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Breathing Cells - Cellular Respiration

Posted by [sat](#) on Sun, 2015-01-18 12:24

This online resource shows how pH levels can be used to measure the respiration of cells.

In this activity, students use a simple pH indicator to measure how much CO₂ is produced during respiration, at rest and after exercising. They begin by comparing some common household solutions in order to determine the colour change of the indicator. They then review the concepts of pH and respiration and extend their knowledge to measuring the effectiveness of bioremediation in the environment.

Engineering Connection

When toxic materials are spilled into the environment, engineers can use microorganisms, fungi or plants to clean up the spill through a process called bioremediation. The engineers choose an organism that can "eat" the target contaminant. One way that engineers can tell if the bioremediation is working is by measuring how much the bacteria are "breathing". Engineers measure how much organisms are breathing by changes in the pH of the soil or water in which they are growing. Measuring the results of cell activity is usually easier than trying to keep track of the actual amount of toxic material in the environment.

Australian Curriculum v9 Codes: AC9S9U01 (Year 9)

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Cellular respiration

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