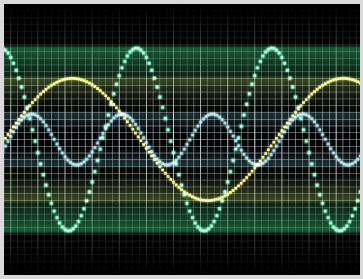
For: K–8 Elementary Teachers, Science Teachers, Departments Heads, and STE Curriculum Leaders

Energy and Waves



Featuring *TEACHERS21* Presenter

Katie Clarke

Thursday, April 27, 2017

at the MSSAA Office, Franklin

Sign-In/Registration: *8:00 am to 8:30 am*
Workshop: *8:30 am to 3:00 pm*
Fees: *Member $195/Non-Member $260*

6 Professional Development Hours | **PD Content Area:** ***Science and Technology/Engineering***

This workshop has been designed to give K-8 teachers who teach science a deeper understanding of the content in the areas of Energy and Waves. Participants will explore scientific vocabulary associated with each standard and learn ways to introduce these terms to their students using a variety of resources including technology. The instructor will model effective ways to teach science vocabulary while the participants learn or re-learn the content in these areas. Participants will walk away with a deeper understanding of the science content and critical thinking skills associated with the new 2016 MA STE standards. After completing this workshop, teachers should feel confident about their understanding of the content and better equipped to teach these standards to students.

Topics of exploration include:

Energy

- Energy can be “produced” or “used” by converting stored energy. Plants capture energy from sunlight, which can later be used as fuel or food.
- When objects collide, contact forces transfer energy so as to change the objects’ motions.
- Kinetic energy can be distinguished from the various forms of potential energy.
- Energy changes to and from each type can be tracked through physical or chemical interactions.

Waves

- Waves are regular patterns of motion, which can be made in water by disturbing the surface.
- Waves of the same type can differ in amplitude and wavelength.
- Waves can make objects move.
- A simple wave model has a repeating pattern with a specific wavelength, frequency, and amplitude, and mechanical waves need a medium through which they are transmitted.

Katie Clarke *taught Engineering & Design at the Pollard Middle School in Needham for 10 years where she was also responsible for researching and writing the Engineering and Design curriculum for grades seven and eight. Prior to teaching E & D, Katie taught 8th grade science for eight years. She is a graduate of the LIFT$_2$ (Leadership Initiatives for Teaching and Technology) Program, an innovative professional learning program for middle and high school science, technology, engineering and math teachers. Katie completed the TUFTS CEEO Engineering Program and The JASON Program for STEM Teaching. In 2008 she was awarded the* **Above and Beyond Award for Excellence in STEM Teaching** *by the Massachusetts Technology Leadership Council.*

MSSAA Registration Policies & Procedures | Register Online

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