



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

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| Name(s) Kira S.E. Ghandhi | Project Number J1305 |
| Project Title The Frog with the Fear of Water | |
| <p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this project is to see how often a frog can make it across a particular pond without getting wet.</p> <p>Methods/Materials I used a digital frog and a digital pond because I did not have a frog to use (or a pond) and I could not make a frog behave like that unless he/she wanted to. I used the percent of the pond filled by lily pads as the independent variable, assuming that each of the lily pads are the same size. I measured the pond in lily pads (I used a 50 by 50 grid each time); the size of the lily pads does not matter to the results of my experiment. The first thing that I did was set up my computer so that it would make a virtual lily pad-covered pond by having the computer randomly place green squares and white squares in the pond. I described the lily pad coverage of the pond as a percentage from 5% to 100% by increments of 5%. I generated results for each lily pad concentration twenty times.</p> <p>Results The first time the frog can make it across the pond is when 35% of the pond is covered by lily pads. After 50% of the pond was covered all of the tests showed that the frog could get across every single time (100%). There is a dramatic change after 35% of the pond is covered, as shown in my graph. I could take my work further to see if the size of the pond has any effect on the probability of the frog getting across.</p> | |
| Summary Statement My project studies the connections of randomly placed objects to each other at different density levels. | |
| Help Received Mother and father helped with project idea, father taught some Excel tricks to set up the experiment. | |