



# A Guide for Parents and Families About What Your 9th Grader Should Be Learning in School This Year

## *It's no longer a secret...*

This guide shares important information about the South Carolina Curriculum Standards and appropriate courses for your **9th grader**. The standards or course outlines state requirements for your child's learning program and what students across the state should be able to do in certain subjects.

A good educational system provides many tools that help children learn. Curriculum standards and course descriptions, standards and/or outlines are useful for making sure:

- teachers know what is to be taught;
- children know what is to be learned; and
- parents and the public can determine how well course content and concepts are being learned.



The following pages provide information about the South Carolina Curriculum Standards and appropriate **9th grade** courses for mathematics, science, English language arts, and social studies. The information can help you become familiar with what your child is learning at school and may include sample assessment questions, activities to reinforce and support your child's learning, selected book titles for additional reading, and Web site addresses for extended learning. Because sites change, please preview before students begin work. Information about end-of-course examinations will be referenced in the specific subject area designations.

The complete South Carolina Curriculum Standards for each subject area can be found at [www.sctlc.com](http://www.sctlc.com) or at [www.myscschools.com](http://www.myscschools.com).

## **South Carolina Curriculum Standards.**

Here are seven key reasons parents should be in the **know** about the curriculum standards and course offerings:

1. Standards set clear, high expectations for student achievement. Standards and course outlines tell what students need to do in order to progress through school on grade level.
2. Standards and course outlines guide efforts to measure student achievement. Results of tests (PACT and end-of-course examinations) on grade-level curriculum and course standards show if students have learned and teachers have taught for mastery.
3. Standards promote educational equity for all. Instruction in every school in the state will be based on the same curriculum standards.
4. Standards help parents determine if children in South Carolina are being taught the same subject content as children across the nation. South Carolina Curriculum Standards have been matched to and compared with national standards as well as standards of other states to make sure that they are challenging.
5. Standards inform parents about the academic expectations for their child. Parents no longer have to guess the type of help their child needs to do better in school.
6. Standards enable parents to participate more actively in parent/teacher conferences. Knowledge of the curriculum and course standards helps parents understand more about what their child is learning and what they can do at each grade level. Parents are able to have conversations with teachers about student progress in specific areas and understand more completely the progress of their child.
7. Standards and course outlines show parents how the expectations for learning progress throughout the high school education. Parents are able to see how their child's knowledge is growing from one year to the next.

# MATHEMATICS

The mathematics standards for grades nine through twelve contained in the South Carolina Mathematics Curriculum Standards 2000 provide the essential content that students are expected to learn during their entire high school mathematics career. Since mathematics is taught in specific mathematics courses rather than as an integrated system in most high schools, standards for courses are incorporated into course outlines in the document *Outlines of High School Mathematics Courses* found on the State Department of Education Web site [www.myscschools.com](http://www.myscschools.com).

Students in **grade nine** are generally enrolled in **Algebra 1** or **Mathematics for the Technologies 1**. Algebra 1 standards are appropriate for the courses, Algebra 1 and Mathematics for the Technologies 1 and 2, since students at the end of Algebra 1 and Mathematics for the Technologies 2 are scheduled to take the Algebra 1/Mathematics for the Technologies 2 end-of-course examination. Standards for these and other courses are found in content outline form in the *Outlines of High School Mathematics Courses*.

Those students who took Algebra 1 in the seventh or eighth grade may be enrolled in Geometry or Algebra 2. Other mathematics courses may be available as well for students in schools on a semester block schedule. Content topics contained in Algebra 1 and Mathematics for the Technologies 1 are given below.

## Algebra 1

Algebra 1 course competencies are presented for a one-year traditional or one-semester block course that meets the state Algebra 1 standards. The Algebra 1 end-of-course test will be given at the completion of the course. The course includes:

- patterns, generalizations, algebraic operations and symbols and matrices;
- algebraic expressions in problem-solving situations;
- equations and inequalities;
- interpretations of slopes and intercepts;
- linear functions and data representations;
- systems of linear equations;
- quadratic functions and data representations; and
- other functions such as exponential growth and decay.

In Algebra 1, handheld graphing calculators are required as part of instruction and assessment. Students should use a variety of representations (concrete, numerical, algorithmic, graphical), tools (matrices, data), and technologies to model mathematical situations in order to solve meaningful problems.

## Mathematics for the Technologies 1

Mathematics for the Technologies 1 and Mathematics for the Technologies 2 course competencies are presented as two-year consecutive, sequential courses that meet the state Algebra 1 standards. The Algebra 1 end-of-course test will be given at the completion of Mathematics for the Technologies 2.

Mathematics for the Technologies focuses on understanding and applying mathematics to solve realistic workplace problems. Mathematics for the Technologies 1 includes:

- patterns, generalizations and algebraic operations and symbols;
- algebraic expressions in problem-solving situations;
- equations and inequalities;
- interpretations of slopes and intercepts; and
- linear functions and data representations.

In Mathematics for the Technologies 1, handheld graphing calculators are required as part of instruction and assessment. Students should use a variety of representations (concrete, numerical, algorithmic, graphical), tools (data collection), and technologies to model mathematical situations in order to solve meaningful problems.

## Sample Assessment Question

Sample assessment questions for Algebra 1 and Mathematics for the Technologies 1 are available at <http://www.myscschools.com/offices/assessment/programs/endofcourse/TGUIDE-112003.doc>



## Activities:

Have your child:

- Solve and explain the following problem: A taxi company charges \$1.75 plus \$0.25 for every quarter mile. A second company charges \$1.25 plus \$0.35 for every quarter mile. Which company has the best rate? An extension problem could have the companies increasing or decreasing their fixed charges according to changes in services offered. How would this affect the problem?
- Place a 3-meter ramp at heights of  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , and 1 meter. Roll a toy car down the ramp and time the roll. Plot the points and predict what happens as the slope decreases or increases.
- Discuss budgeting, checking, and credit card buying using a hand-held graphing calculator.

## Books:

- *Algebra to Go*. (Published by Great Source Education Group; 1-800-289-4490).
- Bills, Chris. *Eight Days a Week: Puzzles, Problems and Questions to Activate the Mind*.
- Bolt, Brian. *A Mathematical Jamboree*.
- Karnes, Frances A. and Kristen R. Stephens. *Young Women of Achievement: A Resource for Girls in Science, Math, and Technology*.
- Santos, Bernardo R. *Challenging Brainteasers*.

## Web Sites:

- <http://education.ti.com>
- [www.illuminations.nctm.org](http://www.illuminations.nctm.org)
- [www.ite.sc.edu/dickeymarks.html](http://www.ite.sc.edu/dickeymarks.html)
- [www.myscschools.com](http://www.myscschools.com)
- [www.sctlc.com](http://www.sctlc.com)

## ENGLISH LANGUAGE ARTS

The English language arts standards for grades nine through twelve contained in the *South Carolina English Language Arts Curriculum Standards 2002* provide the essential content that students are expected to learn during their entire high school English language arts career. Students enrolled in **grade nine** are generally enrolled in **English 1**. Those students who took English 1 in the eighth grade may be enrolled in English 2 in grade nine.

### Reading

- Read a variety of literature and analyze it with regard to form, literary terms and elements, author's style and purpose, use of images, points of view and historical significance.
- Analyze texts for accuracy and bias.
- Read a variety of materials and analyze them for clarity and accuracy of information.
- Increase vocabulary through extensive reading.
- Determine how effective tone, irony, and figurative language are in works of literature.
- Read for extended periods of time and select and read a wide variety of print materials for pleasure.
- Begin noticing how the layout of informational texts is presented and the impact it has on the message.
- Understand the purpose of a variety of communication formats (such as poetry, drama, fiction, essays, business letters, user manuals and web sites).
- Analyze the effect of conflict on plot and characters.
- Analyze the origin and meaning of new words using knowledge of culture and mythology.
- Use a general dictionary, a specialized dictionary and a thesaurus.
- Read several works on a particular topic, paraphrase the ideas, and synthesize them with ideas from other authors addressing the same topic.
- Compare and contrast literary themes as they are developed in a variety of genres.
- Describe how the narrator's point of view or the author's choice of narrator affects a work of fiction.

### Communication

- Listen to and analyze information for accuracy, bias and speaker's purpose.
- Listen critically to understand various perspectives and ask good questions to clarify viewpoints of others in discussions.
- Increase vocabulary through listening.
- Participate and respond appropriately in conferences and interviews.
- Follow written instructions to perform tasks such as completing an application or using computer software.
- Present and evaluate dramatic readings.
- Develop appropriate oral responses to a variety of reading materials.
- Analyze spoken information for bias, accuracy, purpose, point of view and style.
- Plan oral presentations giving sources used and be able to answer questions about the topic.
- Evaluate self and peers using established criteria for speaking performance.
- Understand and adjust the use of formal and informal language to fit an audience and purpose when speaking.

- Analyze historical speeches to determine why they are memorable.

### Writing

- Write narrative, expository, literary and technical pieces.
- Write to inform, explain, analyze, entertain, learn, describe, persuade, and to transact business.
- Write responses to readings.
- Use rules of Standard American English (SAE) confidently in writing a range of simple-to-more-complex pieces.
- Demonstrate qualities of good written communication (such as arranging information clearly and logically, revising and editing for clarity, gauging the impact of the communication on audience, etc.).
- Select and write in a wide variety of forms including multiple-paragraph compositions, friendly letters, expressive and informational pieces, memos, business letters, essays, reports, articles and proposals.
- Write for extended periods of time.
- Improve one's own writing through conferencing with others and through self-reflection.

### Research

- Analyze and bring together information from a variety of sources to produce clear, effective reports and papers.
- Credit the sources of ideas and information used in reports and papers.
- Use a variety of sources, including technology, to locate information.
- Apply research skills learned previously to new research situations.

### Sample Assessment Questions

Sample questions for English I End of Course test are available at <http://www.myschools.com/offices/assessment/Programs/endofcourse/TGuideEng.pdf>.

### Activities:

- Read the same book your child is reading and talk about it with your child.
- Take your child to a movie or play.
- Compare and contrast movies and plays to books read.
- Encourage your child to keep a journal.
- Encourage your child to write letters or send e-mails to family and friends.
- Practice completing job applications with your child.
- Reward your child with books or a journal.
- Get your child a library card and regularly go to the library or bookstore.
- Encourage your child to write a script and create a video relating to a topic of interest or mirroring the theme of something he/she has read.
- When watching television or a video, discuss the conflict in the episode.
- Discuss the point of view of a character.
- Discuss how a problem was solved.
- Allow your child to read and write, JUST FOR FUN!

## SCIENCE

The science standards for grades nine through twelve contained in the South Carolina Science Curriculum Standards 2000 provide the essential content that students are expected to learn during their entire high school science career. Since science is taught in specific science courses rather than as an integrated system in most high schools, standards for courses are incorporated into course standards documents such as High School Science Standards, Objectives, and Activities found on the State Department of Education Web site [www.myscscschools.com](http://www.myscscschools.com). Students in **grade nine** are generally enrolled in **Physical Science**. Physical Science standards are appropriate for the course since students at the end of Physical Science are scheduled to take the Physical Science end-of-course examination. No high school science courses for Carnegie unit credit are recommended for middle school.

### **Inquiry: to be taught across all science disciplines**

- Form a testable hypothesis, identify and select variables and conditions.
- Design a scientific investigation based on the major concepts being studied and practice safety procedures.
- Organize and communicate data collected.
- Select and use technology and mathematics during scientific investigations.
- Form and revise scientific explanations through discussion, debate, logic and experimental evidence.
- Recognize, analyze, communicate and defend explanations, models, processes and conclusions based on scientific criteria.
- Analyze, explain and defend how historical scientific knowledge, current research, technology, mathematics and logic influences the design, interpretation and evaluation of investigations.

### **Physical Science**

Physical Science course standards are presented for a one-year traditional or one-semester block course that meets the state Physical Science standards. The Physical Science end-of-course test will be given at the completion of the course. Physical Science is designed to serve as a foundation for other high school science courses. It is a laboratory course (minimum of 30 percent hands-on investigation) that integrates principles of chemistry and physics. It emphasizes inquiry-based learning, process skills and higher-order thinking skills. Because experimentation is the basis of science, laboratory investigations are an integral part of this course. Investigative, hands-on lab activities that address the high school inquiry standards are central to effective instruction in this course.

Chemistry units include:

- history of atomic models and atomic theory,
- atomic structure and the periodic table,
- structure and properties of matter,
- chemical bonds and reactions,
- basic nuclear chemistry,
- acids and bases, and
- Carbon chemistry including polymers.

Physics units include:

- forces and motion,
- conservation of matter and energy and increase in disorder,
- electricity and magnetism,
- interaction of energy and matter, and
- wave phenomena, characteristics, and behavior, including electromagnetic and sound waves.

### **Sample Assessment Questions**

Sample questions for the Physical Science End of Course test are available at <http://www.myscscschools.com/offices/assessment/Programs/endofcourse/PSTG.pdf>.

### **Activities**

Have your child:

- View programs such as NOVA on PBS.
- View programs such as Mr. Wizard and Bill Nye the Science Guy on the Discovery Channel.
- Discuss current science events in the nightly news and in the newspaper.
- Attend local science fairs, museums, the Roper Mountain Science Center in Greenville, and a planetarium.
- Investigate activities of the SC Junior Academy of Science at [www.erskine.edu/scjas/](http://www.erskine.edu/scjas/)

### **Web Sites:**

- Discover engineering online – <http://www.discoverengineering.org>
- Exploratorium – [www.exploratorium.edu](http://www.exploratorium.edu)
- SC Department of Education. – [www.myscscschools.com](http://www.myscscschools.com) and [www.sctlc.com](http://www.sctlc.com)
- SCETV's Resources for Teachers, Students and Parents – [www.knowitall.org](http://www.knowitall.org)
- SC Forestry Commission – [www.state.sc.us/forest/](http://www.state.sc.us/forest/)
- "What Should I look For in the Science Program in My Child's School: A Guide for Parents" – <http://www.scimathmn.org>

**SOCIAL STUDIES**  
**Global Studies**  
**Students should be able to:**

- Explain the influence of Athenian government and philosophy on other civilizations.
- Summarize the essential characteristics of Roman civilization and explain their impact today.
- Explain the rise and growth of Christianity during the classical era.
- Explain the impact of religion in classical Indian civilization.
- Explain the influence of the Byzantine Empire.
- Summarize the origins, beliefs, and expansion of Islam.
- Summarize the influences of trans-Saharan trade on Africa.
- Compare the origins and characteristics of the Mayan, Aztec, and Incan civilizations.
- Summarize the functions of feudalism and manorialism in medieval Europe.
- Analyze the upheaval and recovery that occurred in Europe during the Middle Ages.
- Compare the impact of the Renaissance and the Reformation on life in Europe.
- Explain the long-term effects of political changes that occurred in Europe during the sixteenth, seventeenth, and eighteenth centuries.
- Summarize the origins and contributions of the scientific revolution.
- Explain the ways that Enlightenment ideas spread through Europe and their effect on European society.
- Explain the significant changes that took place in China in the nineteenth century.
- Explain the impact of European involvement on other continents during the era of European expansion.
- Compare the revolutions that took place on the European and American continents in the nineteenth century.
- Explain the causes and effects of transformation in Europe in the nineteenth century.
- Compare the political actions of European, Asian, and African nations in the era of imperial expansion.
- Summarize the causes of World War I.
- Summarize the worldwide changes that took place following World War I.
- Explain the impact of the Great Depression and political responses in Germany, Britain, and the United States.
- Explain the causes, key events, and outcomes of World War II.
- Compare the ideologies and global effects of totalitarianism, communism, fascism, Nazism, and democracy in the twentieth century.
- Exemplify the lasting impact of World War II.
- Summarize the ideologies and global effects of communism and democracy.

- Summarize the worldwide effects of the Cold War.
- Compare the challenges and successes of the movements toward independence and democratic reform in various regions following World War II.
- Summarize the impact of economic and political interdependence on the world.

**Activities:**

Have your child:

- Watch and discuss the nightly news. Look for examples of global interdependence and its effects on the world.
- Create a travel brochure that illustrates daily life in one of the classical civilizations. View historical documentaries on television (for example, on PBS or the History Channel) and discuss how the events shown in the program are related to historical topics being studied at school.
- Read biographies about people from a variety of places and time periods being studied.
- Interview family or community members about what it was like to live through World War I, II, or the Cold War.

**Books:**

- Adkins, Lesley and Roy Adkins. *Handbook to Life in Ancient Rome*.
- Birch, Cyril, ed. *Stories from a Ming Collection*.
- Brokow, Tom. *The Greatest Generation*.
- Atchity, Kenneth J., ed. *The Classical Greek Reader*.
- Bunsen, Matthew. *Encyclopedia of the Middle Ages*.
- Dersin, Diane, ed. *What Life Was Like on the Banks of the Nile, Egypt 3050-30 BC*.
- Ebry, Patricia. *The Cambridge Illustrated History of China*.
- Fischer, Louis. *Gandhi: His Life and Message for the World*.
- Hakim, Joy. *The First Americans*.
- Hamilton, Edith. *The Greek Way*.
- Haugaard, Erik. *Cromwell's Boy*.
- Keegan, John. *Illustrated History of the First World War*.
- Le Carre, John. *The Spy Who Came in from the Cold*.
- Macaulay, David. *Castle*.
- Macaulay, David. *Cathedral*.
- Macaulay, David. *Pyramid*.
- Macaulay, David. *Roman City*.
- More, Thomas. *Utopia*. Translated by Paul Turner
- Ross, Frank, Jr. *Oracle Bones, Stars, and Wheelbarrows*.
- Saggs, H.W.F. *Babylonians*.



**Books:**

- Anderson, Laurie Halse. *Speak*.
- Armstrong, Lance. *It's Not About the Bike: My Journey Back to Life*.
- Chevalier, Tracy. *Girl With a Pearl Earring*.
- Cormier, Robert. *Tenderness: A Novel*.
- Draper, Sharon. *Romiette and Julio*.
- Korman, Gordon. *Son of the Mob*.
- Myers, Walter Dean. *Fallen Angels*.
- Olshan, Matthew. *Finn*.
- Pearson, Mary E. *Scribbler of Dreams*.
- White, T. H. *The Once and Future King*.
- Woodson, Jacqueline. *If You Come Softly*.

**Web Sites:**

- International Reading Association - [www.reading.org](http://www.reading.org)
- The Internet Public Library – [www.ipl.org](http://www.ipl.org)
- Folger Shakespeare Library – [www.folger.edu](http://www.folger.edu)
- Learning Page.com – [www.sitesforteachers.com](http://www.sitesforteachers.com)
- Media Literacy Clearinghouse – <http://medialit.med.sc.edu>
- National Council of Teachers of English – [www.ncte.org](http://www.ncte.org)
- National Parent Teacher Association – [www.pta.org](http://www.pta.org)
- South Carolina Department of Education – [www.myschools.com](http://www.myschools.com)
- Surfing the Net with Kids – [www.surfnetkids.com](http://www.surfnetkids.com)
- United States Department of Education – [www.ed.gov/parents](http://www.ed.gov/parents)

- Sosin, Gene. *Sparks of Liberty: An Insider's Memoir of Radio Liberty*.
- Statler, Oliver. *Japanese Inn*.
- Vail, John. *"Peace, Land, Bread!": A History of the Russian Revolution*.
- Wiesel, Elie. *Night, Dawn, The Accident: Three Tales*.

**Web Sites:**

- Electronic Research - Library of Congress - <http://lcweb.loc.gov/>
- National Museum of African Art - [www.si.edu/nmafa/](http://www.si.edu/nmafa/)
- National Gallery of Art - [www.nga.gov](http://www.nga.gov)
- National Geographic Society - [www.nationalgeographic.org](http://www.nationalgeographic.org)
- SCETV - [www.knowitall.org](http://www.knowitall.org)
- South Carolina Department of Education - [www.myschools.com](http://www.myschools.com)
- South Carolina Teaching, Learning and Connecting - [www.sctlc.com](http://www.sctlc.com)

**South Carolina Education Oversight Committee**

PO Box 11867  
Blatt Building, Room 227  
Columbia, SC 29211  
(803) 734-6148

[www.sceoc.org](http://www.sceoc.org)