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ABSTRACT

PUB TYPE

This guide shares information about the South Carolina Curriculum Standards with parents. The standards outline state requirements for children's learning, and what students across the state should be able to do in certain subjects. The guide lists seven key reasons for parents to be aware of the new curriculum standards, and then presents a condensed version of the standards for tenth grade in mathematics (numbers and operation, algebra, data analysis and probability), English/language arts (reading/literature, listening, speaking, writing, research), science (inquiry, life science, earth science, physical science), and social studies (history of the world from 1500 to the present: time, continuity, and change; government/political science: power, authority, and governance; geography: people, places, and environments; economics: production, distribution, and consumption). Listed after the standards for each subject area are sample assessment questions for parents to complete with their children, selected book titles for additional reading, and Web site addresses for extended learning. (EV)



A Guide for Parents and Families about What Your 10th Grader Should Be Learning in School This Year. Don't Fail Your Children.

South Carolina Department of Education, South Carolina Education Oversight Committee

Fall 2001

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A Guide for Parents and Families About What Your 10th 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. These standards outline 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 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 the standards are being learned at each grade level.

The student standards that follow are a condensed version of the South Carolina Curriculum Standards for Mathematics, English/Language Arts, Science and Social Studies for 10th Grade. They are provided to help you become familiar with what your child is expected to do at the end of 10th Grade so that you can reinforce and support what your child is learning at school. Listed after the standards for each subject area are sample assessment questions for you to complete with your child, selected book titles for additional reading and website addresses for extended learning. This version does not include every standard taught in 10th Grade. If you are interested in the complete South Carolina Curriculum Standards, check with your child's teacher.

Before moving on to the next grade, students in grades 3 to 8 will be expected to score at or above grade level on statedeveloped tests - Palmetto Achievement Challenge Tests (PACT) - that test student knowledge of the South Carolina Curriculum Standards.

South Carolina Curriculum Standards.

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

- 1. Standards set clear, high expectations for student achievement. Standards tell what students need to do in order to progress through school on grade level.
- 2. Standards guide efforts to measure student achievement. Results of tests (PACT) on grade-level curriculum standards show if students have learned and teachers have taught for mastery.
- 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 to know if their child is being taught the same subject content as children across the nation. South Carolina Curriculum Standards have been matched and compared with standards of other states to make sure that they are challenging.
- 5. Standards help parents to know more about the academic progress of their child and provide assistance at home in areas where the children need help. Parents no longer have to guess the type of help their children need to do better in school. Standards give parents more specific information for helping their children at home.
- 6. Standards help parents to participate more actively in parent/teacher conferences. Knowledge of the curriculum standards helps parents understand more about what their children are 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 children.
- 7. Standards help parents to understand that what their children learn in school one year ties into what they will learn in the next year and in future years. Parents are able to see how their child's knowledge is growing from one year to the next.











The mathematics standards that follow are a condensed version of the South Carolina Mathematics Curriculum Standards 2000 for grades 9-12. These standards are not listed by specific courses but follow the five mathematics strands that cross all grade levels (PreK-12). The complete South Carolina Mathematics Curriculum Standards 2000, together with course standards, for grades 9-12 can be accessed through the State Department of Education website (www.myscschools.com).

Hand-held 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 technology to model mathematical situations.

Numbers and Operation Students will be able to:

- Use the commutative, associative, distributive, equality and identity properties to justify the steps in solving equations and inequalities.
- Use symbolic representation, reasoning and proof to verify statements about numbers.
- Explain how performing a specific operation affects the size of a number.
- Organize data and perform operations of addition, subtraction and scalar multiplication to solve problems using matrices.
- Explain why a solution is mathematically reasonable using supporting data.

Algebra

- Determine patterns and represent generalizations algebraically.
- Apply the laws of exponents in problem-solving situations.
- Use symbols to represent unknowns and variables.
- ☐ Find specific function values and evaluate expressions.
- Select and use an appropriate method to solve linear equations and inequalities.
- Simplify polynomial expressions and perform polynomial arithmetic.
- Analyze situations involving linear functions and formulate linear equations or inequalities to solve problems.
- Gather and record data, or use data sets, to determine functional relationships between quantities.
- Interpret solutions and determine the reasonableness of solutions to linear equations, inequalities and systems of linear equations.
- Determine whether or not given situations can be represented by linear functions.

- Relate direct variation to linear functions and solve problems involving proportional change.
- Graph and write equations of lines given characteristics such as two points, a point and a slope, or a slope and y-intercept.
- Interpret situations in terms of given graphs and create situations that fit given graphs.
- Identify and sketch the general forms of linear (y = x) functions.
- Determine reasonable domain and range values for a variety of situations.
- Describe independent and dependent quantities in functional relationships.
- Investigate, describe and predict the effects of vertical and horizontal translations, reflections and dilations on linear functions.
- Investigate, describe and predict the effects of changing the slope and the y-intercept in applied situations.
- Solve systems of linear equations using concrete models, graphs, tables and algebraic methods.
- Solve multi-step equations and inequalities (linear and quadratic) in problem situations.
- Translate among and use algebraic, tabular, graphical or verbal descriptions of linear functions using technology.
- ☐ Identify and sketch the general forms of quadratic $(y = x^2)$ functions.
- Determine domain and range restrictions for quadratic functions given constraints of the problem.
- Analyze graphs of quadratic functions and write conclusions for problem situations.
- Investigate, describe and predict the effects of vertical and horizontal translations, reflections and dilations on quadratic functions.
- Solve quadratic equations using concrete models, tables, graphs, algebraic methods (that include factoring and the quadratic formula) and technology.
- Relate the solution(s) of quadratic equations to the root(s) of the quadratic functions.
- Describe functional relationships for given problem situations and write equations, inequalities and recursive relations to answer equations arising from the situations.
- Interpret and make predictions from explicit and recursive functional relationships.

Data Analysis and Probability

 $\hfill \square$ Use unit analysis to check measurement computations.



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ENGLISH/LANGUAGE ARTS

Students will be able to:

	Reading/Literature	R ese arch
	Read and analyze works of literature from different times and cultures in terms of similarities and differences, common themes, types, perspectives and historical significance. Read and interpret consumer print materials including warranties, contracts, job descriptions, manuals, technical descriptions, labels, warnings and applications.	 Collect, evaluate and organize information to produce reports and papers using available technology. Complete a variety of long-term projects such as research projects, videos and portfolios in all subject areas and present to peers.
	Read and analyze poetry and dramatic works. Evaluate how effective dialect and diction are in literature. Increase vocabulary through extensive reading. Read for extended periods of time and select and read widely for pleasure.	Sample PACT Questions PACT questions are not available for distribution at this time. Activities: Read the same book your child is reading and have a
	Listen to speakers to analyze information for accuracy, bias and speaker's purpose. Analyze oral reports of small groups. Participate in discussions and listen carefully to viewpoints of others. Increase vocabulary through listening. Demonstrate effective listening skills in conferences and interviews. Evaluate how effective dialect and diction are in speaking.	 book talk with your child. Take your child to a movie or play. Compare and contrast movies and plays to books read from different times in history and from different cultures. Encourage your child to keep a journal. Encourage your child to write letters or send e-mail to family and friends. Reward your child with books or a journal. Attend a lecture or speech with your child. Help your child analyze the speaker's remarks for accuracy, bia
	Speaking Plan and present oral presentations for specific audiences. Participate in small group activities. Analyze speeches for accuracy, bias, point of view, purpose and style. Select information from research, organize it and present it in a speech. Plan and present oral presentations in all subject areas. Develop criteria (standards) and use to evaluate oral presentations by self and others.	 and purpose. Determine a purpose for reading a magazine such as Consumer Reports with your child. Get your child a library card and regularly go to the library or bookstore. 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. Read aloud to your child. Allow your child to read and write, JUST FOR FUN!
	Writing Write in a variety of forms with an emphasis on exposition (explanations) but also including stories, poems, skits, business letters, memos, electronic mail, persuasive pieces, plays, reports, applications, résumés and hypertexts.	Books: Gaines, Emest. The Autobiography of Miss Jane Pittman. Twain, Mark. Huckleberry Finn. Wiesel, Elie. Night. Wright, Richard. Black Boy.
	Analyze writing of others and suggest how it might be improved. Use writing to interpret, analyze and evaluate ideas in all subject areas. Analyze writing to determine accuracy, bias, point of view, purpose and style. Develop standards (criteria) and use to evaluate writing of self and others. Demonstrate qualities of good writing by thinking and planning before writing, arranging information in a clear logical manner, revising and editing for clarity, and gauging the impact on the audience. Use effective characteristics of good literature to refine personal writing style. Write for sustained periods of time.	Websites: Children's Literature Website — www.acs.ucalgary.ca/~dkbrown/bestbooks Georgia Department of Education — www.glc.k12.ga.us Learning Page.com — www.sitesforteachers.com Carol Hurst's Children's Literature Site — www.carolhurst.com Surfing the Net With Kids — www.surfnetkids.com A+ Research and Writing — www.ipl.org/teen/aplus United States Department of Education — www.ed.gov.pubs/parents South Carolina Department of Education — www.myscschools.com National Association for the Education of Young Children — www.naeyc.org National Parent Teacher Association — www.pta.org National Parent Information Network — www.npin.org Romantic Circles — www.rc.umd.edu
0		☐ Folger Shakespeare Library – www.folger.edu



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SCIENCE Students will be able to:

lm	quiry: to be taught across all science disciplines	П	Investigate how Earth's oceans are affected by both
	Form a testable hypothesis, identify and select variables	_ i	internal and external sources of energy.
	and conditions to manipulate and control during an investigation.		Evaluate human interventions to reduce the ettects of rising sea level and coastal erosion.
	Design a scientific investigation based on the major	D i	Investigate how elements, such as carbon, oxygen
_	concepts being studied, select and use appropriate	9	and nitrogen, cycle through the atmosphere, oceans,
	tools and technology, and practice safety procedures used in an investigation.		rocks and living organisms. Analyze how the use and recovery of fossil fuels
	Organize and communicate data collected during a		affects the environment.
	scientific investigation, identifying possible sources of		Evaluate the importance of limiting consumption of nonrenewable resources.
	error in the investigation, draw conclusions and defend the scientific thinking based on the qualitative		Describe the scientific theory of how our solar system
п	and quantitative data collected.	_ '	was formed.
П	Select and use technology and mathematics during scientific investigations to enhance the precision and		Investigate and describe techniques of using rocks and fossils to determine the history of geologic events.
_	accuracy of data collection and communication of outcomes.		Investigate the ongoing geological and biological
Ш	Form and revise scientific explanations through discussion, debate, logic and experimental evidence.	(changes of the Earth's system.
	Recognize, analyze, communicate and defend		Investigate the historical development of scientific theories for the origin and evolution of the universe.
	explanations, models, processes and conclusions	🛚	Identify the contributions of Copernicus, Kepler and Galileo.
	based on scientific criteria. Analyze, explain and defend how historical scientific		Identify examples of technology used to provide
_	knowledge, current research, technology, mathematics		evidence about the history and origin of the universe. Describe the life cycle of stars.
	and logic influences the design, interpretation and evaluation of investigations.	🛭	Identify the location of our sun in the Milky Way
	•		Galaxy and infer how gravity and motion affect the galaxy formation.
П	Life Science Understand the appropriate technology used to study	;	Physical Science
П	cells and compare prokaryotic and eukaryotic cells,	0 1	Investigate the structure of an atom and the component
п	identifying the cellular structures and their functions.	_ 1	particles of an atom.
П	Investigate and explain chemical reactions in cells. Compare DNA and RNA, and explain their function	ן ט	Investigate physical and chemical evidences for the existence and structure of atoms, and trace the historical
_	and importance in the cell.	_ (development of the atomic and nuclear models.
	Evaluate the impact of genetic research and technology		Compare and contrast the energy released by nuclear reactions and chemical reactions, fission and fusion
	on society. Investigate and describe the relationship between cells,		reactions.
	tissues, organs and organ systems of plants and animals.		Debate the consequences of the development of the
П	Investigate and discuss how species evolve over time, the scientific evidence that illustrates and reveals		atomic bomb, nuclear power plants and medical technologies.
	evolutionary changes, and Charles Darwin's contributions		Investigate, compare and contrast elements and isotopes,
П	to the study of evolution. Investigate biological classifications of organisms.		using the periodic table and physical and chemical properties.
	Investigate the interdependence among organisms		Compare and contrast elements and compounds, and
_	and the biotic and abiotic factors influencing ecosystems.	_ '	use chemical tormulas to represent compounds.
П	Discuss the impact of human beings on ecosystems and the use of technology in environmental studies.		Investigate the physical properties of water, concentrated and diluted mixtures, and how solubility varies among
	Investigate the process of photosynthesis.	_ '	different solutes.
	Analyze the energy cycle in cells and its function in		Investigate the bonding of molecules and atoms, comparing and contrasting solids, liquids and gases.
П	sustaining the organism. Discuss and analyze energy and entropy as they		Investigate and explain the chemical reactions and
_	apply to biological systems.		changes that take place and classity reactions as energy- absorbing or energy-releasing.
Ц	Investigate and describe the nervous systems of multicellular animals.		Analyze the bonding of carbon atoms to form a
	Investigate behavioral responses of organisms to	_ '	variety of structures.
	internal change and external stimuli and research		Investigate acids and bases in terms of their physical characteristics and pH, and the role pH plays in the
	behavioral studies, and the use of technology to study behavior.	_ '	development of consumer products.
	,		Investigate the effects of temperature, particle size, stirring, concentration and catalysts, such as metal
П	Earth Science Investigate the internal and external sources of Earth's energy.		surfaces, on chemical reaction rates (food spoilage,
Ĭ	Understand how the transfer of Earth's internal heat	_ :	storage of film and batteries, and digestive aids).
_	relates to plate tectonics.	│	Trace the historical development of the understanding of forces, citing contributions of specific scientists.
Ц	Analyze the causes for global climates and seasons, and explain geographic variations.		Investigate the motion of an object in terms of Newton's
Ö	Compare and contrast weather patterns and conditions.		three laws of motion. Investigate and describe arguitational attractive forces
Ц	Analyze the pros and cons of living in areas affected		Investigate and describe gravitational attractive torces between two masses.
O"	by natural hazards.		





SOCIAL STUDIES Global Studies II Students will be able to:

	History of the World from 1500 to the Present: Time, Continuity and Change	Economics: Production, Distribution and Consumption
0	Analyze and describe the political, economic and cultural transformations of European society and the global transformations of the major regions of the world in an age of global intercommunication, 1450-1600.	 Demonstrate an understanding of how scarcity, choice and the principles of trade impact economic activity. Trace the increasing complexity of monetary systems. Assess how the division of labor, specialization and
	Analyze the causes and consequences of political, agricultural and industrial revolutions between 1650 and 1850.	increase of technology have affected productivity and trade. Examine and provide examples of economic decision
	Describe the transformation of Eurasian and Oceanic societies in an era of global trade and rising European	making based upon geographic factors.
_	power, 1750-1870.	Sample PACT Questions PACT questions are not available for distribution at this time.
П	Outline patterns of nationalism, state/nation building and social reform in Europe and the Americas, 1830-1914.	•
	Describe reform, revolution and social change in the	Activities: Watch and discuss the nightly news with your child.
	world economy from 1900 to 1939. Analyze the causes, course and global consequences of	Use travel and news magazines to supplement school activities.
	World Wars I and II. Describe the breakup of European colonial empires and	☐ View programs on PBS, the History Channel, Discovery
	the development of new nations in Africa, Asia and the Caribbean.	Channel and A&E, and discuss them with your child. Read about people from a variety of places and time
	Analyze the oppression of groups and the struggle for human rights across the world.	periods. Interview and record the oral histories of family an friends.
	Describe the effort to attain stability, peace and a sense	Books:
	of community in an interdependent world. Describe the origins, causes and results of the Cold War	Birch, Cyril, ed. Stories from a Ming Collection.
	after World War II and the adjustments of the post-Cold	Crichton, Michael. The Great Train Robbery.Fischer, Louis. Gandhi: His Life and Message for the World.
	War era.	Haugaard, Erik. Cromwell's Boy.Le Carre, John. The Spy Who Came in from the Cold.
	Government/Political Science: Power, Authority and Governance	 More, Thomas. <i>Utopia</i>. Translated by Paul Turner. Ryan, Cornelius. <i>The Longest Day</i>.
	Understand the origins and functions of government.	Sosin, Gene. Sparks of Liberty: An Insider's Memoir of
	Compare and contrast the civic life, politics and forms of government in major civilizations.	Radio Liberty. Stefoff, Rebecca. Mao Zedong: Founder of the People's
	Trace the causes and consequences of major governmental changes within selected nations and empires.	Republic of China. Taylor, A.J.P. Illustrated History of the First World War.
	Examine and illustrate how governmental decisions are	☐ Vail, John. "Peace, Land, Bread!": A History of the
	influenced by physical and cultural geography.	Russian Revolution. Wepman, Denis. Africa: The Struggle for Independence.
	Geography: People, Places and Environments	☐ Wiesel, Elie. Night, Dawn, The Accident: Three Tales.
	Describe the world in spatial terms by using maps, geographic models and technologies to explain the	Websites: Electronic Research – Library of Congress
	relationships and patterns of human movement and	http://lcweb.loc.gov/global/explore/ National Gallery of Art – www.nga.gov
	environmental decision making. Understand how places and regions affect the relationships	☐ National Geographic Society –
	between humans and the physical environment, and lead to a sense of personal and community involvement.	www.magma.nationalgeographic.com/ National Museum of African Art – www.si.edu/nmafa/
	Compare the dynamics of the four basic components of	
	the Earth's physical systems and their interaction along with the importance of ecosystems in environmental issues.	
	Analyze the role of human systems on Earth including	
	trends in numbers, migration and cultural influences in relation to society, politics and economics.	
	Use geography to understand how the Earth's physical	
	and human features have affected history and the global impact of human-based changes on the environment.	



MATHEMATICS CONTINUED

Sample PACT Questions

PACT questions are not available for distribution at this time.

Activities:

Have your child:

- Discuss budgeting and balancing a checkbook (some hand-held graphing calculators have features which easily calculate loan payments).
- Discuss advantages and disadvantages of buying on credit with special emphasis on credit card interest rates.
- Practice sample SAT problems from various internet and hardcopy resources.

Books:

- Algebra To Go (published by Great Source Education Group; 1-800-289-4490).
- Geometry to Go (published by Great Source Education Group; 1-800-289-4490).
- Mastering the Math SAT I/PSAT (published by Great Source Education Group; 1-800-289-4490).
- Math on Call: A Mathematics Handbook (published by Great Source Education Group; 1-800-289-4490).

Websites:

- www.myscschools.com Website where parents can view all the curriculum standards.
- www.illuminations.nctm.org Click on "I-Math Investigations" for interactive learning.
- www.figurethis.org This site has fun and engaging mathematics questions for children.

SCIENCE CONTINUED

- Examine and demonstrate the interaction of like and unlike charges and electrostatic attraction.
- Investigate electromagnetic forces.
- Construct, diagram, compare and contrast series and parallel circuits.
- Evaluate the transformations between forms of energy (between potential and kinetic, and other forms of energy).
- Describe the relationships between energy, work, power and efficiency.
- Evaluate the effects of varying the temperature on atomic or molecular motion.
- Compare and contrast the environmental impact of power plants and the use of fossil fuels, water and nuclear energy to produce electricity.
- Investigate the properties and behavior of sound and seismic waves, waves on water, and light waves and the transfer of energy when they interact with matter.
- Examine electromagnetic waves (radio waves, microwaves and x-rays) and compare and contrast the parts of the electromagnetic spectrum in terms of energy.
- Investigate and describe light in terms of absorbing and releasing energy by electrons and wavelengths.
- Compare insulators, conductors and semiconductors on the flow of electrons and describe superconductors.

Sample PACT Questions

PACT questions are not available for distribution at this time.

Websites:

- South Carolina Department of Education www.myscschools.com
- South Carolina ETV's Resources for Teachers, Students and Parents www.knowitall.org
- South Carolina Forestry Commission www.state.sc.us
- South Carolina Aquarium, Links www.scaquarium.org
- SC MAPS www.ces.clemson.edu/scmaps
- ☐ National Parent Information Network www.npin.org
- ☐ The Smithsonian Institution www.si.edu
- The Discovery Channel Online www.dsc.com/online
- ☐ The Weather Channel www.weather.com/
- Exploratorium www.exploratorium.edu
- Chemistry Societies' Network-Visual Interpretation of the Table of Elements – www.chemsoc.org/viselements/
- Amusement Park Physics
 - www.learner.org/exhibits/parkphysics/
- The Particle Adventure, The Fundamentals of Matter and Forces www.particleadventure.org/



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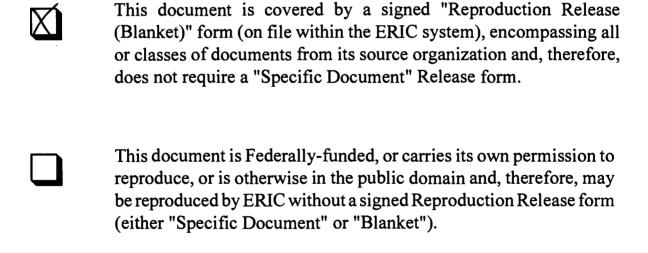
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