

Standards of Learning Instructional Materials and Training Programs

MATHEMATICS

January 2013

SUMMARY OF PRODUCTS AND PROJECTS

Available online at
http://www.doe.virginia.gov/testing/teacher_direct/sol_library/index.shtml

Division of Instruction
Virginia Department of Education
Richmond, Virginia



Mathematics

PROJECT || 2009 Mathematics Standards of Learning and Curriculum Framework

AUDIENCE *Grades K-12*

OVERVIEW

The 2009 *Mathematics Standards of Learning* comprise the mathematics content that teachers in Virginia are expected to teach and students are expected to learn. The Curriculum Framework details the specific knowledge and skills students must possess to meet the standards for these subjects.

MORE INFORMATION

http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/index.shtml#sol_docs

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PROJECT || Mathematics Standards of Learning Enhanced Scope and Sequence Sample Lesson Plans

AUDIENCE *Grades K-12*

OVERVIEW

The Mathematics Enhanced Scope and Sequence Sample Lesson Plans help teachers align instruction with the 2009 *Mathematics Standards of Learning* by providing examples of how the knowledge and skills found in the Standards of Learning and Curriculum Framework can be presented to students in the classroom.

MORE INFORMATION

http://www.doe.virginia.gov/testing/sol/scope_sequence/mathematics_2009/index.php

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PROJECT || Standards of Learning Practice Items

AUDIENCE *Grades 3-8, Algebra I, Geometry, and Algebra II*

OVERVIEW

This resource provides the opportunity for students to practice multiple-choice and technology-enhanced items that reflect the new content and increased rigor of the 2009 *Mathematics Standards of Learning*.

MORE INFORMATION

http://www.doe.virginia.gov/testing/sol/practice_items/index.shtml#math

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PROJECT || Standards of Learning VMAST Practice Items

AUDIENCE *Grades 3-8, Algebra I*

OVERVIEW

Virginia Modified Achievement Standards Test (VMAST) practice items provide examples of test items as they may appear on the VMAST with research-based supports and simplifications applied to make the items more accessible to eligible students with disabilities.

MORE INFORMATION

http://www.doe.virginia.gov/testing/alternative_assessments/vmast_va_mod_achievement_stds_test/practice_items/index.shtml

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PROJECT || Mathematics Instructional Videos for Teachers

AUDIENCE *Grades K-12*

OVERVIEW

Forty instructional videos provide teachers with support for the implementation of the 2009 *Mathematics Standards of Learning*. Videos are grouped by mathematical strand (number and number sense; computation and estimation; measurement; geometry; probability and statistics; patterns, functions, and algebra; and strategies across strands).

MORE INFORMATION

<http://www.doe.virginia.gov/instruction/mathematics/resources/videos/index.shtml>



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**PROJECT || Mathematics Standards of Learning Institutes (2009, 2010, 2011, 2012)
 Web Site – Professional Development Resources**

AUDIENCE *Grades K-12*

OVERVIEW

This Web site provides targeted professional development resources that were developed and delivered during Mathematics Standards of Learning (SOL) Institutes that:

- outlined the content standard changes from the 2001 Mathematics SOL to the 2009 Mathematics SOL (2009);
- supported district leaders and teachers in the implementation of the 2009 Mathematics SOL (2009, 2010, 2011, 2012);
- provided training in the vertical progression of content and pedagogy (2010);
- provided instructional guidance in content areas of greatest challenge (2010);
- provided professional development resources focused on facilitating students' mathematical understanding through problem solving, communication, and reasoning (2011); and
- provided online professional development tools focused on the use of formative assessment resources to drive instructional decisions (2012).

MORE INFORMATION

http://www.doe.virginia.gov/instruction/mathematics/professional_development/index.shtml

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PROJECT || Mathematics Vocabulary Word Wall Cards

AUDIENCE *Grades K- 8*

OVERVIEW

Mathematics vocabulary word wall cards provide a display of mathematics content words and associated visual cues to assist in vocabulary development. The mathematics vocabulary word wall cards should be used as an instructional tool for teachers and then as a reference for all students, particularly English learners and students with disabilities.



MORE INFORMATION

http://www.doe.virginia.gov/instruction/mathematics/resources/vocab_cards/index.shtml

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PROJECT || K-5 Mathematics Number and Number Sense Module

AUDIENCE *Grades K-5*

OVERVIEW

The number and number sense module provides lesson plans aimed at enhancing teachers' content knowledge and instructional strategies for teaching the number and number sense strand.

MORE INFORMATION

<http://www.doe.virginia.gov/instruction/mathematics/index.shtml> (Under Mathematics Instructional Resources, click on the "Elementary School" tab.)

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PROJECT || K-3 Mathematics Achievement Record Samples

AUDIENCE *Grades K-3*

OVERVIEW

This achievement record is designed for schools to maintain a record of achievement in mathematics for each K-3 student for progress monitoring. This record is designed to accompany a student who transfers to a new school.

MORE INFORMATION

http://www.doe.virginia.gov/instruction/mathematics/elementary/K-3_math_achievement_records.shtml

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PROJECT || Virginia Animals and Their Habitats

AUDIENCE *Grade 2*

OVERVIEW

This is a model comprehensive, cross-curricular second-grade unit that addresses grade two Virginia Standards of Learning in English, mathematics, science, and history and social science. The unit utilizes inquiry, student teamwork, project-based learning, student journals, and fosters responsible actions toward wildlife and related natural resources.

MORE INFORMATION

http://www.doe.virginia.gov/instruction/cross-curricular_instruction/science/animals_habitats/index.shtml

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PROJECT || Algebra Readiness Initiative Web Site

AUDIENCE *Grades 6-8 and Algebra I*

OVERVIEW

The Algebra Readiness Initiative (ARI) provides assistance in preparing students for success in Algebra. The ARI Web site provides information about the initiative, the Algebra Readiness Diagnostic Test (ARDT) provided to school divisions, training tools for administering the ARDT, and links to resources provided to assist with intervention and remediation.

MORE INFORMATION

http://www.doe.virginia.gov/instruction/mathematics/middle/algebra_readiness/index.shtml

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PROJECT || Algebra Readiness Curriculum Companion

AUDIENCE *Grades 6-8 and Algebra I*

OVERVIEW

The Algebra Readiness Curriculum Companion is a compilation of lessons for use by teachers and tutors as they provide intervention and remediation for students in grades 6-9.



MORE INFORMATION

http://www.doe.virginia.gov/instruction/mathematics/middle/algebra_readiness/curriculum_companion/index.shtml

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**PROJECT || Technical Assistance Document for 2009
 Algebra I Standards of Learning (SOL) A.9**

AUDIENCE *Algebra I*

OVERVIEW

The purpose of this document is to assist teachers as they provide instruction and assess students on Algebra I SOL A.9. SOL A.9 is intended to extend the study of descriptive statistics beyond the measures of center studied during the middle grades.

MORE INFORMATION

http://www.doe.virginia.gov/instruction/mathematics/high/technical_assistance_algebra1_a9.pdf

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**PROJECT || Technical Assistance Document for 2009
 Algebra II Standards of Learning (SOL) AII.11**

AUDIENCE *Algebra II*

OVERVIEW

The purpose of this document is to assist teachers as they provide instruction and assess students on Algebra II SOL A.11. SOL AII.11 continues the study of descriptive statistics as students analyze properties of normal distributions and apply those properties to determine probabilities associated with areas under the standard normal curve.

MORE INFORMATION

http://www.doe.virginia.gov/instruction/mathematics/high/technical_assistance_algebra2_aii_11.pdf

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PROJECT || Mathematics Capstone Course Information**AUDIENCE** *High School Mathematics***OVERVIEW**

The Mathematics Capstone Course Web site provides teachers with information about Virginia's College and Career Ready Mathematics Performance Expectations, The Mathematics Capstone course content, and instructional resources.

MORE INFORMATION

http://www.doe.virginia.gov/instruction/mathematics/capstone_course/index.shtml

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**PROJECT || 2009 Mathematics Standards of Learning
and the Common Core State Standards****AUDIENCE** *Grades K-12***OVERVIEW**

This document provides a side-by-side overview of how the 2009 *Mathematics Standards of Learning* are aligned to the Common Core State Standards. The comparison was made using Virginia's complete standards program for supporting teaching and learning including the 2009 *Mathematics Standards of Learning* and the Curriculum Framework.

MORE INFORMATION

http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/sol_ccss_comparison_mathematics.pdf
http://www.doe.virginia.gov/testing/common_core/index.shtml

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PROJECT || Computer Mathematics: Using Graphing Calculators**AUDIENCE** *High School Mathematics***OVERVIEW**

This resource provides teachers of Computer Mathematics a scope and sequence for the course as well as suggested instructional strategies and activities. Sample programs that address the activities are included as are scoring rubrics and templates for program development.

MORE INFORMATION

http://www.doe.virginia.gov/instruction/mathematics/high/computer_math_graphcalc.doc

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PROJECT || Economics and Personal Finance**AUDIENCE** *Middle and High School Mathematics***OVERVIEW**

This Web site provides information to assist teachers in meeting the economics education and financial literacy requirements for all middle and high school students.

MORE INFORMATION

http://www.doe.virginia.gov/instruction/economics_personal_finance/index.shtml

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PROJECT || Approved Calculators**AUDIENCE** *Grades 4-8, Algebra I, Geometry and Algebra II***OVERVIEW**

This document provides examples of state-approved calculators for Mathematics Standards of Learning assessments.

MORE INFORMATION

http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/calculators/approved_calculators_sol_tests.pdf

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PROJECT || Ancillary Test Materials

AUDIENCE *Grades 3-8, Algebra I, Geometry and Algebra II Mathematics*

OVERVIEW

These documents provide examples of materials permitted for use by students during the Mathematics Standards of Learning tests including grid paper samples, formula sheets, and the Table of Standard Normal Probabilities.

MORE INFORMATION

http://www.doe.virginia.gov/testing/test_administration/ancillary_materials/index.shtml

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