



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY**

Name(s) William Dykes; Ayden Sabharwal	Project Number 38534
Project Title Which Major Brand of Shin Guard Provides the Most Protection to the Shin?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Determine which major brand of shin guard provides the most protection to the shin by using multiple impact methods and further prevent shin injuries using the data we gather.</p> <p>Methods/Materials Tested five different brands of shin guards by using multiple impact tests. Used cardboard and spaghetti to create a makeshift shin. Dropped a free-weight from a constant height in trials and created an impact. Shin guards were mounted on a makeshift leg (cricket bat).</p> <p>Results The tests my partner and I performed showed us that while being compared to the four other shin guards, the Puma shin guard provided the most protection. We found the Franklin and Martial Arts shin guard to be close competitors after the puma. Lastly, we found that the Nike and Adidas provided the least amount of protection.</p> <p>Conclusions/Discussion The performance of the Puma shin guard in our impact test was significantly better than the performance of Nike and Adidas. This experiment provides the idea that bigger brands don't necessarily provide the better product. The importance of this experiment is that it helps an athlete decide what brand of shin guard to choose which can help protect them from possible shin injuries.</p>	
Summary Statement My partner and I devised an impact test to compare the strengths of shin guards.	
Help Received My partner and I designed the impact test ourself after trying multiple methods and reading an article published by SATRA Technology.	