



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Andrew S. Tubbs	Project Number 22465
Project Title How Do Your Crystals Grow?	
Abstract Objectives/Goals My project was to see whether crystal growth is affected when sugar or salt solutions are added. Methods/Materials What I did was boil 3 solutions in 3 small jars. The first solution contained the base mineral (monoammonium phosphate). I put some of it in a jar and labeled it "control." The second jar contained a saturated solution of sugar and some of the mineral solution. It was labeled "sugar." The last jar contained a saturated solution of salt and some of the mineral solution. It was labeled "salt." In my second experiment I did the same thing except the mineral solution had a food dye that was red. In both experiments, the crystals were allowed to grow for one week. Results The control group grew crystals normally and as expected. The sugar group grew altered crystals of the base mineral. The salt group inhibited crystal growth. Conclusions/Discussion Crystal growth is affected by the additions of sugar or salt.	
Summary Statement My project was to see whether crystal growth is affected when sugar or salt solutions are added.	
Help Received My dad supervised , but did not do the experiments for me.	