



CALIFORNIA SCIENCE & ENGINEERING FAIR 2019 PROJECT SUMMARY

Name(s) Kirolls Moussa	Project Number J1024
Project Title Wifi Signals	
<p style="text-align: center;">Abstract</p> <p>Objectives Since my project is about Wifi signals, my objective was to find what materials block a Wifi signal either entirely or partially.</p> <p>Methods In my project, I tested what materials block a Wifi signal partially, in this project I needed to use each material and put it around the router. Then I took my device and took a speed test 10 times and found an average. I used the materials of glass, aluminium foil, wood, metal, and clear plastic. I also tested the original speed 10 times with no materials blocking it.</p> <p>Results I tested the materials of clear plastic, wood, clear glass, metal, and aluminium foil. I first tested the signal without any materials. I also tested each material 10 times and found an average. First, with nothing blocking it, I got an average speed of 45.19 Mbs per second, with clear plastic, I got an average speed of 26.978 Mbs per second, which is about 60% of the original. With wood, I got an average speed of 36.48 Mbs per second, which is about 80% of the original. With aluminium foil, I got an average speed of 45.49 Mbs per second, which is about 100% of the original speed. With glass, I got an average speed of 23.39 Mbs per second, which is about 52% of the original speed. And finally, with metal, I got an average speed of 33.37 Mbs per second, which is about 74% of the original.</p> <p>Conclusions In Wifi signals, some materials block the signal slightly. So, what materials block a Wifi signal? Some slightly change it while others block the signal a lot. I first test the signal without any materials blocking it. Then I test wood, clear plastic, metal, clear glass, and aluminium foil. I reject my hypothesis because things that cannot go through light is not faster than materials that block light. According to my graph, plastic, which light can go through, got an average speed of 26.978 Mbs per second, and with wood, it got an average of 36.48 Mbs per second.. Since the higher Mbs per second is the faster, the wood which does not go through light is faster than plastic which does go through light. The router could have probably got a better signal all by itself when it was being tested with the wood more than when it was testing with the plastic. Also, the device could have gotten a better signal at the time that the wood was being tested. I would also add more materials and test more things like cement.</p>	
Summary Statement My project is about Wifi signals and what materials slow it down.	
Help Received My parents, Mina and Mary supported me and helped me with my display board.	