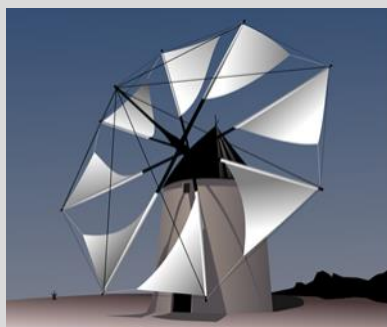


For: K-8 Elementary Teachers, Science Teachers, Departments Heads,  
and STE Curriculum Leaders



# Energy



Featuring **TEACHERS21** Presenter  
**Katie Clarke**

**Tuesday, April 25, 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 area of Energy. 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 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.
- The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter.
- Sunlight is captured by plants and used in a reaction to produce sugar molecules, which can be reversed by burning those molecules to release energy.

**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<sub>2</sub> (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. Katie has a BS in Chemistry from Bridgewater State University and an MS in STEM Education from Fitchburg State University.

[MSSAA Registration Policies & Procedures](#)

[Register Online](#)

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