



Partnership to Rejuvenate and Optimize Mathematics and Science Education in Florida

## *A Newsletter for Parents and Students*

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### Encouraging Your Child to Succeed in Science

#### What is Science?

For many students, science is a “school thing.” Do our children know that we conduct scientific investigations every day as we live and interact with the world around us? Science is one system intended to help us understand the world around us using evidence and reasoning.

#### Science Proficiency

The goal in science education is for students to become proficient in science. Students who are proficient in science will:

- (1) know, use, and interpret scientific explanations of the natural world;
- (2) generate and evaluate scientific evidence and explanations;
- (3) understand the nature and development of scientific knowledge; and
- (4) participate productively in science.

*(National Research Council, Board on Science Education, 2008)*

#### Why should we become proficient in science?

Scientific skills and knowledge revolve around evidence collection, analysis, and interpretation. Scientific skills are building blocks of basic problem solving and critical thinking that help us make decisions based on evidence. Scientific knowledge is vital for making important decisions and learning new things throughout our lives. Additionally, careers in science, technology, engineering, and math (STEM) are typically high-wage, and the number of jobs in these fields continues to grow.

#### Encouraging Children's Natural Curiosity about the World

Before children enter school, they are building science proficiency. As parents, you

are your children's first teachers. Have you seen your child try to learn how something works? Have you ever seen your child try to provide necessities, such as food, water, and shelter for an animal? Have you heard your child try to explain why the seasons change? Parents have a unique opportunity to help children discover science in the world outside of school, as well as at school.

Research shows that parents can have direct and indirect positive impacts on their children's attitudes and achievement in science. For some children, parents have a stronger influence on children's attitudes and achievement in science than their school teachers; so, if parents want their children to be motivated to do well in science classes, the most important action parents can take is to model positive attitudes towards learning and doing science.

#### How can you help your children use and grow their scientific understanding and skills?

##### Synchronize with School:

Find out what your children are learning in science classes and ask teachers how you can support their learning at home. Be sure that your child's school administrators, teachers, and local and state government know that you want your child to become proficient in science.

##### Bring it Home:

Talk to your children about the world around them. Engage in science with your child. Encourage your child's curiosity about the way things move, react, grow, and change. Some examples of everyday science include: understanding the way our bodies work, cooking, gardening, taking care of pets, and observing/analyzing the patterns of the day and night. When your children are measuring, comparing, and analyzing, you should remind your children that they're scientists!

##### Reach Out:

Many resources for learning more about science are available for you and your children. The Web and your community are great places to start. Ask your child's teacher for recommendations.

#### Seeing Change in Florida's Science Classes

Researchers across the world are taking a scientific approach to learning more about how your children learn science. As science educators learn more, you will see changes taking place in science classrooms. For example, we have learned that children come to the classroom with an innate understanding of the world around them. Often, students need real evidence to further this understanding and change their misconceptions; students are innate scientists!

Furthermore, science is making rapid advances as technology and communication flourish. We see scientific advances in our everyday lives as power for cars moves from gas combustion to hybrid technology and the world goes from books and land-line telephones to wireless forms of communication. These changes impact what children are learning and doing in science class.

Florida has recently adopted new state standards for science. These Next Generation Sunshine State Standards (NGSSS) in Science were developed through the input of thousands of stakeholders in the education of Florida's students. These standards help guide educators in what students should know and be able to do. To learn more about Florida's Science and Math Standards, visit [www.floridastandards.org](http://www.floridastandards.org), where you will find clear statements of what students are expected to know and be able to do by grade-level and courses.

## What's New with Florida PROMiSE?

The purpose of Florida PROMiSE is to help teachers understand the Next Generation Sunshine State Standards (NGSSS) and how teachers can better teach students to think critically, solve problems and increase math and science success. PROMiSE strives to improve the math and science achievement of all students in Florida.

Florida PROMiSE is a project designed and delivered by the following partners:

- Universities (USF, FSU, UF)
- School Districts (Duval, Hillsborough, Miami-Dade & Seminole)
- Educational Consortia (Heartland Educational Consortium, North East Florida Educational Consortium, & Panhandle Area Educational Consortium)
- Florida Virtual School
- Horizon Research, Inc.

In Year 3, PROMiSE is making strides in its ongoing projects. After successfully completing the 2009 Summer Institutes, PROMiSE is building on teachers' experiences from these math and science institutes by holding 4 days of follow-up professional development. These follow-up days extend and connect the knowledge of math and science that the teachers acquired from these institutes to the math and science their students are learning in the classroom.

During 2010, PROMiSE will hold another round of 2-week Summer Institutes for teachers of math and science. These Institutes will deliver a revised version of the professional development program that was designed and implemented the previous year. The purpose is to increase the content-specific knowledge and skills of teachers of math and science in order for them to increase their ability to implement the Next

Generation Sunshine State Standards (NGSSS) in their classrooms.

PROMiSE has also made progress with its web-based CPALMS, which provides ongoing support and resources for teachers, parents and students. As of January 2010, over 1,300 resources have been contributed by Florida educators to the CPALMS resource repository, and the approved resources are currently available. For more information about CPALMS, please visit: [www.floridastandards.org](http://www.floridastandards.org)

If you would like more detailed information about Florida PROMiSE and its ongoing efforts, please visit [www.flpromise.org](http://www.flpromise.org). For additional math and science resources that parents can use to help their children, please visit the PROMiSE website listed above, and click on the *Resources for Parents and Community* link.

## Program Components and Coordination

### Summer Institutes for Teacher Professional Development

- Mathematics: Development Facilitated by USF
- Science: Development Facilitated by UF
- Regional Design/Development Teams: UF, FSU, USF and FIU

### CPALMS

- Development Facilitated by FSU

### PROMiSE Professional Development for Leaders

- Development Facilitated by FSU

### Program Evaluation

- Internal Evaluation—Coalition for Science Literacy at USF
- External Evaluation—Westat

## PROMiSE Mission Statement

### Florida PROMiSE Mission:

To improve Florida student achievement in mathematics and science through professional development for Florida's educators and to build capacity to sustain quality implementation of the Next Generation Sunshine State Standards (NGSSS).



## Contact Florida PROMiSE

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For additional information about the Florida PROMiSE Project please visit: <http://flpromise.org>