



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Irena L. DeZazzo	Project Number J1209
Project Title Can Canines Recognize Muffled Spoken Commands?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals I came across a recent article that said a chimpanzee was able to comprehend muffled speech. I researched and found out about a parrot that was also able to identify muffled words. I wondered if other animals, such as dogs, were capable of such word recognition. In my project I hoped to discover whether or not dogs might be able to identify muffled commands. I believed that most of the dogs would not respond well to muffled commands. However, I also believed that the response would greatly depend upon the dog. A dog must have sharp hearing and a good attention span in order to take the time to identify a muffled command and respond appropriately.</p> <p>Methods/Materials I tested sixteen dogs using three different commands, each repeated one to five times (three to fifteen tests per dog). The commands I used were "sit," "stay," and "come." I visited the home of each test dog, and had their owner give the verbal commands to their dog normally, and then give the commands to their dog muffled. To muffle speech, each owner placed a folded washcloth (four layers thick), and four layers of tissue (a two-ply tissue folded in half), over his or her mouth. I filmed the owner giving the commands to their dog/s, and later reviewed the footage and recorded the results on my computer.</p> <p>Results I performed a total of approximately 160 tests and found that 94% of the dogs responded appropriately to the muffled command "sit," 87% responded appropriately to the muffled command "stay," and 81% responded appropriately to the muffled command "come."</p> <p>Conclusions/Discussion The results were surprising to me. The dogs I tested comprehended the commands much better overall than what I had expected. My findings showed that many dogs were capable of recognizing muffled commands. The easiest command for the dogs to comprehend was "sit." The "stay" command was also well understood. The most difficult command for the dogs to identify was "come." The majority of dogs did not respond to the muffled command "come" immediately, but did respond after the command had been repeated three to five times. I believe that "come" was the hardest command to obey because it does not have a hard syllable in it, as do "siT" and "sTay," and therefore may be harder to hear and understand when muffled. The information I learned may be useful in teaching dogs how to recognize muffled commands and respond appropriately.</p>	
Summary Statement I tested canines to see whether they were able to comprehend muffled spoken commands.	
Help Received My mother drove me to the dog testing sites, my father helped with graphs, and my science teacher gave support.	