



# ACUMEN

INSTRUCTING, EQUIPPING & INSPIRING TEACHERS OF MATH & SCIENCE

## ABOUT THE MARTINSON CENTER

The Martinson Center for Mathematics and Science delivers educational programs that support school divisions in developing all students' math and science skills. The Center was designed to offer programs, workshops and courses to help teachers and schools develop a passion for teaching and learning these all-important disciplines. The Center is committed to:

- helping teachers acquire content knowledge and strategies for use in the classroom to develop students' critical and creative thinking, and problem solving skills.
- helping teachers and students use their intelligence and gifts for the common good.
- serving and supporting schools and school divisions in the areas of mathematics and science.
- supporting the individual needs of students, teachers, and the community.

## 21st Century Skills

DON'T REINVENT THE WHEEL...FIND THE BEST ONE AND ROLL!

Have you ever heard of the phrase, "21st century skills"? Just what are these skills and how can the Martinson Center help you to use these skills in your classroom?

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## OUR MISSION

The mission of MCMS is to improve the quality of mathematics and science teaching in public and private K-12 schools in the Tidewater region by promoting knowledge, attitudes, skills, and habits of mind necessary for student literacy and success in mathematics and science.

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*“If you train a teacher, they reach hundreds and hundreds of students, and that spreads the quality of math and science education very broadly.”*

*-Myron Salamon, Dean of the University of Texas at Dallas' School of Natural Sciences and Mathematics*

**Problem-based learning experiences provide students with opportunities to think, work and do what they might encounter in the real world.**

## 21ST CENTURY SKILLS IN THE CLASSROOM, CONT'D.

Essentially, this phrase encapsulates a manner of education that prepares students for work and life in the 21st century. This kind of education emphasizes five essential components: core subject, learning skills, 21st century tools, 21st century context, and 21st century assessments.

### CORE SUBJECT

In essence, the math and science our students are learning should reflect what experts in those fields are doing. Students should be using mathematics as a tool to solve problems and in science, students should be designing experiments that keep them learning throughout their lives.

### LEARNING SKILLS

To be prepared for the 21st century, students need to know more than just content. They need to know how to use their knowledge and skills. Teachers need to be deliberate and systematic in teaching students how to think critically, apply knowledge to new situations, analyze information, communicate, collaborate and make decisions. The Martinson Center is committed to incorporating learning skills in all of its workshops, courses, and institutes.

### 21ST CENTURY TOOLS

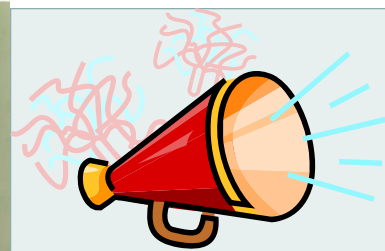
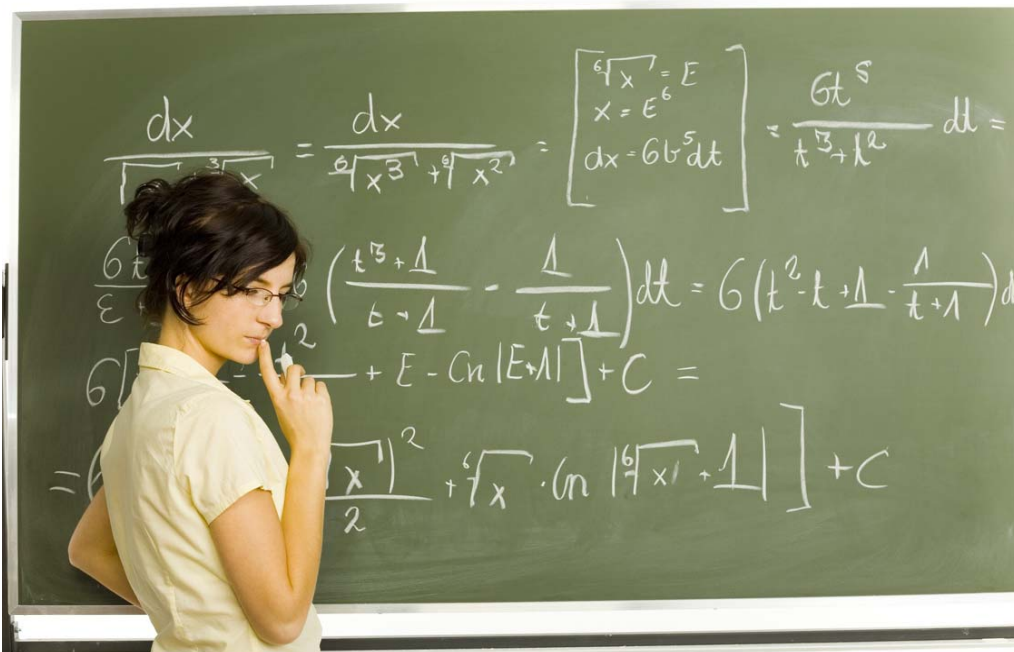
Technology is a driving force in our world today. Students need to understand how to use technological tools. The Center will offer a variety of workshops, courses, and institutes that provide teachers with the technology and the knowledge to use it in the classroom, while teaching students how to use those same tools to develop their own learning skills.

### 21ST CENTURY CONTEXT

Students need to be prepared for real world problems. In order to do that, they must be shown how the information they learn is relevant to solving problems and challenges in their everyday lives. Problem-based learning experiences provide students with opportunities to think, work and do what they might encounter in the real world. The Center offers workshops and courses to help teachers incorporate problem-based learning into their curriculum.

### 21ST CENTURY ASSESSMENTS

The assessments teachers use need to measure what it is they value. If we want our students to problem solve, then our assessments should give them a chance to show what they know and what they can do. The Center will offer a host of assessment workshops that focus on using authentic assessments in the classroom.



## HERE'S WHAT PEOPLE ARE SAYING....

"I benefited tremendously from it all. It was extremely well planned and executed."



"...the combination of lecture and hands-on experimentation was extremely motivational and inspiring."



"...Great interaction!"



"...interesting and fun!"



"It was wonderful! The materials and the ideas that were presented were very "teacher friendly". I could implement them today with my students."



"I really think that I took more ideas and materials that I could use in my class than I have from any other class that I have taken."

## UPCOMING PROFESSIONAL DEVELOPMENT

### Spring 2009

#### Writing in Science

February 28 and March 14, 2009

9:00 a.m. - 3:00 p.m.

Location: Regent University Campus

In the science classroom, writing is much more than an exercise for students to document their steps during an investigation. It's an important vehicle for describing their thought processes and the evidence that supports their reasoning. *Writing in Science* will show you how to encourage students to grow as scientists and writers by moving beyond recounting *how* they completed their work and toward explaining *what* they learned. And the best part is that you will receive free lesson ideas and materials! Each participant receives:

- Two free books!**
- Numerous ideas and strategies
- Print and electronic resource materials for use in participants' classrooms
- 12 Professional Development Points

#### Teaching Middle School Science

March 21, 2009

9:00 a.m. - 3:00 p.m.

Location: Regent University Campus

Want to learn new strategies that will make teaching middle school science even better? This workshop will introduce you to new ideas and give you free materials! Topics include science investigation, reading strategies, and earth, life and physical science content and activities. Course will also provide literature about science reform and science enrichment initiatives. Lunch will be provided!

- Free materials**
- Numerous ideas and strategies
- Print and electronic resource materials for use in participants' classrooms
- 6 Professional Development Points

MARTINSON CENTER FOR  
MATHEMATICS AND SCIENCE

The Center offers:

- ✦ Workshops dealing with a variety of instructional strategies, tools and models to improve the development of students' critical thinking, problem-solving and best practices in math and science
- ✦ Partnerships with schools and school divisions designed to improve the teaching of math and science
- ✦ Curriculum development and review
- ✦ Lecture series dealing with issues surrounding math and science
- ✦ Graduate courses and institutes to strengthen math and science content knowledge in grades K-12

Martinson Center for  
Mathematics and Science

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PROFESSIONAL DEVELOPMENT:  
RIGHT HERE. RIGHT NOW

## SUMMER 09...HOLD THE DATES !

### REACHING ALL STUDENTS IN MATH: MATHEMATICS INSTRUCTION THAT WORKS! GRADES K – 5 WITH NANCI SMITH

**JULY 21-22, 2009**

“But math is different!” Perhaps, but that only increases the need to understand how to design and differentiate instruction so that all students can be successful – even in math! This workshop addresses the impact of students' differences in instruction and how those differences can be addressed through math instruction that emphasizes conceptual understanding along with procedural fluency.

**Cost: \$175 per person**

**(\$125 for early-bird registration prior to December 12, 2008)**

### REACHING ALL STUDENTS IN MATH: MATHEMATICS INSTRUCTION THAT WORKS! GRADES 6-12 WITH NANCI SMITH

**JULY 23-24, 2009**

Why is it that math seems to be so challenging for so many students? There are many explanations as to why math starts out being one of the most favored school subjects by students in primary grades, but quickly moves to one of the most dreaded subjects. Nanci Smith, an international consultant on Differentiation and Mathematics, shares insights into math instruction that makes a difference for students. This workshop focuses on grades 6-12.

**Cost: \$175 per person**

**(\$125 for early-bird registration prior to December 12, 2008)**

# YOURS FOR THE TAKIN...

## Mentos Gone Wild!

**Materials Needed:** 13 mint Mentos, 2 liter Diet Coke, fresh raisins, clear plastic cup, clear, carbonated soda

Explore with your students what happens when a roll of Mentos candies are dropped into Diet Coke. Watch their absolute amazement as this creative experiment unfolds...or rather, erupts before them! Discussion easily follows as the students discuss and explore various possibilities from different independent variables that might effect such an explosive reaction!

Go to [www.regent.edu/mathandsciencecenter/resources.edu](http://www.regent.edu/mathandsciencecenter/resources.edu) to get the specifics to this great classroom experiment!

A rubber-band pistol was confiscated from algebra class as a weapon of math disruption.

