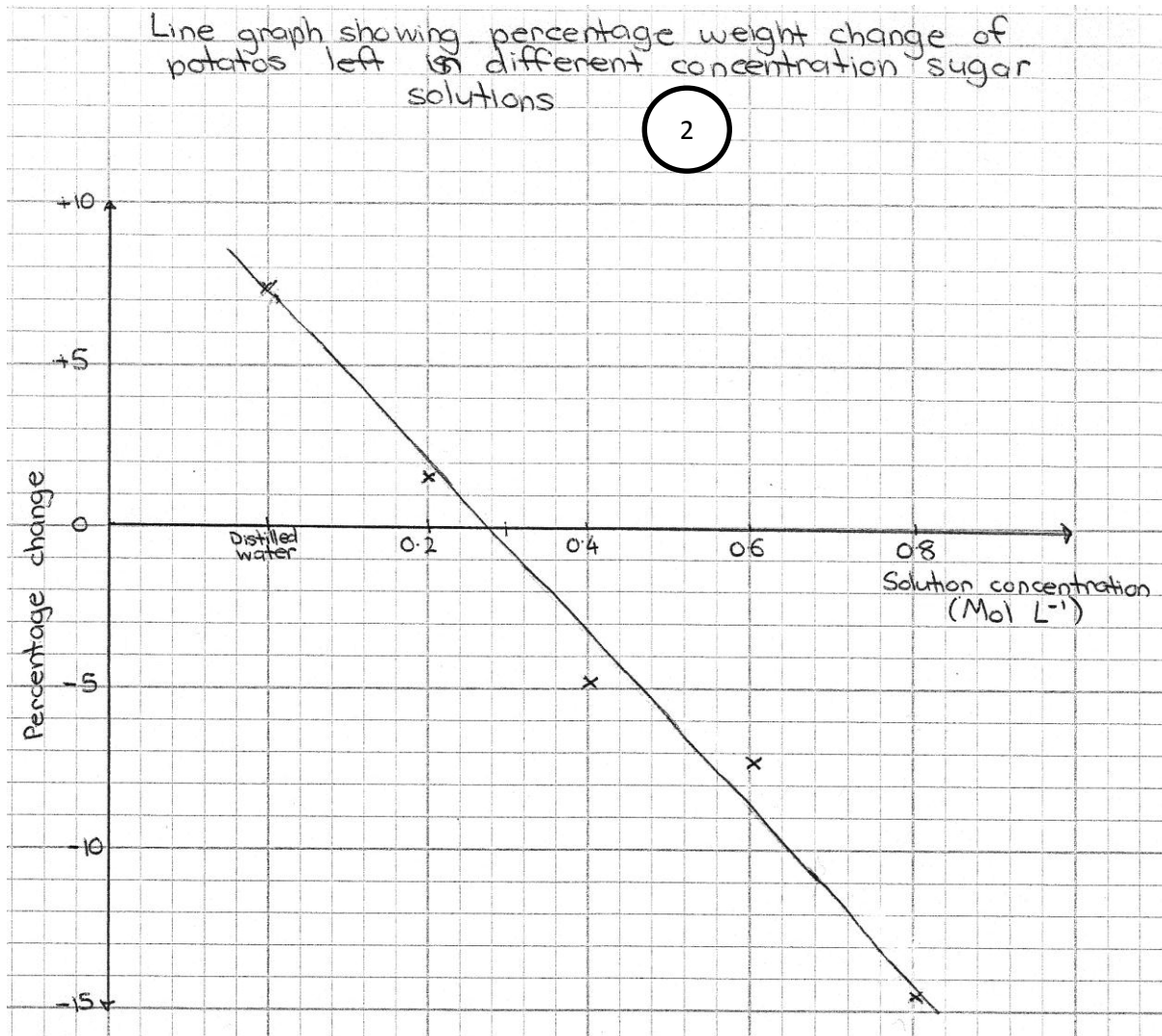


Please note – These are extracts from one student's response

Purpose: to find out the effect of osmosis on potatoes by placing potato chips in different strength sugar solutions.

1 **Hypothesis:** that the potato chips will become soft and rubbery because their mass will decrease as they lose water in strong sugar solutions because of osmosis.



The general trend for the graph is that it starts high on the left and slopes down to negative values on the right. This is because for distilled water and the low concentration of sugar solution (0.2molL<sup>-1</sup>) there was an increase in the mass of the potato chips. For the higher concentrations of sugar solutions (0.4molL<sup>-1</sup> to 0.8molL<sup>-1</sup>) there was a decrease in the mass of the potato chips. The graph shows this pattern as a gradual trend.

3

3 **Conclusion:** my purpose was to investigate the effect of different sugar solution concentrations in relation to the mass potato chips and osmosis. From about 0.3molL<sup>-1</sup> sugar concentration, the mass in the potato decreased as shown by the graph.

My results are based on osmosis, the term that describes the movement of water molecules from high concentrations to lower concentrations through a semipermeable membrane. I used pieces of potato because the potato provided the semipermeable membranes.

4

The other source can be compared with my results. The *Nereis* worms in the beakers of salt solutions react in a similar way to the potato chips in the sugar solutions. They both lose mass as the salt/sugar concentrations get higher and gain mass when the salt/sugar concentrations are lower. Both graphs show the same trend.

4