The Effect of Solute Concentration (Glucose and NaCl) on Osmolarity in Solanum tuberosum (Russet Potato) Cells.

**IB Biology SL Internal Assessment** 

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Concentrati on of NaCl Solution	Initial Mass (g)						Final Mass (g)					
	Trial	Trial	Trial	Trial	Trial	Description	Trial	Trial	Trial	Trial	Trial	Description
(M)	1	2	3	4	5	Of potato sticks	1	2	3	4	5	Of potato sticks
0.0	5.0	4.0	4.0	4.0	5.0	Firm and smooth	5.9	5.0	4.8	4.9	5.8	noticeably swollen
0.1	5.0	4.0	4.0	4.0	5.0	Firm and smooth	5.6	4.7	4.9	4.8	5.8	mildly swollen
0.2	5.0	4.0	4.0	4.0	5.0	Firm and smooth	5.4	4.4	4.6	4.5	5.6	mildly swollen
0.3	5.0	4.0	4.0	4.0	5.0	Firm and smooth	5.1	4.2	4.3	4.1	5.3	No observable change
0.4	5.0	4.0	4.0	4.0	5.0	Firm and smooth	5.0	4.0	4.1	3.9	5.1	No observable change
0.5	5.0	4.0	4.0	4.0	5.0	Firm and smooth	4.7 <b>es</b>	ale	3.7	3.7	4.8	Marginally shriveled

## Table.1: Quantitative adaptative data from Nati experiment

To uncerstand now the potato steks cere affected by the saltwater solutions, I first measured how much their weight changed. This was done by subtracting the initial weight of the potato sticks from their weight after soaking in the solution. The formula we used was:

Change in Mass = Final Mass - Initial Mass.

Then, to see how significant this change was in relation to the potato sticks' starting weight, I calculated the percentage change. The formula for this is:

Percentage Change in Mass = 
$$(\frac{\Delta mass}{initial mass}) \times 100\%$$
.

## Sample Calculation :

For these calculations I will use the 0.2M NaCl concentration:

1. The change in mass is calculated as

$$5.4g-5.0g = 0.4g$$

2. The percentage change in mass is. 0.4

$$\frac{0.4}{5.0} \times 100 = 8.0\%$$