



**CALIFORNIA STATE SCIENCE FAIR  
2015 PROJECT SUMMARY**

<b>Name(s)</b> <b>Adela T. Equihua-Sanchez</b>	<b>Project Number</b> <b>J0803</b>
<b>Project Title</b> <b>Up and Down: Stalagmites and Stalactites</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The goal of my project was to see the growth process of stalactites and stalagmites. I kept record of the speleothems to document how long it took them to fully develop and if growth was affected by the materials they were grown on. <b>Methods/Materials</b> First, two glass jars and two plastic cups were filled with water (H <sub>2</sub> O) and salt (NaCl) to create a saturated solution. Then a natural fiber string, about forty centimeters long, was dripped into both jars in the shape of an M#. Thereafter, every night I checked the progress and wrote down in my journal how much it had grown every twenty-four hours for six weeks. <b>Results</b> During the initial three week period stalactites formed but didn't trickle down to the V# in the M# like it was supposed to. The glass jars crystallized inside and out, due to moisture build up all around the jars. It took them three weeks to fully grow on the glass jar and bathroom counter. It took the solution in the plastic cups twice as long to fully develop, yet it did not completely crystallize all over the cups, it clustered onto the string and over the rims of the cups. <b>Conclusions/Discussion</b> In conclusion, stalactites and stalagmites depend on each other to grow and they take a long time to form. Man-made products like plastic, alter the growth of natural creations. Stalagmites started to grow on my bathroom counter, this was the drip that did not happen on the string. It took them three weeks to fully grow on the glass jar and start to grow on the bathroom counter. The plastic cups crystallized in six weeks, which leads me to believe humans can slow down, hinder, and/or alter nature's process with inorganic things and waste. This experiment made me aware of how delicate speleothems and geological formations are and we need to protect the environment.	
<b>Summary Statement</b> I created stalagmites and stalactites using H <sub>2</sub> O and NaCl to see how speleothems grow and appreciate their process and delicacy.	
<b>Help Received</b> My mom helped me glue my poster board and proof read my work one done; My dad helped me create the solution to fill the jars and cups.	