D2.3 Water potential

What the Cell · DP Biology · note-taking sheet · SL statements D2.3.1–7

Name _____ **Date** _____

How to use this sheet: go through the slides and videos with it, then close them and write from memory. Use your own words and add page numbers from the book (pp. 681–690) where you want more detail.

Guiding questions. What affects whether water moves into or out of a cell? In what ways do plant cells and animal cells control water movement differently?

D2.3.1 Solvation

Explain how water dissolves ions and polar molecules. Draw water around a sodium ion and a chloride ion.

D2.3.2–3 Comparing solutions

A cell in a solution that is…	Solute concentration outside	Net water movement
Hypotonic		
Hypertonic		
Isotonic		

Why is it wrong to say that no water moves in an isotonic solution?

D2.3.4 Plant tissue practical

Outline the method. Why calculate percentage change? How do you find the isotonic concentration from a graph?

D2.3.5–6 Cells with and without walls

	Animal cell	Plant cell
Hypotonic		
Hypertonic		

What do contractile vacuoles do, and why are they needed?

D2.3.7 Medical uses

Give two uses of isotonic solutions and explain why they must be isotonic.

Before you finish

Tick the ones you can explain without notes. Circle anything to ask about.

- ☐ Solvation
- ☐ Three tonicity terms
- ☐ Dynamic equilibrium
- ☐ Percentage change
- ☐ Isotonic point
- ☐ Crenation
- ☐ Contractile vacuoles
- ☐ Turgor pressure
- ☐ Plasmolysis
- ☐ Medical uses