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Physics Outreach Manual for K-12 STEM Students¹ JANELLE VALDEZ, QUINN WILSON, HANNA TERLETSKA, Middle Tennessee State University, MTSU WOMEN IN PHYSICS TEAM — Despite many efforts, women and racial and ethnic minority students continue to be underrepresented in physics. In addition to various programs and efforts, the outreach activities are recognized to be beneficial to engage K-12 students in STEM. Outreach programs can create excitement and interest in science with students and the public, increase appreciation in the physics community, and serve as an excellent tool to build university-community relationships. In this project, we designed the physics outreach manual for K-12 students. Teachers, students, and professors can benefit from this manual. The manual contains a description of the experiments, a supply list and cost, pictures, and the accompanying videos. The outreach experiments cover different areas of physics, including mechanics, electricity and magnetism, and optics. Our focus was on designing a set of experiments that have been tested on outreach events by our WIP group. The videos for each experiment help with clarifying the experimental set-up for both the presenter and the student, making it easier to know how to present new ideas to students. With the completion of this project, our outreach manual will be freely available through the MTSU WIP Website to the public.

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