

**FLORIDA MATH AND SCIENCE DAY 2009**  
**Announcement and Call for Lesson Proposals**  
***Theme: Space Exploration***



The Office of Mathematics and Science at the Florida Department of Education is pleased to announce the second annual Florida Math and Science Day on May 1, 2009. The theme for the 2009 Math and Science Day is Space Exploration. Florida K-12 teachers are invited to submit lesson plans related to the Space Exploration theme. The four grade spans for the lesson plans will be K-2, 3-5, 6-8, and 9-12. Within each of these grade spans, lessons will be grouped into mathematics and science categories. Although the integration of mathematics and science benchmarks is encouraged, each lesson will be evaluated within either the mathematics category or the science category. The Next Generation Sunshine State Standards for Mathematics and Science provide the focus for the lessons. The targeted benchmarks for each grade span are identified in the table at the end of this document. All lesson plan submissions will be reviewed and scored by a panel of mathematics and science educators and experts. The panel will select two model lesson plans from each grade span, one mathematics lesson and one science lesson.

**Awards**

The eight writers of the winning model lessons will be declared Florida Mathematics and Science Educators of the Day for Math and Science Day on May 1, 2009.

**Mathematics:** For each of the four winning mathematics lessons, the Florida Council of Teachers of Mathematics will provide up to \$500.00 support for travel expenses to attend the annual FCTM conference in 2009. The Florida Association of Mathematics Supervisors will present a \$250.00 award at the FCTM conference for each of the four winning mathematics lessons.

**Science:** For each of the four winning science lessons, the teachers will receive a prize of \$250.00 awarded by the Florida Association of Science Supervisors. The Florida Association of Science Teachers will provide a one-year membership (2009-2010) in FAST, along with a grant opportunity for a one year subscription to the NSTA Learning Center.

Selected lessons and related resources, such as videotapes of the lessons, will be made available statewide through the Office of Mathematics and Science and the Florida Knowledge Network. In celebration of Florida Math and Science Day 2009, teachers throughout Florida will be invited and encouraged to teach the selected lessons on May 1, 2009.

### Timeline and criteria for lesson plan proposals:

- Download the *Florida Math and Science Day 2009 Lesson Template* from the website of the Office of Mathematics and Science, [www.fldoestem.org](http://www.fldoestem.org). Complete the form and submit as an email attachment to Sally Sanders, [sally.sanders@fldoe.org](mailto:sally.sanders@fldoe.org) or by mail, Office of Mathematics and Science, Suite 424, Florida Department of Education, 325 West Gaines Street, Tallahassee, Florida 32399. **Proposals must be received by March 20, 2009.**
- Lessons must be aligned with the benchmarks for the targeted grade span listed in the table at the end of this document. Please indicate on the lesson plan submission form whether the lesson's main emphasis is mathematics or science.
- Lessons may be written and submitted by individuals or groups. Collaboration on lesson plans is encouraged.
- Lessons may be designed for implementation in a single day or over multiple days with a culminating lesson on Math and Science Day.
- Lessons may refer to non-commercial websites used in lesson development. Advertisement or inclusion of commercial products will disqualify lesson plans.
- Lessons should be appropriate for implementation in all Florida schools because of the potential for statewide participation.
- Lessons will be evaluated and scored from **March 24 – 31, 2009.**
- Winning lessons will be announced and posted on the website of the Office of Mathematics and Science on **April 3, 2009.**
- All Florida K-12 teachers will have the opportunity to download the winning lessons beginning **April 3, 2009**, to prepare for their classes to participate in Florida Math and Science Day on **May 1, 2009.**
- For more information and resources, including the Scoring Rubric and Model Lessons from Florida Mathematics Day 2008 and Florida Science Day 2008, please visit the Office of Mathematics and Science website, [www.fldoestem.org](http://www.fldoestem.org).

Please join us in making Florida Math and Science Day 2009 an opportunity for schools throughout the state to learn mathematics and science concepts related to the theme of Space Exploration.

For more information, please contact:

Sally Sanders  
Secondary Science Specialist  
[sally.sanders@fldoe.org](mailto:sally.sanders@fldoe.org)  
(850) 245-0760

Office of Mathematics and Science  
325 West Gaines Street, Suite 424  
Tallahassee, Florida 32399-0400



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**Targeted Benchmarks**

The following standards and benchmarks from the Next Generation Sunshine State Standards have been selected for Math and Science Day 2009. Lessons that integrate the mathematics and science benchmarks within a grade span are encouraged, but each submitted lesson should have an emphasis on either mathematics or science. For mathematics, one benchmark has been selected for each of the grade spans. For science, one benchmark has been selected for each of the grade spans K-2 and 3-5, and for the grade spans 6-8 and 9-12, one science standard has been selected. Within the science standards for grades 6-8 and 9-12, there are 3-4 benchmarks to choose from as the focus of the lesson.

Grade Span K-2	
<b>Mathematics</b>	<p><b>Grade 1</b>  <b>Body of Knowledge: Geometry</b>  <b>Benchmark: MA.1.G.3.2</b>  <i>Compose and decompose plane and solid figures, including making predictions about them to build an understanding of part-whole relationships and properties of shapes.</i></p>
<b>Science</b>	<p><b>Grade 1</b>  <b>Body of Knowledge: Physical Science</b>  <b>Benchmark: SC.1.P.8.1</b>  <i>Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light), texture, and whether objects sink or float.</i></p>
Grade Span 3-5	
<b>Mathematics</b>	<p><b>Grade 3</b>  <b>Body of Knowledge: Algebra</b>  <b>Benchmark: MA.3.A.6.2</b>  <i>Solve non-routine problems by making a table, chart, or list and searching for patterns.</i></p>
<b>Science</b>	<p><b>Grade 3</b>  <b>Body of Knowledge: Physical Science</b>  <b>Benchmark: SC.3.P.8.3</b>  <i>Compare materials and objects according to properties such as size, shape, color, texture, and hardness.</i></p>

**Grade Span 6-8**

<p><b>Mathematics</b></p>	<p><b>Grade 6</b> <b>Body of Knowledge: Algebra</b> <b>Benchmark: MA.6.A.3.1</b> <i>Write and evaluate mathematical expressions that correspond to given situations.</i></p>
<p><b>Science</b></p>	<p><b>Grade 6</b> <b>Body of Knowledge: Physical Science</b> <b>Standard: Forces and Changes in Motion</b> A. <i>It takes energy to change the motion of objects.</i> B. <i>Energy change is understood in terms of forces—pushes or pulls</i> C. <i>Some forces act through physical contact, while others act at a distance.</i> <b><u>Lessons should align with one or more of the following benchmarks in this standard:</u></b> <b>SC.6.P.13.1</b> <i>Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.</i> <b>SC.6.P.13.2</b> <i>Explore the Law of Gravity by recognizing that every object exerts gravitational force on every other object and that the force depends on how much mass the objects have and how far apart they are.</i> <b>SC.6.P.13.3</b> <i>Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.</i></p>

Grade Span 9-12	
<b>Mathematics</b>	<p><b>Body of Knowledge: Algebra</b>  <b>Benchmark MA.912.A.2.2</b>  <i>Interpret a graph representing a real-world situation.</i></p>
<b>Science</b>	<p><b>Body of Knowledge: Physical Science</b>  <b>Standard: Motion</b></p> <ul style="list-style-type: none"> <li>A. <i>Motion can be measured and described qualitatively and quantitatively. Net forces create a change in motion.</i></li> <li>B. <i>Momentum is conserved under well-defined conditions.</i></li> <li>C. <i>The Law of Universal Gravitation states that gravitational forces act on all objects irrespective of their size and position</i></li> </ul> <p><b><u>Lessons should align with one or more of the following benchmarks in this standard:</u></b></p> <p><b>SC.912.P.12.2</b>  <i>Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time.</i></p> <p><b>SC.912.P.12.3</b>  <i>Interpret and apply Newton's three laws of motion.</i></p> <p><b>SC.912.P.12.4</b>  <i>Describe how the gravitational force between two objects depends on their masses and the distance between them.</i></p> <p><b>SC.912.P.12.6</b>  <i>Qualitatively apply the concept of angular momentum.</i></p>