



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

Name(s) Ella Villegas	Project Number J1427
Project Title What Material Provides the Best Protection for Your Electronic Device?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My project was to determine what material provides the best protection for an electronic device when dropped on to asphalt. I believe that the styrofoam cover will provide the most protection.</p> <p>Methods/Materials Ten identical calculators (brand, size and shape), and nine different materials provided protection. The nine different materials were 1) an air pouch, 2) cotton, 3) cardboard, 4) neoprene, 5) silicone, 6) styrofoam, 7) leather, 8) foam craft sheet, and 9) plastic. One calculator was left unprotected. Calculators securely covered in the selected materials. Dropped each calculator (face up) ten times from the height of 54 inches over asphalt, to determine which material provided the most protection.</p> <p>Results The calculator with the styrofoam cover provided the most protection to physical damage, while the calculator with the plastic cover saw the same amount of damage as the unprotected calculator. The other materials provided varying levels of protection.</p> <p>Conclusions/Discussion The protection provided by the styrofoam cover was more effective than the eight other materials tested, leaving the the least amount of signs of physical damage. Further studies in electronic device cases could one day result in a perfect case. for now, and until further research, many still struggle in finding the best case for their electronic device.</p>	
Summary Statement I tested what common materials provided the best protection for your electronic device against everyday situations.	
Help Received I developed and conducted the tests myself, and my science fair advisor (Mrs.Stead) directed me to helpful sources.	