

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



Earth Science: Earth's Place in the Universe & Earth's Systems



Featuring **TEACHERS21** Presenter
Katie Clarke

Thursday, March 30, 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 Earth's Place in the Universe & Earth Systems. 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:

- Explaining Earth's relationship to the sun, moon and stars
- Using a model to explain the cycling of water on Earth
- Developing and using a model to explain the causes of lunar phases
- Analyzing rock layers and fossils to determine relative ages
- Interpreting maps to provide evidence of Earth's plate movement
- Using and developing a model of the Earth-sun system to explain seasons
- Explaining gravity's role in tides and orbital motions in the solar system
- Interpreting patterns in air mass interactions in weather data
- Describing the effects the ocean has on weather and climate

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 LIFT₂ (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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