

## Vocabulary: Paramecium Homeostasis



### Vocabulary

- Adaptation – a trait that is helpful to an organism.
- Cell mouth – opening through which food passes into the gullet of a *paramecium*.
  - The cell mouth is also known as the “mouth pore.”
- Cilia – hair-like organelles used for locomotion that cover the surface of some cells.
  - A paramecium moves forward when its cilia beat backward and vice versa.
  - Cilia are also used to move fluids or small solid objects over a surface.
- Concentration – a measure of how much of a given substance is mixed with another substance.
  - In the *Paramecium Homeostasis* Gizmo, the *solute* is salt and the *solvent* is water.
  - To measure the percentage concentration of a *solution*, divide the mass of the solute by the mass of the solvent, and then multiply by 100.
  - Seawater has an average salt concentration (salinity) of 3.5%.
- Contractile vacuole – an organelle that pumps excess water or other wastes from a cell.
- Food vacuole – a sac in which food is stored and digested.
- Homeostasis – the maintenance of stable conditions inside the body in spite of changing external or internal conditions.
  - *Thermoregulation* (keeping a stable body temperature) is an example of homeostasis.
  - Other examples of homeostasis include keeping a constant level of oxygen in the blood, regulating blood sugar, and preventing the buildup of waste products in the body.
- Hypertonic – a solution with a higher solute concentration than the solution on the other side of a membrane.
- Hypotonic – a solution with a lower solute concentration than the solution on the other side of a membrane.
- Macronucleus – the larger of two nuclei present in paramecia and other protozoa.
  - The macronucleus contains hundreds of chromosomes.
  - The macronucleus controls everyday functions of the paramecium.

- Micronucleus – the smaller of two nuclei present in paramecia and other protozoa.
  - The micronucleus also contains chromosomes and is involved in sexual reproduction amongst paramecia and other protozoa.
- Oral groove – a cilia-lined channel that leads to the cell mouth and gullet of a paramecium.
  - The cilia beat in unison to sweep food (usually bacteria) into the cell mouth.
- Osmosis – the movement of solvent molecules across a semipermeable membrane from an area of higher solvent concentration to an area of lower solvent concentration.
  - Osmosis often refers to the flow of water molecules across a cell membrane.
- Paramecium – a single-celled, oval-shaped protozoan that uses cilia for locomotion.
- Solute – a substance that is dissolved in another substance to form a solution.
  - In seawater, the solute is salt.
- Solution – a homogeneous mixture of two or more substances.
  - Solutions generally consist of a solute that is dissolved into a solvent.
    - Solvents are generally liquids.
    - Solutes can be solids, liquids, or gases.
  - Examples of solutions include salt water, sugar water, and seltzer.
- Solvent – a liquid or gas that dissolves a solute to form a solution.
  - In seawater, the solvent is water.

