



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

Name(s) Derek M. Nasalroad	Project Number 38190
Project Title Effects of Various Materials on Wi-Fi Signal Speed	
Abstract Objectives/Goals The objective of this study is to determine which of the tested materials can most efficiently increase the speed of a Wi-Fi signal. Methods/Materials Wi-Fi router, parabolic reflector covered with various materials, smartphone with speed test app. Tested the speed of a Wi-Fi signal when reflected by different materials. Results Not any one material consistently showed the greatest increase in Wi-Fi signal speed, though some increased the speed more than others in certain spots. The speed of the signal when reflected by a certain material varies depending on distance from the router. Conclusions/Discussion Repeated trials with multiple materials determined that my hypothesis was only partially correct; the aluminum did not always show the greatest increase in signal speed. It is concluded that the effectiveness of materials when improving Wi-Fi signal speed is impacted by the distance from the router.	
Summary Statement I showed that the speed of a Wi-Fi signal can be improved when reflected by certain materials.	
Help Received While I completed most of this experiment myself, suggestions were provided by my science teacher. My English teacher and my parents helped me evaluate my choice of words in my writing.	