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Small World Initiative

The mission of Small World Initiative is to further student's education in science and gain applicable laboratory experience. It also helps add research to the fight against the antibiotic research. The antibiotic problem exists because bacteria have evolved and can reproduce much faster than humans (like twenty minutes or less) with stronger and more resistant strains of bacteria. Also, since antibiotics have been used in the healthcare industry doctors have begun over prescribing making it is easier for the bacteria to learn how to resistant the medication. The bacteria are duplicating with a resistance gene making it harder for the medical professionals to treat patients. In Castleton's small world initiative class, we are trying to discover new antibiotics through soil samples to begin finding new strands of antibiotics. Emerald and I collected our soil samples from two places: behind Castleton Hall and from a house plant soil in Rutland. To begin, we created a master plates, and from that plate we did a test called gram stain tests to find out if the bacteria we were working with fought against gram positive or negative bacteria. We then did a T-streak of the bacteria that had antibiotic characteristics. We have found out if our bacteria have antibiotic characteristics, now we are just trying to figure out what is our bacteria. To start this process, we just made gels in class and separated each of the antibiotic-like organisms into the gels and ran electronic currents through it to see if the spread indicates antibiotics.