CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY

Name(s)
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Project Number
S1426

Project Title
Blood Grows?

Abstract

Objectives/Goals
We wanted to find out what happened to red blood cells when mixed with Isotonic, Hypotonic and Hypertonic solutions. We also wanted to find out why the cells reacted to the solutions the way that they do.

Methods/Materials
We did the experiment two different ways. The first time we did the experiment we made regular blood slides and put a few drops of solution on the slides. The second time that we did the experiment we put the blood slides that we made under the microscope before we added the solution.

Results
The first procedure was a failure at the time because we where not able to watch the cells react to the solutions. In both experiments however, the Isotonic solution did nothing to the blood. The Hypertonic solution caused the red blood cells to shrink, and the Hypotonic solution caused the red blood cells to expand and even explode.

Conclusions/Discussion
The reason that the Red blood cells reacted to the solutions the way that they do is because of diffusion and osmosis. Diffusion is the transference of molecules between cell membranes. Osmosis is a special kind of diffusion that has to do with larger molecules traveling between cell membranes. The reason that in the case ot the Hypotonic solution the red blood cells expand and is explode is because the solution has a lower salt content than the blood does. Because the solution has less salt in it than the blood, the water is entering the cell faster than it is exiting the cell.

Summary Statement
Testing the effect of Isotonic, Hypotonic and Hypertonic solutions on red blood cells.

Help Received
James Mom helped with project idea and second procedure. Zephye helped with making salmple blood slide and puting text on one paper.