

## Cell Biology – Module 2

### Resource B - Observing the effects of saline solution on HeLa cells.

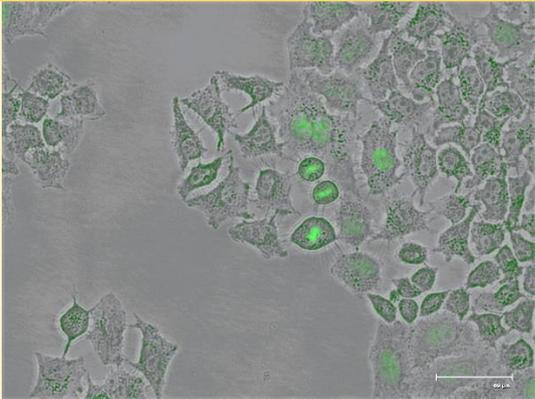
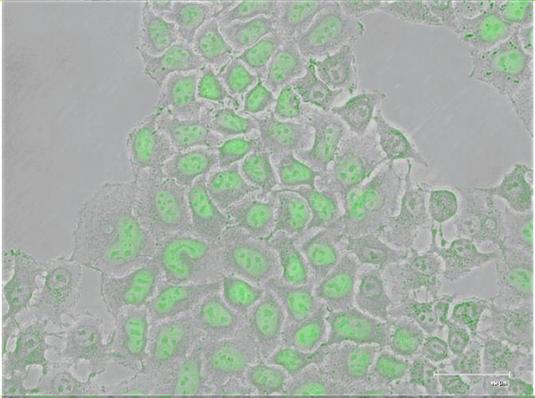
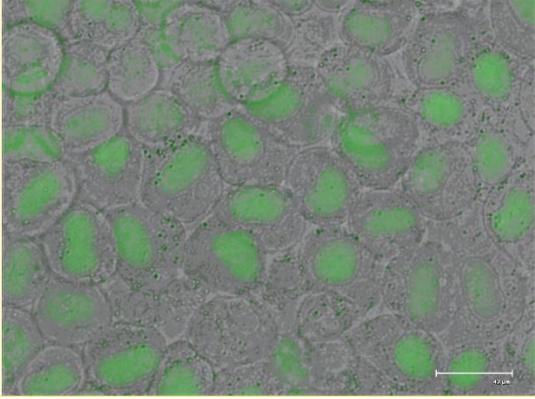
*NB: please complete Resource A before commencing this activity.*

#### Methodology

The salt solutions were prepared as per dilutions listed in Resource A. The culture medium from the first well was removed using a vacuum line. A few mL of the 0g/L solution was added to the first well using a Pasteur pipette. Cells were observed and photographed. The procedure was repeated for the other concentrations in other wells.

#### Activity 1 - Results

SPARQ-ed teachers photographed the HeLa cells after a few minutes for 3 of the solutions (X, Y and Z). Use the photographs to complete the observation table. A video of the photographs can be found in the resource section of this module.

Concentration	Result	Observations
X		
Y		
Z		

*\*the HeLa cells are modified to carry the GFP gene. This makes their nucleus 'glow' green!*

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**Activity 2 – Discussion questions**

Determine which of the solutions (X, Y or Z) was hypotonic?

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Which of the solutions was hypertonic?

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Which was isotonic?

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**Activity 3 – Further questions**

Suggest the likely consequences of drinking sea water, even if you were dying of thirst. Explain your answer.

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In diarrhoeic illnesses, the greatest danger is from dehydration as cells lining the gastrointestinal tract lose water into the lumen of the intestines. An old folk remedy to treat intestinal upset is to drink flat lemonade. Evaluate if the remedy would work. Justify your response.

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## Cognitive Verbs and Sentence starters

Cognitive Verb	QCAA Definition	Sentence Starters
<b>Use</b>	operate or put into effect; apply knowledge or rules to put theory into practice	It was observed that....
<b>Determine</b>	establish, conclude or ascertain after consideration, observation, investigation or calculation; decide or come to a resolution	
<b>Infer/consider</b>	derive or conclude something from evidence and reasoning, rather than from explicit statements; listen or read beyond what has been literally expressed; imply or hint at  think deliberately or carefully about something, typically before making a decision; take something into account when making a judgment; view attentively or scrutinise; reflect on	It is likely that.....because....
<b>Suggest</b>		
<b>Evaluate</b>	make an appraisal by weighing up or assessing strengths, implications and limitations; make judgments about ideas, works, solutions or methods in relation to selected criteria; examine and determine the merit, value or significance of something, based on criteria	.....is a reasonable course of action because....