Statistics Project—Dog Memory

It is well documented that variability of memory abilities in humans is substantial. Memory ability in dogs is less well documented. Design and execute an experiment to test the memory abilities in your dog. Use the suggestion below for one experiment. Then create another experiment to test your dog's memory.

Shell Game for Dogs:
Try the shell game with your dog. Start with three opaque vessels open-end-down labeled "A", "B", and "C". Choose one of the vessels and put a treat under it with your dog watching. Shuffle the cups around as in the shell game and then let your dog choose one and only one of the cups. Record how often your dog succeeds in getting the correct cup. Characterize your dog's memory ability.

Experimental Setup Cautions: The treat should be packaged so that the dog cannot smell it. The dog should be hungry so that his/her attention is up. Only let the dog choose one cup! This might mean separating the cups or immediately revealing whichever cup you dog goes to first, etc. The more trials you have the more significant is the data.

Variations: Consider letting your dog watch as you shuffle the cups vs. not letting him/her watch. Try picture labels rather than letter labels. Vary the memory time. e.g. put the treat under the cup, shuffle it around, and then take the dog out of the room for 30 minutes before letting him/her choose a cup. Use a set of humans as a control (perhaps dogs are better than humans at the shell game!)

Extra credit:
Run the experiment for two other dogs and compare the results. Especially consider the amount of variation between the dogs.

Report Writing Cautions: Be sure you thoroughly describe the experiment/study to the reader. Remember you are writing this report for the general reader not specifically for your teacher. Try to address any objections that the reader might bring up. Your report should be in a prose format. Be sure to use complete sentences, proper grammar, correct spelling, understandable statements, etc. Clarity of your concepts and presentation is important. If your English composition skills are not so good then make sure that someone in your group with good composition skills goes through your document carefully. If you have extensive tables and graphs consider putting them in an appendix.