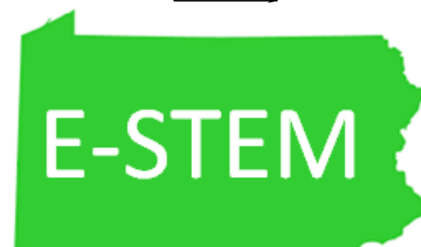# PSTA Leadership Day

Increasing Student Achievement Through E-STEM

November 30, 2017

Penn Stater Conference Center, State College

8:30am – 4:00pm

Registration will be available at www.pascience.org

Did you know that 50% of the PSSA Science Exam focuses on:

Scientific Practices

- Asking questions (for science) and defining problems (for engineering)
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Using mathematics and computational thinking
- Constructing explanations (for science) and designing solutions (for engineering)
- Engaging in argument from evidence
- Obtaining, evaluating, and communicating information

Crosscutting Concepts

- Patterns
- Cause and effect
- Scale, proportion, and quantity
- Systems and system models
- Energy and matter
- Structure and function
- Stability and change

E-STEM is the perfect approach to increasing PSSA scores!

ALL of the Scientific Practices and Crosscutting Concepts can be addressed through quality environmental education! Come to the PSTA Leadership Day and see how your school can make changes to foster student achievement and empowerment, and address the Pennsylvania Academic Standards, while making real connections to the world in which students live.

Time	Topic
8:30 – 9:00	Registration
9:00 – 9:15	Welcome – Logistics
9:15 – 10:00	Keynote: STEM v E-STEM – What is it? What makes it successful?
10:00 – 10:15	Break
10:15 – 11:45	Breakouts for elementary, middle, and high school levels
12:00 – 1:15	Lunch
1:15 – 2:45	Breakouts for elementary, middle, and high school levels
3:00 – 3:45	Panel Discussion – Implementation of successful programs; three examples
3:45 – 4:00	Closure

STEM education is an intentional, integrative approach to teaching and learning in science, technology, engineering, and mathematics. Environmental Education is a perfect vehicle to utilize E-STEM as students become adept problem solvers who are self-reliant by asking questions, investigating, making informed decisions about how they live their daily lives and engage in their vocations and communities. Specific examples of E-STEM that are easily implemented in classrooms across Pennsylvania will be explored in a hands-on, experiential manner. E-STEM fosters student achievement and empowerment and addresses the Pennsylvania Academic Standards while making real connections to the world in which students live.

E-STEM aligns with 4 key educational best practices that deeply engage students:
- Hands On: Project-based environmental learning is almost exclusively hands-on.
- Tangible Themes: The environment is a tangible theme (and "passion area") that incorporates broader learning topics in science, technology, engineering, and mathematics.
- Aligns With Interests: The environment is consistently rated one of children's top interest areas.
- Fosters Achievement/Empowerment: Projects result in a visible impact made by students which fuels inspiration and a sense of achievement.

E-STEM includes strategic programmatic opportunities that will:
- Enhance E-STEM in preschool, elementary school, middle school and high school
- Explore how formal programming can link to community-based organizations to create more comprehensive and interdisciplinary learning opportunities
- Discover how programming can have local and state-wide impact
- Incorporate the most effective strategies for enhancing efforts around diversity and inclusion, given changing demographics and our new global economy
- Boost innovation, creativity, and problem solving