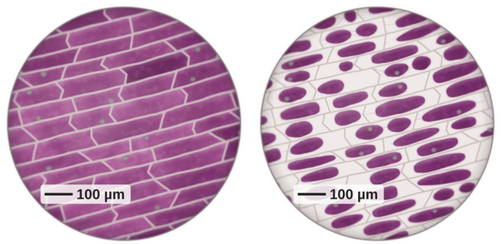
B1 L9 Alternative worksheet: Osmosis

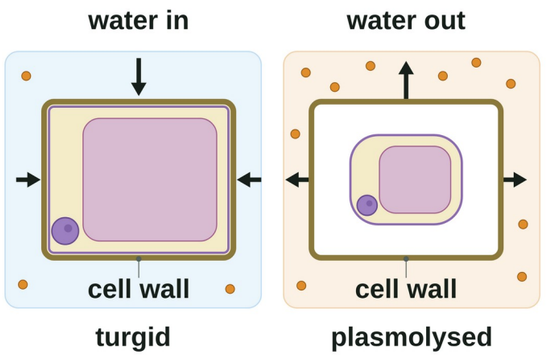
Name: _____ Class: _____

Key facts

- **Osmosis** is the movement of **water** across a **partially permeable membrane**.
- A partially permeable membrane lets **water** through, but not **sugar**.
- A **dilute** solution has lots of water. A **concentrated** solution has less water.
- Water moves from the **dilute** solution to the **concentrated** solution.
- A plant cell in water swells and becomes **turgid** (firm). The **cell wall** stops it bursting.
- A plant cell in a strong salt or sugar solution loses water and becomes **flaccid** (soft).
- An animal cell has **no cell wall**. In pure water it can **burst**.
- A potato **gains** mass when water moves in. It **loses** mass when water moves out.



Real red onion cells
in water | in salt solution



A diagram
water in, water out

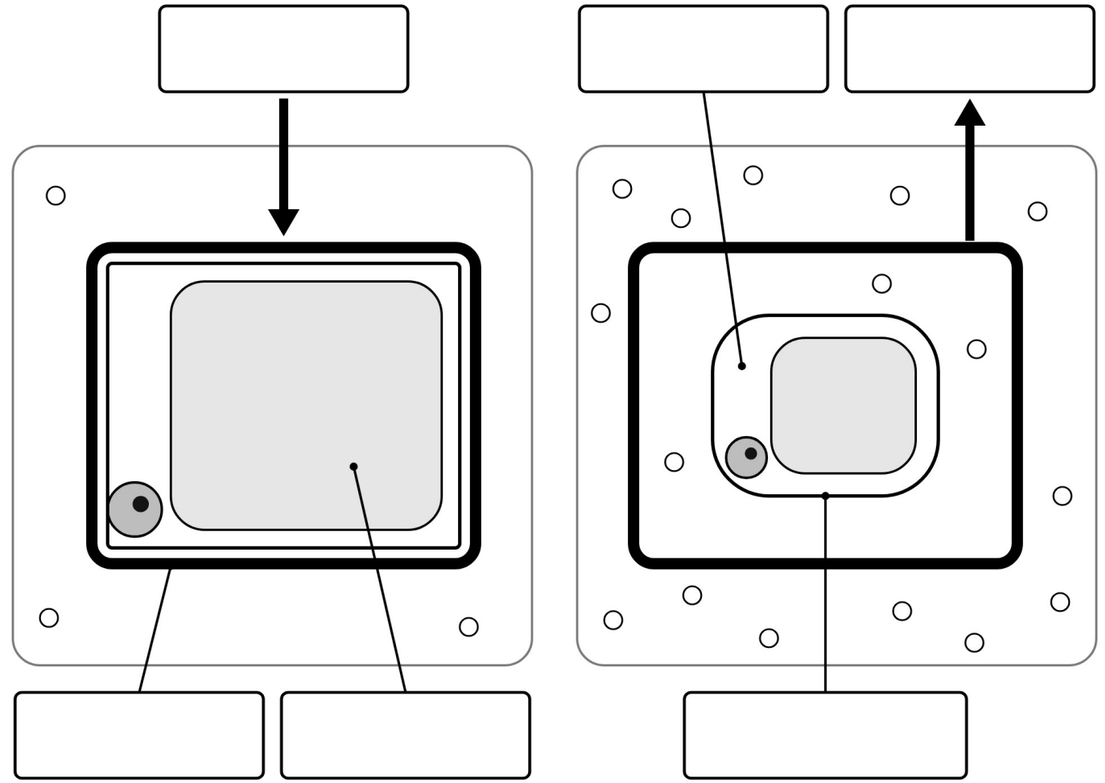
Osmosis is always about water.

A. Label the cells

Help: online screens 2 and 5 [6]

Write a word from the box in each label box.

cell wall	**cell membrane**	**vacuole**
cytoplasm	**water in**	**water out**



Tip: the arrows show which way the water goes.

B1 L9 Alternative worksheet: Osmosis

Name: _____ Class: _____

B. Match the word to its meaning

Help: online screens 3 and 5 [5]

Draw a line from each word to its meaning.

osmosis	●	● soft, because it has lost water
turgid	●	● has a lot of solute and less water
flaccid	●	● water moving across a partially permeable membrane
dilute	●	● has lots of water
concentrated	●	● swollen and firm

C. Fill the gaps

Help: online screens 3, 5, 6 and 10 [6]

Use the words in the box. Use each word once.

water	**dilute**	**gains**	**loses**	**cell wall**	**burst**

1. Osmosis is the movement of _____.
2. Water moves from a _____ solution to a concentrated solution.
3. A potato in pure water _____ mass.
4. A potato in a strong sugar solution _____ mass.
5. The _____ stops a plant cell bursting.
6. A red blood cell in pure water can _____.

D. True or false?

Help: online screens 3, 5 and 6 [6]

Tick (✓) True or False for each sentence.

Sentence	True	False
1. Osmosis is the movement of sugar.		
2. A partially permeable membrane lets water through.		
3. Plant cells burst in pure water.		
4. A concentrated solution has less water than a dilute solution.		
5. Water moves both ways across the membrane.		
6. Osmosis needs energy from respiration.		

E. Work it out

Help: online screen 10 [4]

1. A potato cylinder starts at 1.50 g. It ends at 1.65 g. [1]

   Circle: **gained mass** / **lost mass**

2. Change in mass = 1.65 − 1.50 = _____ g [1]

3. Percentage change = 0.15 ÷ 1.50 × 100 = _____ % [1]

4. Another cylinder lost mass. [1]

   Circle: water moved **in** / **out**