



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Christy L. Goulet	Project Number 22813
Project Title How Well Do Smoke Detectors Work When They Get Older?	
Objectives/Goals My project was to determine whether age affects how fast the smoke detector goes off. I am also seeing if they still work if you don't clean them. I thought the newer ones would go off faster than the older detectors. Abstract Methods/Materials Four smoke detectors were used that had different ages were used. One was brand new, one was 2 years old, one was 10 years old, and one was 20+ years old. I burnt paper, plastic, and cloth in a metal pan twice each material for three distances. The distances were right under the detectors, 1 1/3 meters away, and 3 meters away. The time range was recorded, and the order that the detector went off was also recorded. None of the detectors had ever been cleaned. All new batteries that were all the same brand were put in each detector. Results Total the brand new one went off the most first, then the 10 year old one went off the most then the 20+ year old one went off the most next, and the 2 year old went off the most last. For the paper test the 2 year old went off most first. For the plastic test the brand new went off the most first and the 2 year old went off the most last. For the other tests they varied more. Conclusions/Discussion I don't think the age of the detectors matters. The detectors still worked even though they had never been cleaned. I still think people should clean them because a few seconds could make the difference in a fire.	
Summary Statement To determine whether age affects the speed it takes for smoke detectors to go off.	
Help Received Dad helped take the range the detectors went off and the order. My parents checked for spelling and grammar errors in my report.	