



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY**

Name(s) Aubree Larson; Melody Pledger	Project Number 38799
Project Title Invisible Fire Extinguisher	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals There are many ways to put a fire out, but how does Co2 put out a fire? This is the question that is on our minds. We decided to choose this topic because we are curious about how fires start and the different options available for putting them out. We will create our own fire extinguisher of carbon dioxide gas using vinegar and baking soda to see if it will put out votive candles.</p> <p>Methods/Materials Measuring utensils, Vinegar, Baking soda, votive candles and a lighter.</p> <p>Results It took several trials, but we eventually were successful extinguishing all four votive candles. The first trial we failed because we covered the glass with cardboard and not our hands which allowed too much gas to escape. Our second trial we failed again due to not making enough carbon dioxide. The remaining trials were successful.</p> <p>Conclusions/Discussion We were able to prove that carbon dioxide puts out fire, however a certain amount of carbon dioxide was needed to put the candles out. In addition a certain amount of skill was needed to control the amount of gas going onto the candles.</p>	
Summary Statement We successfully created a fire extinguisher that created enough Co2 to put out four votive candles.	
Help Received We setup and performed this experiment by ourselves after reading Science Mini-Investigations by Marjorie Frank and consulted with our science teacher Mrs. Steward.	