Year 12 Level 2 Biology Launchpad: Required Practical — Investigating the Effect of Concentration on Potato Cylinders

Name: _____

Instructions: At the start of Year 12, you will be revisiting cells and transport. Here is one of the required practicals from this topic that you should already be familiar with.

A Key Terms

Key Term	Definition	Key Term	Definition
Osmosis		Semi- permeable membrane	

B Knowledge & Understanding

[2]	**Q1** State the independent variable, dependent variable and one control variable in the potato osmosis investigation.
[3]	**Q2** Explain why potato cylinders gain mass in dilute solutions and lose mass in concentrated solutions. Use the terms osmosis and semi-permeable membrane.
[2]	**Q3** A potato cylinder showed no change in mass after 24 hours. What does this tell you about the solution surrounding the potato?

C Calculations

[3]	**Q4** A potato cylinder had an initial mass of 4.80 g and a final mass of 5.28 g after being left in a sugar solution. Calculate the percentage change in mass.
[1]	**Q5** State whether the solution in Q4 was more concentrated or less concentrated than the potato cells.

D Method (6-mark answer)

[6]	**Q6** Describe a method to investigate the effect of sugar concentration on potato cylinders using a range of sugar solutions. Below your method, explain why each control variable is important for obtaining valid results.