

Daily Schedule

8:00-8:30 Registration and Demo of the Day

8:30-9:20 Session 1

9:30-10:20 Session 2

10:30-11:20 Session 3

11:30-12:20 Session 4

12:20-12:30 Door prizes and give-aways

Tuesday

Sow Bugs are WOW Bugs!

Jo Hendry – Retired Curriculum Coordinator/Bedford School District

Participants will investigate the habitat preferences of the common sow bug, and in doing so will develop strategies for helping students make scientific observations, complete drawings, come to conclusions and assess their own understanding. Discussion will include designing grade-level appropriate field notebooks. Fun, safe, and inexpensive!

Engineering is Elementary AND Engineering is for Everyone

Leslie J. McRobie – Idlehurst Elementary

The Engineering is Elementary ® (EiE) project fosters engineering and technological literacy among children. EiE has created a research-based, standards-driven, and classroom-tested curriculum that integrates engineering and technology concepts and skills with elementary science topics. EiE lessons not only promote K-12 science, technology, engineering, and mathematics (STEM) learning, but also connect with literacy and social studies.

Storybooks featuring children from a variety of cultures and backgrounds introduce students to an engineering problem. Students are then challenged to solve a problem similar to that faced by the storybook character. Through a hands-on engineering design challenge, students work in teams to apply their knowledge of science and mathematics; use their inquiry and problem-solving skills; and tap their creativity as they design, create, and improve possible solutions. In the end, students realize that everyone can engineer!

<http://www.stemconnector.org/engineeringiselementaryMOS>

Field Investigations

Ellen O'Donnell – Deerfield Community School

Children nationally are losing their link with the natural world around them. Field investigations are a way to develop student inquiry skills while linking them to their environment.

Outdoor Classroom

Heidi Orestis – Sanborn Regional Middle School

Taking children outside during the school day is as easy as 1, 2, 3. We will go through the steps of cutting through the red tape and getting your students outside and learning. Then we will focus on lessons and activities that teach the science standards. Lastly, we will explore enrichment and community service opportunities right in your school yard.

Wednesday

Tides

Rachel Bartlett and Steve Roberts – Interlakes Middle School

This will be a fun and energetic presentation that gives the participant hands-on activities, demonstrations, and an understanding of how and why tides occur. All activities and demonstrations are classroom ready and are adaptable to all elementary grades.

Batteries and Bulbs: How and why they work, or not

Paul Williams – NHSTA and Steve Roberts – Interlakes Middle school

In this hands-on workshop we will explore current electricity using batteries, wires, switches and small light bulbs. We will make and explain the workings behind simple circuits, conductors and insulators, and incandescent and other light bulbs.

Forecasting and Communicating New England's Changing Weather

Ryan Breton – Pennsylvania State University Student

I discovered my love for weather in elementary school, when in the fifth grade I began "weather spotting" for Boston TV news stations. What initially appeared to be a passing interest has become a full-fledged passion. I created the website AtkinsonWeather.com (based in my hometown of Atkinson) in 2006. Now, as a student at the Pennsylvania State University, I am studying Meteorology with a focus on weather forecasting and communications. I will be discussing New England's ever-changing weather, how to observe and forecast it, and how new tools such as social media are rapidly changing the industry of weather communications.

The Three Dimensions of NGSS

Mark Dickson – Hopkinton Middle and High Schools

The proposed Next Generation Science Standards were developed with three dimensions: crosscutting concepts, practices, and disciplinary core ideas. This workshop will overview the three domains and then focus on the crosscutting concepts. The main premise of the workshop is that teachers often have specific "content" or "activities" that they are most comfortable with. There is often stress involved whenever new standardized curricula are on the horizon because of fear of having to learn new content without the time and support to do so. The main premise of this workshop is that the crosscutting concepts and practices can usually be taught within the existing curriculum of an elementary school. The goal of the workshop is for elementary teachers to evaluate their own, current science curriculum within small collaborative groups to realize that the crosscutting concepts are already there. The key is looking at science from a different perspective . . . a view that science is about big ideas and processes and not just about specific content.

Thursday

Next Generation Science Standards: How to incorporate the standards into your curriculum.

Mary Kate Hartwell – Timberlane Middle School

We will look at how the standards are set up and their link to our Common Core Standards. There will be focus on standards based grading and rubrics.

Minerals – What Is It?

Heather Brunelle – Lurgio Middle School

Do you have any minerals in your classroom that you can't identify? Learn how to use the

physical properties of a mineral to learn its identity. We will discuss how crystal structure affects the physical properties of minerals including color, luster, hardness and streak. We will then use mineral keys to determine the identity of common minerals.

What's the Matter? Determining the states of matter

Debbie Maloney – Hollis Brookline High School, Michele Mitnisky – Dover High School, Steve Roberts – Interlakes Middle School

Explore the properties of solids, liquids and gases through demonstrations and adaptable activities. Why is something a gas at room temperature and not a liquid or solid? What is a phase change, and why do they happen? This workshop will provide a panel of experienced chemistry teachers to present material and address participant's questions.

Chemical vs. Physical: Can you tell the difference?

Michele Mitnisky – Dover High School and Debbie Maloney – Hollis Brookline High School

Can you identify or explain whether a physical or chemical change has occurred? In this workshop you will work in a lab setting with some household chemicals and determine whether you have witnessed a physical or chemical change. These "experiments" can be used in your classroom. We will also incorporate some science writing, lab journals and data table construction.