

# WJEC England Biology

# GCSE

## SP2.1 - Osmosis

### Flashcards



# What is osmosis?



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The movement of water from a higher water potential to a lower water potential through a partially permeable membrane.



Describe how you would carry out an investigation into osmosis using potato tissue



# Describe how you would carry out an investigation into osmosis using potato tissue

- Cut identical potato cylinders using a cork borer.
- Measure and record the length and mass of cylinders using ruler and balance.
- Add one potato cylinder to a boiling tube, each with a different concentration of blackcurrant squash (0, 20, 40, 60, 80, 100%).
- Leave cylinders in tubes overnight.
- Remove cylinders from tubes and blot them using paper towels.
- Record length and mass of each cylinder.
- Calculate the percentage changes for each cylinder.



Why is it necessary to use a cork borer to cut the cylinders?



Why is it necessary to use a cork borer to cut the cylinders?

Results in equal sized samples so changes in length and mass can be compared easily.



Why is it necessary to blot the cylinders with paper after removing them?





Why is it necessary to blot the cylinders with paper after removing them?

Each cylinder may have a different amount of water on its surface, so masses may vary.

Blotting cylinders allows masses to be comparable.



Give an example of a safety precaution that should be taken with this experiment



Give an example of a safety precaution that should be taken with this experiment.

Handle cork borer and scalpel with care.



How can the water potential of the plant cells be found?



How can the water potential of the plant cells be found?

Plot a graph of change in mass against concentration.

Find the x-intercept, which is the concentration of solution that is isotonic to the plant cells.



State a source of error in this practical.



State a source of error in this practical.

Plant tissue taken from different parts of the plant may have different water potentials.

