



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

Name(s) Jack Terbush	Project Number J2218
Project Title The Effects of Wi-Fi Radiation on Raphanus sativus	
Abstract Objectives/Goals The purpose of this project is to determine if electromagnetic radiation (EMR) emitted by Wi-Fi routers adversely affects the health of radish plants (<i>Raphanus sativus</i>). The bigger question is does Wi-Fi radiation have adverse effects on the health of all living organisms, and studying plants is a first step in the quest to answer that question. Methods/Materials This experiment improves upon previous methodologies used to test the effects of Wi-Fi on plants, by better controlling and tracking the variables. Four trials were conducted, each trial simultaneously testing five plants with and five plants without Wi-Fi exposure. The Wi-Fi location was moved after each trial between the two test locations, in order to control for environmental factors and location bias. Both sets of plants were grown under fluorescent grow lights. Soil and water conditions were controlled across all trials. Plants were measured each day, for 14 days, for each trial. Results The data supported my hypothesis, showing that the health of the plants were negatively affected by exposure to Wi-Fi radiation. The average height of plants exposed to Wi-Fi was 8.565cm and those not exposed to Wi-Fi grew to 11.965cm, or 3.4cm taller. Also the plants exposed to Wi-Fi had erratic growth patterns and the leaves looked less healthy. Conclusions/Discussion Plants in the experiment were negatively affected by Wi-Fi radiation. Other studies have shown Wi-Fi radiation to have a negative impact on living organisms. More experiments need to be conducted to learn how Wi-Fi radiation impacts the health of plants and animals, in order to set limits and protective guidelines to protect the health of all living organisms.	
Summary Statement To test if man-made electromagnetic radiation (EMR) has adverse effects on living organisms.	
Help Received	