



# CALIFORNIA STATE SCIENCE FAIR 2011 PROJECT SUMMARY

<b>Name(s)</b> <b>Hanna Taormina; Shaye Widger</b>	<b>Project Number</b> <b>J1215</b>
<b>Project Title</b> <b>After Exercising a Horse, Does Grooming It or Putting It Back into Its Stall Make Its Recovery Heart Rate Faster?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Our objective was to determine whether grooming or putting a horse back into its stall lowers its heart rate faster. We thought putting the horse back into its stall alone after exercising it would lower its heart rate faster, because when horses are around people, they feed off of the energy of the humans which raises their heart rate. Therefore, the horse's heart rate would most likely be slower if the horse was not around people.</p> <p><b>Methods/Materials</b> First we took and recorded the horses resting heart rate. Then we lunged the horse for 8 minutes at a constant speed (walking, trotting, and cantering). After that we took and recorded the horses exercise heart rate. Subsequent to that we groomed the horse in the grooming stall and took and recorded the horse's heart rate every minute until it returned to it resting heart rate. The next day we repeated the process, but just put the horse in its stall instead of grooming it. We then repeated this process with 9 other horses.</p> <p><b>Results</b> Our graph shows the differences between the recovery heart rates for when the horses were groomed and when they were put back into their stalls. In every case, the horse which was put into its stall alone had a faster recovery heart rate.</p> <p><b>Conclusions/Discussion</b> Our data seems to indicate that our hypothesis is correct. The horses heart rates were lowered faster if they were alone in their stall. Our experiment seems to show that when the horses were groomed, the recovery heart rate took a longer period of time than it did when putting them back into their stalls. We believe we got these results because when horses are with people they feed off of their energies, making their heart rates higher or more difficult to return to normal. We controlled our variables well. For instance, we used the same stop watches, the same stethoscope, the same horses, the same stalls, the same amount of exercise time, and the same exercises (walk, trot, and canter) There were some variables that we hadn't expected. For example, it was colder the first day we did our experiment than the second day. Also, the second time the horses were eating, so that may have affected our results as well. These variables may have raised or lowered the horses' heart rates.</p>	
<b>Summary Statement</b> We are trying to determine whether after exercising a horse, does grooming it or putting it back into its stall make its recovery heart rate faster.	
<b>Help Received</b> Ruth Widger, Mother, lunged the horses because it would be quite dangerous for someone who is untrained and we did all of our work under the supervision of Mr. Bud Smith the Science teacher at All Saints Day School.	