

NETL STEM EDUCATION AND OUTREACH



NETL

NATIONAL ENERGY TECHNOLOGY LABORATORY

BACKGROUND

The U.S. Department of Energy's (DOE) mission is to ensure America's security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions. Ensuring a future workforce that is well-trained in science, technology, engineering and mathematics (STEM) is a core value of DOE and central to the Department's current and future mission. NETL supports this effort in many ways, including implementation of a robust STEM Education and Outreach program.

NETL STEM EDUCATION AND OUTREACH PROGRAM OVERVIEW

www.NETL.DOE.gov

NETL's STEM Education and Outreach program supports DOE's efforts to improve energy literacy and train the next generation of American scientists, engineers and energy researchers. The initiative sparks interest in and increases the public's awareness of science, technology, engineering and mathematics (STEM) education. The team interacts with STEM teachers, principals, staff and students, with an emphasis on underserved populations. Parents and the interested public, program volunteers, faculty and staff at regional higher education facilities are also an important part of the team's education and outreach.

NETL K-12 STEM EDUCATION AND OUTREACH ACTIVITIES

The **K-8 Elementary/Middle School STEM Visitation Program** provides active hands-on, minds-on programs to students, while supplementing the school's STEM curriculum. NETL STEM professionals visit regional schools to provide full-day programs focused on important and relevant STEM content, applicable process and thinking skills and the formation of positive attitudes towards STEM. The visitation program increases student and teacher interest in STEM and improves their knowledge, skills, attitudes and career awareness.

NETL's **STEM Ambassador Visits Program** enables students to meet in-person with NETL scientists and engineers. NETL researchers visit regional schools and lead active STEM programs to supplement and enhance the schools' STEM curricula. The program is focused on important and relevant STEM content and the formation of positive attitudes towards STEM career awareness. These visits show students the multiple, dynamic pathways to STEM occupations and careers.

NETL's STEM Education and Outreach Team plans and executes the **Western Pennsylvania and West Virginia Regional Middle and High School Science Bowl Competitions**.

- The Science Bowl involves middle school and high school teams in fast-paced, 16-minute, Jeopardy-style competitions where students are tested on questions taken from a range of STEM disciplines. Teams from within each state face off until a top middle school team and a top high school team prevail.
- The top teams from each state then advance to the National Science Bowl Competition in Washington, D.C.



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NETL's STEM Education and Outreach Team conducts workshops and seminars for teachers whose schools are located near NETL sites in Morgantown, West Virginia, and Pittsburgh, Pennsylvania. Preference in workshop/seminar attendance is given to teachers employed at schools that have a large percentage of students who are considered at-risk or those having student populations that are typically underserved or underrepresented in STEM careers. In-house and collaborative workshops and seminars focus on supplementing and/or enhancing teachers' classroom curricula and instruction.

NETL sponsors and supports the **Energy Zone Exhibit at the Carnegie Science Center**, which includes the Energy Challenge game.

- The Energy Challenge is a fun quiz-style exhibit presented in a game show format.
- Both are located on the fourth-floor of the Carnegie Science Center, which attracts 1,500 students daily in peak season.
- For more information, visit: <https://carnegiesciencecenter.org/exhibits/netl-energy-zone/>



STEM Education and Career Videos provide students with opportunities to learn about energy concepts through animated videos and get an inside look at NETL's scientists, researchers and engineers. The videos can be found on [NETL's YouTube channel](#) and on the [STEM Education and Outreach website](#).

If you would like to have us at a STEM event to learn more about the programs listed above please reach out to our STEM Education and Outreach Team!





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