



**CALIFORNIA STATE SCIENCE FAIR  
2002 PROJECT SUMMARY**

<b>Name(s)</b> <b>Bryan M. Strege</b>	<b>Project Number</b>  22644
<b>Project Title</b> <b>Polluted Percolation: How Pollutants Affect Our Soil and Water</b>	
<b>Objectives/Goals</b> My objective is to determine how over the counter pollutants, if not disposed of properly, effect the percolation of water or liquid through the soil--ultimately effecting the water table. <b>Abstract</b> <b>Methods/Materials</b> The pollutants I tested were, automatic transmission fluid, brake fluid, power-steering fluid, paint thinner, motor oil, gasoline and anti-freeze. All of these products are commonly used everyday in our society. My soil and water table environments consisted of two cups of gravel, which I poured into the bottom of each strainer. Next I placee four cups of soil on top of the gravel. Each strainer was suspended by metal dowels over water collection bowls. I poured four cups of water into my constant, then in all my other units I poured one cup of pollutant and three cups of water. I carefully poured the pollutants and water into the soil, patiently let it drain, and measured the amount of water and pollutant that percolated through the soil. <b>Results</b> By conducting four percolation tests for the seven different pollutants I mentioned above, the one that hindered the water percolation the most was gasoline. The pollutants that came in second were, Automatic Transmission Fluid, Motor Oil and Paint Thinner. These pollutants are made up of chemicals that endanger human life and the water that percolated through the soil carried these chemicals through the soil staining the water and causing odorous water. <b>Conclusions/Discussion</b> After measuring the amount of water and pollutants that percolated through the soil, and then comparing the amounts--the data proves that pollutants hinder the amount of water that percolates through the soil endangering the level of groundwater and in addition pollutes it with chemicals that endanger human life. The hydrologic water cycle is greatly effected also as the level of groundwater needs to be protected for proper evaporation and condensation back to earth.	
<b>Summary Statement</b> To test over the counter pollutants, if disposed of improperly into the soil, how they effect the percolation of water through the soil damaging our level of groundwater and contaminating it.	
<b>Help Received</b> My parents funded my experiments, thanks to them.	