



**CALIFORNIA STATE SCIENCE FAIR  
2007 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jenna J. Graves</b>	<b>Project Number</b> <b>J0709</b>
<b>Project Title</b> <b>Cloud Creation</b>	
<b>Objectives/Goals</b> The objective is to determine how the following weather conditions affect cloud formation: variations of humidity, temperature, air pressure and nucleation. My hypothesis is that cloud formation is related to increased humidity, decreased temperature, decreased air pressure, increased nucleation and a mixture of hot and cold temperatures.	
<b>Abstract</b> <b>Methods/Materials</b> I simulated the weather conditions inside of a one gallon glass jar and measured the cloud formation using a rubric to gauge the results of the translucency or transparency of the jar. I poured different amounts of water into the jar for each test to simulate increased or decreased humidity and placed a certain number of lit matches to simulate increased or decreased nucleation. I sealed the jar with the open end of a latex glove. The glove started inside the jar and was pulled outward, or started outside of the jar and pushed inward to show increased or decreased air pressure. I placed the jar into a container of hot water or ice water to simulate increased or decreased temperature.	
<b>Results</b> My data shows that translucent and semitransparent clouds were caused by increased humidity, an average quality of clouds resulted from decreased air pressure. Clouds made from increased nucleation were rated as almost very cloudy. Extreme temperatures (hot and cold) both caused the greatest cloud formation (very translucent).	
<b>Conclusions/Discussion</b> I concluded that humidity, temperature, air pressure and nucleation would affect cloud formation. Most of my tests had a different reaction except for tests 6 and 8 because the results were both cloudy as seen on the graph. I learned that ideal conditions for cloud formation include a combination of increased humidity, extreme temperatures, decreased air pressure and increased nucleation. A mixture of hot and cold temperatures created the best cloud formation.	
<b>Summary Statement</b> Testing different conditions of temperature, humidity, air pressure and nucleation essential for cloud formation.	
<b>Help Received</b> Dad helped with computer graphics; Mom helped with supplies; Miss Spencer helped with material organization; Dr. Allison helped with improvement suggestions.	