



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Jonathan M. Summers	Project Number J1033
Project Title Solar Air Heater	
Objectives/Goals I think that on a sunny day there will be more heat produced from the solar air heater, than on a cloudy day, because the sun's energy has nothing blocking its way.	
Abstract	
Methods/Materials Materials: Compass/Tape measure/Large piece of cardboard/Duct tape/White gesso paint/Flat black acrylic paint/Paintbrush (3-inch)/Plastic disposable plates(2)/Scissors/Exacto knife/Ruler/Thumbtacks(18)/Thin cotton string, 12-foot long piece cut in two equal lengths/Plastic wrap/Masking tape/Lab thermometer/Lab notebook/Timer Methods: I took temperature measurements on two different days, a cloudy day, and a sunny day. Both days I had to wake up at 7:00 a.m. and take measurements until 6:00 p.m. I recorded my measurements in my lab notebook. On the cloudy day I woke up at 6:45 a.m. to prepare to take my 7:00 a.m. measurements. Each hour I had to take 6 measurements, three intakes and three outputs. Then I had to find the average temperatures for the intake and output temperatures. My last measurement was at 6:00 p.m. On the sunny day I woke up at 6:45 a.m. to prepare to take my 7:00 a.m. measurements. Each hour I had to take 6 measurements, three intakes and three outputs. Then I had to find the average temperatures for the intake and output temperatures. My last measurement was at 6:00 p.m.	
Results The solar air heater produced more heat on a sunny day than on a cloudy day.	
Conclusions/Discussion The results of my experience show that my hypothesis was correct. I learned that solar air heaters produce more heat in a sunny place. In a cloudy place the solar air heaters produce some heat, but not as much heat as in a sunny place.	
Summary Statement Solar air heaters produce more heat on a sunny day than on a cloudy day.	
Help Received My parents helped me built the solar air heater and put it in the window.	