**RESEARCH:**
Will has been garnering data about viruses that infect bacteria, also known as bacteriophage or “phage”—including the *S. aureus* bacteriophage called JB and its structural analysis—using Transmission Electron Microscope (TEM) and Scanning Electron Microscope (SEM) images, and genetic sequencing in order to illuminate more information specific to phage therapy. Phage therapy has the potential to become considerably more applicable because of the advent of antibiotic resistant strains of dangerous bacteria. Methicillin-resistant *Staphylococcus aureus* (MRSA) is one of those dangerous bacteria and new alternatives must be found to treat it that do not solely rely on the current retinue of antibiotics. Interestingly, phage therapy has the propensity to aid in the treatment of MRSA through topical treatments and it has been found that the use of iron nanoparticles increases the infectivity of phage attacking MRSA.

**OUTREACH:**
Will’s outreach included presenting and facilitating experiments about viruses and the microbiological world to students in grades 4 through 12. He began with background on viruses to ensure that the students could better grasp the scale at which viruses are present in the environment. Then, depending on the grade level, he either hosted a discussion about scientific technique and the implications of discovery, or engaged the students in experiments that entailed isolating novel viruses from the environment. Students were also able to view Scanning Electron Microscope (SEM) images of viruses, which gave the young scientists a real, near-tangible idea of what viruses look like. In addition, Will created a website (phage.cc) which allowed students, teachers, and their families to learn more about viruses and other microbes with additional information on the research he does in the lab.