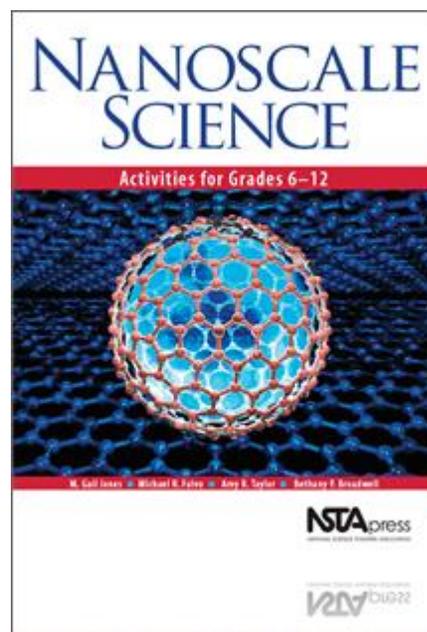


STEM Nanotech Overview

The emerging area of nanotechnology crosses into almost every technical discipline in the study and application of extremely tiny materials. The area of nanoscience has been able to develop many new technologies that have found their way into many commercial products. In this course, students will examine nanoscale science and its applications in nanotechnology while learning about: size and scale, tools and techniques, properties and behaviors, nanotechnology applications and societal implications.

- Half year inquiry-based course (*For 2016-2017- full year every other day*)
- Designed to be an introduction to the concept of nanotechnology.
- Provides opportunities to demonstrate how the sciences are integrated with one another in use and approach as well as how other content areas are connected
- No text book required– Readings are provided
 - Many activities based on the text Nanoscale Science published through the NSTA press.
- Utilizes student notebooks to demonstrate student growth
 - Notebooks and Teacher Guides are provided with each monthly training.
- Materials are provided through the BOCES Science Center



Investigations

1 – Size and Scale (September & October)

Big Question: What is nanotechnology and how can we describe the size of a nano?

2 – Techniques and Unique Properties (November & December)

Big Question: How do properties of materials change as they become nano-sized?

3 – Unique Properties, Behaviors and Applications of Biological Nanomachines and Biomaterials (January & February)

Big Question: What are some biological nanomachines and how are some properties of nature being utilized in nanoscale biological applications and materials?

4 – Applications (March & April)

Big Question: How does nanoscience impact the creation of new technologies?

5 – Societal Implications (May & June)

Big Question: Promise or Peril? How might society and our environment change as a result of the generation of more nanomaterials?