



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

Name(s) George Salazar, III	Project Number J1818
Project Title Fastest Way to Chill a Soda	
Objectives/Goals What is the fastest way to bring a soda from room temperature to a drinkable temperature?	
Abstract Methods/Materials 1.Prepare an ice-only bath by adding enough ice to a Styrofoam cooler to completely cover three cans of soda. 2.Prepare an ice-water bath by adding the same amount of ice to a second Styrofoam cooler, then covering the ice with water. 3.Use the instant read thermometer to measure the starting temperatures of: The freezer compartment, The refrigerator, The ice-only bath, The ice-water bath, and Each room-temperature can of soda. You'll need to open the cans of soda to take the temperature of the liquid inside. To minimize evaporation, snap on soda savers after taking the temperature. In each case, make sure that the temperature has stabilized before recording the result. For example, it may take a minute or two before the ice-water temperature reaches equilibrium when the water is first added to the ice. 4.Place three cans of soda in each of the cooling devices to be tested, i.e. The freezer compartment, The refrigerator, The ice-only bath, The ice-water bath. 5.Note the starting time for each cooling device. 6.At regular intervals, quickly remove each set of cans from their cooling container and measure the temperature of the soda. Take note of the time and the temperature of the soda, and then quickly put the cans back in the cooling device. Tips: Reduce the amount of time that the refrigerator and freezer doors are open. It is a good idea to periodically re-check the temperatures of the cooling container. 7.The experiment is complete when the temperature reading of the soda stabilizes. 8.For each cooling container, calculate the average temperature of the three soda cans for each time point. To do this experiment you will need these things: 12 cans of soda at room temperature, Instant-read thermometer, Two Styrofoam coolers, Ice cubes, Water, Clock or timer, 4 soda savers.	
Results After eleven tests of each of the methods the ice-water brought the temperature of the soda down the quickest.	
Conclusions/Discussion My conclusion is that my hypothesis was correct the soda in ice water got cold the faster than all the other ways I tested.	
Summary Statement Bringing a soda from room temperature to an enjoyable drinkable temperature.	
Help Received My mom and dad helped me put the board together.	