

NETL K-12 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 K-12 STEM education and outreach program.

NETL'S K-12 STEM EDUCATION AND OUTREACH PROGRAM OVERVIEW

www.NETL.DOE.gov

NETL's K-12 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 of students, other members of the interested public, program volunteers, faculty and staff of regional higher education facilities are also an important part of the team's education and outreach.

NETL's Middle and High School STEM Scientist Visitation Program enables students to meet in-person with NETL scientists and engineers. NETL researchers visit regional schools and provide 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 both STEM and non-STEM occupations and careers.



NETL K-12 STEM EDUCATION AND OUTREACH GOALS

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 interest in STEM and improves student knowledge, skills, attitudes, and career awareness.



NETL's K-12 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. Middle and high school 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.



NETL'S K-12 STEM EDUCATION AND OUTREACH

NETL's K-12 Education and Outreach team plans Teacher Workshops and Seminars for teachers from schools in both Pennsylvania and West Virginia within proximity to the NETL sites in those states. 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 under-served or under-represented 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 NETL Energy Zone provides the public with up-to-date energy information across a variety of hands-on displays. The Energy Challenge is a stimulating and enjoyable quiz-style exhibit, presented in a game show format. The Carnegie Science Center attracts approximately 500,000 guests per year - 1,500 students per day in peak season - most of them visiting the popular fourth floor location of the NETL Energy Zone and Energy Challenge game.



The STEM Career Video Series provides students across the country an inside look at NETL's energy researchers and their path to choosing a STEM career. Each video in the series features a scientist or engineer and explains what education led them to their career at NETL. These videos can be found on NETL's social media pages and YouTube.

NETL's Education Webpages provide STEM information to students, teachers, parents, and the general public. The webpages contain information and links to STEM events and opportunities at NETL, including Science Bowl competitions, teacher workshops, school visitations, and Earth Day activities.



The K-12 STEM Education & Outreach Team continues to seek new opportunities to involve students in STEM. By participating in various DOE and NETL special events and by participating in annual events such as Bring Your Kids to Work Day, the Earth Day Poster Contest, and Re-Make Learning Lab Day, NETL provides opportunities for students to investigate STEM beyond what is normally provided in their school settings.





Contacts

Ken Mechling
K-12 STEM Education and Outreach
NETL
KENNETH.MECHLING@NETL.DOE.GOV

Social



@NationalEnergyTechnologyLaboratory



@NETL_DOE



@NETL_DOE

