



**CALIFORNIA STATE SCIENCE FAIR  
2015 PROJECT SUMMARY**

<b>Name(s)</b> <b>Savannah D. Hebert</b>	<b>Project Number</b> <b>J1304</b>
<b>Project Title</b> <b>Ice Bubbles</b>	
<div><div><b>Objectives/Goals</b> To see if I could freeze a bubble using dry ice and if I could pick one up without it popping. I also wanted to see what other people thought.</div><div><b>Methods/Materials</b> I asked ten people if they thought it was possible to freeze a bubble and recorded their answers. I then placed dry ice in a variety of containers. Using different bubble solutions and different wands, bubbles were blown over the containers. I observed and recorded what happened.</div><div><b>Results</b> Bubbles blown over the containers would hover over the dry ice and then slowly fall into the containers. Many of the bubbles froze. As the bubbles aged, they would become more transparent. I also observed that the bubbles that stuck to the sides of the containers popped in half, always popping from the top side. The cardboard box worked best with the soccer bubble mix and the small wand.</div><div><b>Conclusions/Discussion</b> Nobody thought it would be possible to freeze a bubble, including myself. However, it is possible to freeze a bubble. I was not able to pick one up without it popping.  Dry ice is frozen carbon dioxide. The dry ice did not melt like an ice cube. It became a vapor. This process is called sublimation (a solid form turns directly into its gaseous state.) Dry ice is dangerous and must be handled with care.</div></div>	
<b>Summary Statement</b> I wanted to see if I could freeze a bubble using dry ice.	
<b>Help Received</b> My mom helped blow bubbles over the containers and helped me organize my data. My dad provided the dry ice from his work, AirGas. He also put the dry ice in the containers.	