



# CALIFORNIA SCIENCE & ENGINEERING FAIR 2019 PROJECT SUMMARY

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<b>Project Title</b> <b>Head Rush</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives</b> I wanted to learn if doing a headstand improves your memory and my hypothesis was, If doing headstands improves our memory, then people who do headstands will do better on a memory test than the people who don't do headstands.</p> <p><b>Methods</b> To conduct this experiment, I had 20 human test subjects ages 10-16, a pre/post test that I created with 25 similar questions, each worth 2 points, 6 pictures to go along with 3 questions on each test, a yoga mat, a pillow, and a timer. Each human test subject had 2 minutes after the question was read to them. After 2 minutes passed, they continued until the last three questions, which included pictures. A picture was shown to them for one minute and then the picture was taken away, another minute to revisit the image in their head. When the minute passed, a question was asked to them like, what was the boy doing or how many plants were there? Each question was worth 2 points, 1 if they got half or more correct and 0 if it was incorrect. When they did the headstand, they had a yoga mat and a pillow to avoid possible head or neck injury. The headstand was done for 30 seconds and they rested for 2 minutes to relax. The same procedures from the pretest were performed at the post-test.</p> <p><b>Results</b> The average number of memory retrieval problem done correctly before doing a headstand was 26 and after a headstand was 38. This shows that doing a headstand improves your memory. The mean total for after doing a headstand increased significantly over before doing a headstand (twosample t-test; <math>p &lt; 0.0001</math>).</p> <p><b>Conclusions</b> Based on the results, my hypothesis was accepted because my hypothesis was if doing headstands improves our memory, then people who do headstands will do better on a memory test than the people who don't do headstands. This means that doing a headstand improves your memory since doing a headstand makes your blood circulate and increases the oxygen flow to your head. A headstand should be done for at least 30 seconds before studying so the information will stay in your head.</p>	
<b>Summary Statement</b> My project was to see if doing headstands improve your memory by testing 20 human test subjects to do a headstand for 30 seconds and I found that doing a headstand increased significantly over before doing a headstand (twosample t-test; $p < 0$ )	
<b>Help Received</b> Through this experiment, I'd like to thank my mother for getting the supplies I needed for this project and my sister who helped edit & set up my science board. A big thank you to the people who participated in my project. Last, but not least, I would like to thank my science teacher who helped me the most, Ms.	