

IGCSE Biology

Name: _____ Score: _____

1. Diffusion is the net movement of particles from a region of:
 - ☐ high concentration to low concentration
 - ☐ low concentration to high concentration
 - ☐ high pressure to low temperature
 - ☐ one cell to an identical cell
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
 - ☐ water using energy
 - ☐ salt into a cell
3. Active transport moves particles:
 - ☐ from low to high concentration, using energy
 - ☐ from high to low concentration, no energy
 - ☐ only water
 - ☐ without any membrane
4. Diffusion requires energy from the cell.
 - ☐ True ☐ False
5. An animal cell placed in pure water will:
 - ☐ gain water and may burst
 - ☐ lose water and shrink
 - ☐ stay exactly the same
 - ☐ gain salt
6. The energy for active transport comes from:
 - ☐ respiration
 - ☐ sunlight directly
 - ☐ diffusion
 - ☐ osmosis

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

- ☐ a steeper concentration gradient
- ☐ a higher temperature
- ☐ a larger surface area
- ☐ a thicker barrier

Tick every correct option.

8. Osmosis requires energy from the cell.

- ☐ True ☐ False

9. Diffusion and osmosis are passive (no energy), while active transport needs energy.

- ☐ True ☐ False

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

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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**

Diffusion is passive — it needs no energy from the cell.

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**

Only active transport requires energy.

10. **net**

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