



# CALIFORNIA STATE SCIENCE FAIR 2012 PROJECT SUMMARY

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<b>Project Title</b> <b>Thunderous Clock</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> This project asked, #Does grooming a horse after a 40-minute workout, lower the horse#s heart rate?#</p> <p><b>Methods/Materials</b> Procedure: The experiment#s methodology involved three horses which heart rates were measured at resting prostitution using a stethoscope; secondly, they were taken to the arena and exercised for 40-mitutes. The exercises involved walking, trotting, and cantering. Then they have been groomed with grooming supplies, after the horses# heart rates were taken again. Experimental Design: Organization of this experiment was primary goal: # Constants: Throughout the whole experiment the author will be testing horses that are all about the same size and the horses heart rates were measured in the same arena, in the same temperature, same time of day, and in the same barn. The horses were also ridden in the same arena, same time of day, same weather. # Controlled Variable: The author measured horses# heart rates that were not groomed. Manipulated Variable: The manipulated variable in this experiment is testing the difference between heart rates of horses that were groomed and that were not groomed after a 40-minute workout. # Responding Variable: During this experiment the author measured heart rates of four horses that have been worked for 40-minutes and groomed after the workout, also the author measured the heart rates of horses that were worked for 40-minutes but not groomed. # Trials: Throughout the experiment the author tested four horses twenty times each. The testing is still in process and each horse is going to be tested twenty-three times in total. # Sample Size: Four horses participated in this experiment.</p> <p><b>Results</b> Results showed that all of the horses# heart rates dropped about 35 percent. The lowest heart rate after grooming was 47 beats per minute.</p> <p><b>Conclusions/Discussion</b> The author concluded that grooming does affect the horse#s heart rate after a 40-minute workout. Because it relaxes the horse and it settles the rhythmic flow of the heart rate. Future studies are in process and will involve more horses for testing and more trials. This project/ experiment is still in progress.</p>	
<b>Summary Statement</b> This project tested the impact of grooming on the equine restoration and heart rate of horses.	
<b>Help Received</b> Ojai Valley School Provided the use of horses.	