



**CALIFORNIA STATE SCIENCE FAIR  
2002 PROJECT SUMMARY**

<b>Name(s)</b> <b>Thallia R. Bird</b>	<b>Project Number</b>  22903
<b>Project Title</b> <b>Pollution Diffusion</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My project shows how the type of permeable rock or the size of pore space affects the distance pollution diffuses in a model aquifer. I think the diffusion of pollution in a model aquifer will be increased by increased pore space. <b>Methods/Materials</b> Using three different types of permeable rock (gravel, sand, and potting soil), I made three model aquifers. I polluted each model aquifer with food coloring. I measured the spread of the pollution (in millimeters) in all three model aquifers. I repeated the experiment three times to establish validity. <b>Results</b> Contrary to my hypothesis the pollution in the potting soil spread more than the sand. The pollution spread the most in the gravel. <b>Conclusions/Discussion</b> My hypothesis was partially incorrect. As I predicted the pollution spread the most in the gravel. However, the pollution spread more in the potting soil than in the sand. Still, the size of pore space directly correlates with the diffusion of pollution. Sand has very uniform particles. Soil has smaller particles than sand, but as I discovered it also has some bigger particles. These bigger particles probably are the reason the pollution spread farther in the potting soil than in the sand.	
<b>Summary Statement</b> My project shows how the type of permeable rock or the size of pore space affects the distance pollution diffuses in a model aquifer.	
<b>Help Received</b> Mother helped with title. Neighbor lent computer.	