3. Movement into and out of cells

Starter Quiz ·

IGCSE Biology Name: _____ Score: _____

1. Diffusion is the net movement of particles from a region of:

   ☐ low concentration to high concentration

   ☐ high pressure to low temperature

   ☐ one cell to an identical cell

   ☐ high concentration to low concentration

2. Osmosis is the net movement of:

   ☐ water from a dilute to a concentrated solution, through a partially permeable membrane

   ☐ any particle from high to low concentration

   ☐ salt into a cell

   ☐ water using energy

3. Active transport moves particles:

   ☐ only water

   ☐ without any membrane

   ☐ from high to low concentration, no energy

   ☐ from low to high concentration, using energy

4. Diffusion requires energy from the cell.

   ☐ True ☐ False

5. An animal cell placed in pure water will:

   ☐ gain salt

   ☐ lose water and shrink

   ☐ stay exactly the same

   ☐ gain water and may burst

6. The energy for active transport comes from:

   ☐ respiration

   ☐ osmosis

   ☐ sunlight directly

   ☐ diffusion

7. Which increase the rate of diffusion? (Select all that apply.)

   ☐ a thicker barrier

   ☐ a steeper concentration gradient

   ☐ a higher temperature

   ☐ a larger surface area

   Tick every correct option.

8. Osmosis requires energy from the cell.

   ☐ True ☐ False

9. Diffusion and osmosis need no energy supplied by respiration, while active transport requires energy from respiration.

   ☐ True ☐ False

10. Diffusion is the _____ movement of particles down a concentration gradient.

    _____

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Answers ·

IGCSE Biology

1. **high concentration to low concentration**

   Particles move down the concentration gradient.

2. **water from a dilute to a concentrated solution, through a partially permeable membrane**

   Osmosis is specifically water across a partially permeable membrane.

3. **from low to high concentration, using energy**

   Active transport goes against the gradient and needs energy.

4. **False**

   Particles have kinetic energy from random movement. The cell does not supply energy from respiration for diffusion.

5. **gain water and may burst**

   Water enters by osmosis, swelling the cell.

6. **respiration**

   Respiration releases the energy used.

7. **a steeper concentration gradient; a higher temperature; a larger surface area**

   A thicker barrier slows diffusion; the others speed it up.

8. **False**

   Like diffusion, osmosis is passive.

9. **True**

   Passive particles still have kinetic energy. Active transport additionally requires energy from respiration.

10. **net**

    Particles move both ways, but the net flow is high to low.