

# Classroom Activities

## 10 Big Questions - What is Life?\*

### Osmosis of chips:

The insides of your cells are packed with important organic molecules. But, if you bathed your cells in pure water they'd burst. Why? The number of molecules inside your cells is much higher than outside, so water moves into the cells to try and balance the difference (a phenomenon called osmosis). To stop this swelling, cells must increase the number of solutes outside, so they use energy to pump solutes into the surrounding liquid (an example of homeostasis).

This activity shows in osmosis action.

You will need:

- paper towel
- sensitive scales
- peeled potatoes cut into chips
- test tubes containing distilled water
- 10%NaCl, 20%NaCl

Method:

Weigh and record the weight of each chip. Completely immerse one chip in each solution, then after an hour/day, remove the chips and pat them dry. Weigh and record the weight again.

Osmosis causes some to get heavier, some lighter. Which ones, and what does this tell you about the concentration of solutes in your cells?

This classroom activity was suggested by Rachel Hampton-Smith – PhD student in the School of Molecular and Biomedical Science, University of Adelaide.

\* To find out more about the 10 Big Questions, go to:

<http://www.sciences.adelaide.edu.au/learning-teaching/10bq/>

### Further Information

Ph: (08) 8313 5673

Fax: (08) 8313 4386

Email: [faculty.sciences@adelaide.edu.au](mailto:faculty.sciences@adelaide.edu.au)

Web: [www.sciences.adelaide.edu.au](http://www.sciences.adelaide.edu.au)

