

Osmosis

Role of water as a solvent in organisms?

Osmosis

What moves by osmosis?

Osmosis

How does water move into and out of cells?

Osmosis

Why does a dialysis tubing bag of sugar solution gain mass in water?

Osmosis

Percentage change in mass formula?

Osmosis

What does a potato cylinder in a concentrated solution do?

Osmosis

How are plants supported by water?

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Define osmosis using water potential.

Water, through a partially permeable membrane.

Substances dissolve in it for digestion, excretion (e.g. urea in urine) and transport (plasma, sap).

Water enters by osmosis through the partially permeable tubing. The sucrose molecules are too large to leave.

By osmosis through the cell membrane.

Loses mass, because water leaves its cells by osmosis.

$$(\text{final mass} - \text{initial mass}) \div \text{initial mass} \times 100.$$

The net movement of water molecules from a region of higher water potential (dilute solution) to a region of lower water potential (concentrated solution), through a partially permeable membrane.

The pressure of water inside the cells pressing outwards on the cell wall.

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**Which has the higher water potential:
a dilute or concentrated solution?**

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Why does water enter root hair cells?

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What is a turgid cell?

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What is a flaccid cell?

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What is plasmolysis?

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**Why do plant cells not burst in pure
water?**

The cells have a lower water potential than the soil water, so water enters by osmosis.

A dilute solution. Pure water has the highest water potential.

A plant cell that has lost water and turgor pressure, so it is soft.

A plant cell full of water, with the cell contents pressing on the cell wall (turgor pressure).

The cell wall resists the expansion, so the cell becomes turgid.

The cell membrane and cytoplasm pulling away from the cell wall after water leaves the cell by osmosis.