



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2019 PROJECT SUMMARY**

Name(s) Angela King	Project Number J2016
Project Title Helpful or Hurtful? Seeking the Most Effective Methods and Materials for Minimizing Electromagnetic Fields (EMF)	
<p style="text-align: center;">Abstract</p> <p>Objectives Determining whether Electromagnetic Field defenders are helpful or hurtful (assuming the studies claiming Electromagnetic Fields are unsound are correct). Many people don't know about EMFs. Most cell phone companies say that one solution is hokey, and to not bother at all. That is throwing the baby out with the bath water. I'm going to figure out the most effective method and/or material for minimizing EMF exposure, (assuming the health studies claiming excessive EMFs are unsafe are correct). My hypothesis: The Belly Armor* brand of EMF Shields will be the most efficient in blocking EMFs because they are the most prestigious company.</p> <p>Methods Super Builds Super Structs Pinklets for iPhone stand, rubber jar-opener so the phone won't slip, iPhone 8+, tin foil, SafeSleeve Anti Radiation Cell Phone Case, Pure Goods Quantum Pendant Japanese Technology Amulet, Lvfeier Cloth (Headband, scarf, Hijab, etc.), Ener-Tech Anti-Radiation (Sticker), Brink Alara Radiation Protection Case (originally Pong), and finally, a EMF Detector- Cornet ED88Tplus, for measuring the average frequency over a minute in different situations.</p> <p>Results Even though the Lvfeier Cloth had the lowest readings of the claimed defenders, I uncovered the fact that most of the radiation you receive is based on distance.</p> <p>Conclusions I originally thought that the Belly Armor* brand of EMF Shields would be the most efficient in blocking EMFs because they are the most prestigious company. I discovered that the Lvfeier Cloth worked the best. I also uncovered the fact that most of the radiation you receive is based on distance from the EMF source. I highly recommend 1. Limiting use on devices 2. Getting an Analog Meter 3. When you get a call, go somewhere private and turn it on speaker, and hold the phone away from your body- best to not hold it at all. (Assuming the health studies claiming excessive EMFs are unsafe are correct.)</p>	
Summary Statement I measured the reductions of EMF exposure using different methods and materials and discovered that increasing distance from the EMF source has the greatest impact.	
Help Received I designed, built, and tested my experiment, and my mother purchased the products.	