solution	Distilled or tap water
Mass at the start (g)		
Final mass (g)		
Change in fullness or turgidity (more, less or the same turgidity)		

The expected results are:

- The visking tubing containing the sucrose solution will have filled with water so that it has gained mass and is more full (this is due to water entering the tubing as a result of osmosis).
- The visking tubing containing the distilled water shows no change in mass or 'fullness' (i.e. it has not gained or lost water).