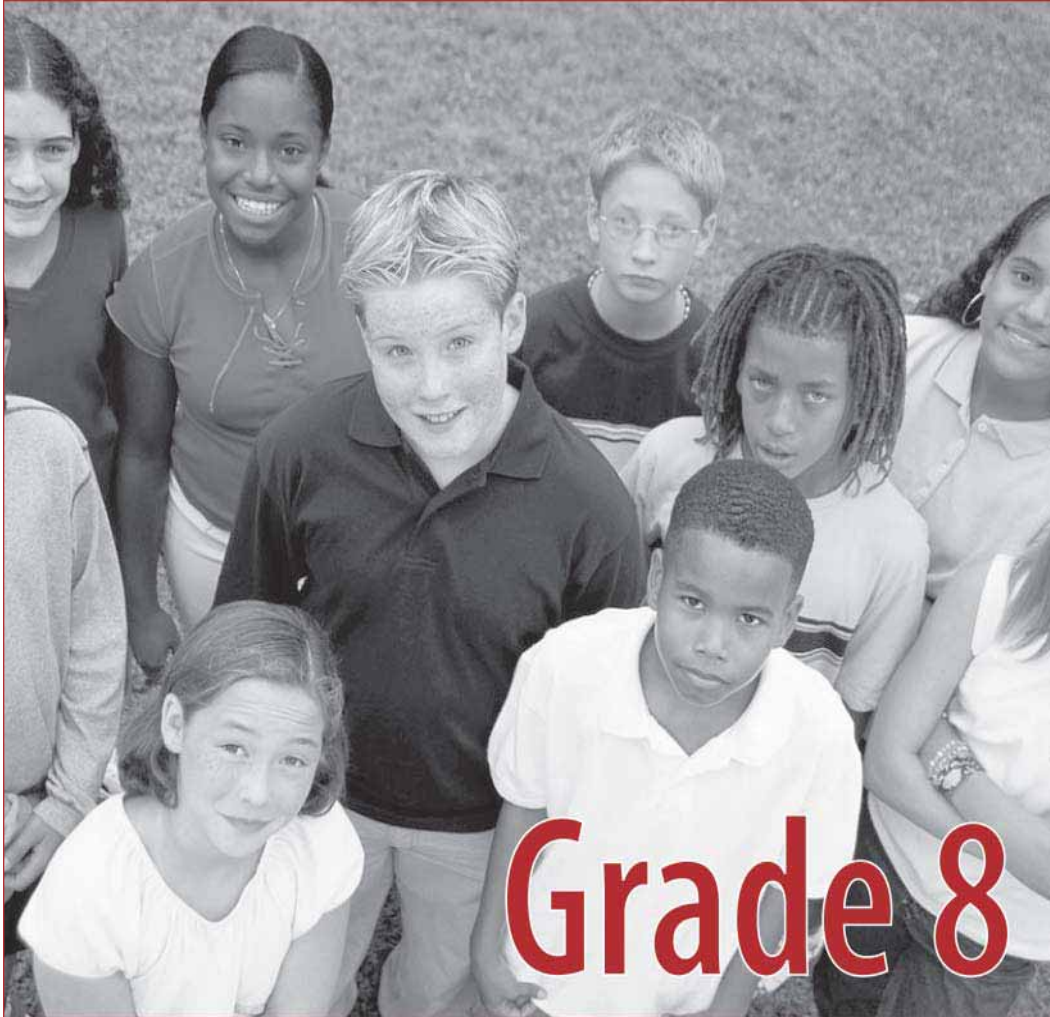


Just for Parents

A Guide to the Kansas Curricular Standards



Grade 8

Provided by the Kansas State Department of Education



October, 2007

Introduction

This booklet is intended to help you understand what is required for eighth grade students to meet the educational standards set by the Kansas State Board of Education. The Kansas State Board of Education has set high standards for all students in the subject areas of reading, mathematics, science, history and government, economics, geography, and writing. The standards are general statements of what students should know and be able to do at each grade level. Schools use the standards as a guide for what they teach.

To see that students are meeting the education standards set by the Kansas State Board, tests were developed from the standards adopted by the Kansas State Board. All accredited schools in the state are required to administer the tests, which are known as state assessments. The questions included on the assessments represent the knowledge students are expected to have in each subject area, but do not include every item in the state

standards. This booklet only includes those items covered on the state assessments at the eighth grade level in reading and mathematics.

For the 2007-2008 school year, state assessments will be given in the eighth grade in the subject areas of reading, mathematics, and history/government. Your school will give the eighth grade assessments during a Kansas State Board established assessment period. Your school will select the specific assessment period based on the school's schedule.

The knowledge and skills assessed by the eighth grade assessment may not have been learned entirely in the eighth grade, but are expected to have been a part of your child's studies in the grades prior to and including Grade 8.

All students are expected to take part in the state assessments. To include students with special needs who cannot benefit from taking the general assessments the state has developed modified and

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alternate assessments. Both the modified and alternate assessments are based on the general education standards. The modified and alternate assessments are for students with disabilities so significant that they cannot participate in the general assessments. About 3 percent of the student population will qualify for the modified and alternate assessments.

Extended curricular standards have been developed for students who participate in the alternate assessment. Alternate assessments are intended for students with the most severe disabilities and are designed to assess the student's achievement of the standards

at the appropriate level of complexity. It is expected that less than 1 percent of the student population will be eligible to participate in the alternate assessments.

The Kansas State Board of Education's mission of helping all students learn is shared by Kansas schools. Kansas educators are eager partners with parents and caregivers in the education and development of the children of our state. If you have questions about your child's learning, development, or progress in school, please talk with your child's teacher, school principal, or school counselor.



Mathematics

Kansas students are expected to know selected skills in math and to display those skills at different levels of complexity depending upon their grade level. In the eighth grade, students are expected to know and be able to do the following in math:

- Understand and explain what the result is when a positive number is multiplied or divided by a number greater than zero and less than one.
- Understand and explain what the result is when a number other than zero is multiplied by zero.
- Identify all the subsets of the real number system to which a given number belongs. For example, natural numbers are those numbers we count with; whole numbers are the counting numbers plus zero; integers include zero, whole numbers and their opposites; rational numbers are those numbers that can be expressed in a fraction; irrational numbers are those numbers that cannot be expressed as fractions. A given number may belong to one or more of these subsets.
- Add, subtract, multiply, and divide using positive and negative whole numbers.
- Use order of operations when computing with rational numbers (understand to work first within grouping symbols, then find powers, then perform multiplication/division from left to right, then perform addition/subtraction left to right).
- Find the solution to an equation.
- Use the Pythagorean Theorem (the Pythagorean Theorem states that if a triangle is a right triangle, then the sum of the squares of the two legs is equal to the square of the side opposite the right angle).
- Given the graph of a line, be able to list points on the line.
- Recognize that the points on a graphed line (ordered pairs) are solutions to the equation that creates the line.
- Find the length of a given side of a figure drawn on

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a graph when given two points on the graph.

- Determine the probability of two nonrelated events happening at the same time, or one after the other.
 - Determine mean (the sum of the values divided by the total number of values), median (the middle value), and mode (the most frequent value) for a given set of numbers.
 - Explain how problems are solved using mathematical properties, including the following:
 - Commutative (numbers can be added and multiplied in any order resulting in the same answer)
 - Associative (when a series of numbers is added or multiplied, the order in which the values are added or multiplied doesn't affect the result)
 - Distributive (when multiplying a number by the sum of numbers, you can multiply each of the numbers by the factor first and then add)
 - Substitution (a number
- may be substituted for a variable or equivalent quantity)
 - Identity for addition (when 0 is added to another number it doesn't change the value of the number)
 - Identity for multiplication (when a number is multiplied by 1 it doesn't change the value of the number)
 - Additive inverse (a number plus its opposite is 0)
 - Multiplicative inverse (a number multiplied by its reciprocal is 1)
 - Solve real-world problems that involve one and two steps using addition, subtraction, multiplication, and/or subtraction of numbers that are positive and negative with decimals, fractions, percents, and the use of pi.
 - Use symbols, expressions or equations to represent unknown quantities in solving real-world problems using addition, subtraction, and multiplication.
 - Represent a linear set

Mathematics

of data in its numerical, tabular, graphical, and symbolic forms.

- Determine if a specified mathematical model (graphical, algebraic or geometric) is an accurate representation of a given real-world situation.
- Understand that congruent figures are the same exact shape and size, their corresponding sides are the same lengths, and their areas are the same. Use that knowledge to solve real-world problems.
- Understand that similar figures are the same exact shape and their corresponding sides are proportional in length and their areas are proportional to the increase in the sides. Use that knowledge to solve real-world problems.
- Make predictions based on the theoretical probability of a simple event in an experiment or simulation.



Reading

By the time your child has completed the eighth grade, the things he or she will be expected to know and be able to do in reading are:

- Use clues from the surrounding words to determine the meaning of an unknown word or phrase.
- Understand how adding beginnings or endings to words change the meaning of the words.
- Correctly identify similes (comparison of two unlike things); metaphors (using a word denoting one type of object in place of another as a means of drawing a comparison between the two); analogies (pointing out the similarities in particular aspects of two things that are otherwise not alike); hyperbole (extreme exaggeration); onomatopoeia (the use of words whose sound suggests the meaning, e.g., buzz or hiss); personification (representation of a thing or object as a person or by human form); idioms, (an expression that does not mean what its literal translation says, such as “having the upper hand”), imagery, and understand their meaning.
- Understand how the features located in text, such as titles, graphs/ charts, maps, table of contents, boldface and italic type, glossary, index, headings, captions, sidebars, bulleted lists and numbering can assist in understanding the meaning of the text.
- Make a prediction or draw a conclusion based on the material read.
- Identify how the author has organized information in the material read.
- Explain how various aspects of the text (characters’ traits and motives, themes, problem-solution, cause-effect relationships, ideas and concepts, procedures, viewpoints, authors’ purposes) are alike or different.
- Understand how one or more things can have an

Reading

effect on the outcome of another.

- Restate the main idea of a text and important details from the text in a logical order.
- Identify the topic, main idea(s), supporting detail, and theme(s) in a text.
- Explain how the author's purpose for writing a text influences the author's style of writing.
- Identify the details that point to the conclusions drawn by the author.
- Understand the difference between fact and opinion and recognize the different types of propaganda (advertising, media, politics, warfare, bias, stereotypes).
- Describe the different aspects of major and minor characters, including physical traits, personality traits, feelings, etc., and explain how those traits influence the characters' interactions with other characters.
- Describe the setting for the story - including environment, time of day or year, historical period,

situation, and place - and explain the importance of the setting to the story.

- Describe the major and minor events in a story and explain how one event gives rise to another.



Helping Your Child Succeed

As your student nears the end of his or her grade school years, classroom learning builds heavily upon knowledge gained in previous years. Reading and writing exercises demand recall of grammar usage, sentence structure, and comprehension.

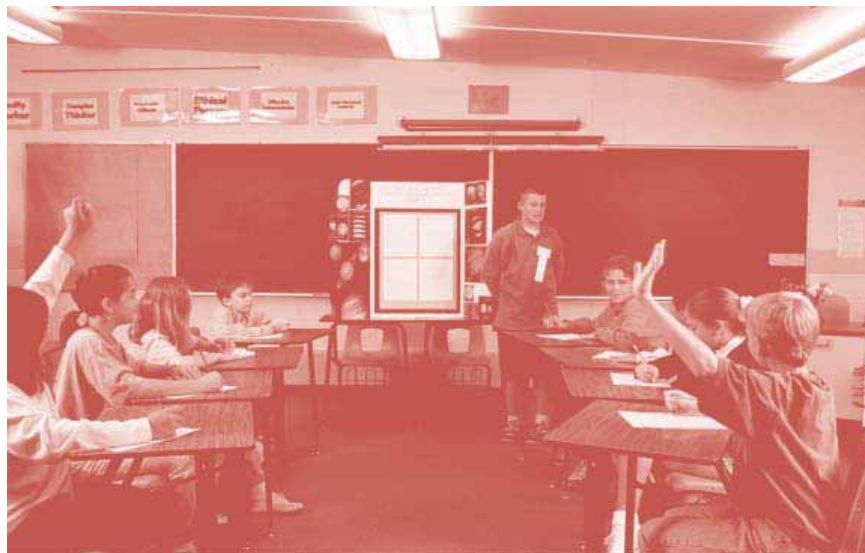
A wide variety of reading materials, including novels, plays, stories, poetry, and non-fiction are used as the basis for comprehension and writing activities. These exercises will prepare your student for life long literary enjoyment. In addition, your student will begin to see an emphasis in

essay writing, peer discussions, and peer presentations.

There are a number of activities that you can enlist to help your student feel more confident as he or she starts reading more complex materials.

Helping with Reading

Reading in the car as you wait to pick up a sibling is a great time for one-on-one discussion. Have your child take a currently assigned reading piece (from any book or magazine) and read aloud to you. Can he or she pronounce all the words? Ask if there are



Helping Your Child Succeed

any words he or she doesn't know the meaning of, and can the meaning be determined by the context of the piece or the surrounding words or phrases? If the answer is not clear, discuss a possible answer with your child at home.

Visit the public library for books. Have your child pick a book that you both will read. As you complete each chapter, discuss the various concepts found in that chapter. What is the theme? Who is the major character? What are the major events? Which events may have greater impact on what happens in the remainder of the book? By discussing these pieces chapter-by-chapter, you and your child will not be overwhelmed by the reading assignments plus the discussion.

Can your child describe "how to" make a recipe or perform some other activity that requires a step-by-step process? Have him or her read a cake recipe and then summarize for you the critical steps in creating the cake (e.g., grease the pan, mix eggs and oil in one bowl, mix dry

ingredients in a second bowl, then combine, etc.).

Identifying an author's style of writing is sometimes quite easy and other times quite complicated. Your child may enjoy evaluating the style of a popular author that he or she reads. What types of books does the author write in general? What are the author's characters like? Are the plots to his stories predictable after one reads several pieces?

Oftentimes, students become hooked on writers just as adults do. It's helpful for them to understand what they like about the author's style, and in turn, this understanding can lead to an interest in other authors who may have a similar style.

Comparing a book to the movie is a good way to have your child verbally express his or her opinion and understanding of how different the two media can be. For most eighth graders, the comparison of *Lord of the Rings* the book, and *Lord of the Rings* the movie can be an easy task.

Helping Your Child Succeed

Helping with Math

In eighth grade, math exercises require basic addition, subtraction, multiplication, and division, but call for increasingly complex formulas and processes to compute the correct answers. Encouraging your child to complete real-life equations can help him or her understand the application of mathematics to everyday activities.

Check out the various flyers in the Sunday paper. By picking two or three (say Target, K-Mart, and Wal-Mart), have your child determine

which store offers the best price on notebook paper, his or her favorite candy, and/or favorite snack. If your child needs to buy all three items, which store ultimately would have the best “total” price on all three items? This exercise requires multiple steps—your child must find the items in the sales flyer, record the prices of each item, and then total the prices to determine the best overall location to purchase the items.

Computation of numbers through several steps can be confusing for many students. One exercise you might ask

Free Tutoring

HomeworkKansas provides expert tutoring in core subjects to every Kansas student, Grades 4 -12. HomeworkKansas, a service of the State Library of Kansas, allows students to connect to an expert tutor for one-to-one homework help. Tutoring is provided by a live tutor via the Internet. Students simply go to the HomeworkKansas website at www.homeworkkansas.org and enter their Kansas library card number. Students can register and receive a Kansas library card number instantaneously at the same site. To better match students and their homework needs with the best available tutor, students are asked for their grade level and their homework topic. The student then enters the online classroom and, using chat technology and an online whiteboard, the tutoring session begins. All tutors are certified and have completed a third party background check. Tutors are available seven days a week from 4:00 p.m. – 11:00 p.m. and from 4:00 p.m. – 9:00 p.m., Sunday – Thursday in Spanish.

Helping Your Child Succeed

your child to complete would be determining how much the temperature changes over night or over a certain number of hours. If the temperature is 75 degrees at 6 p.m., 68 degrees at midnight, and 59 degrees at 6 a.m., how many total degrees did the temperature change during each six-hour period and overall during the 12-hour period?

Does your child have a special skateboard or bicycle picked out that he or she is saving allowance, birthday, or babysitting money to purchase? Based on how much money your child receives weekly for allowance, how many weeks will it take to save enough money to purchase the item? If your child estimates additional birthday money or babysitting money that may be earned and added to his or her allowance, how long will it take to save enough money to purchase the item?

By eighth grade, students begin incorporating statistics into various math computations. You can help

your child understand the mean, median, and mode for a set of numbers. The mean is the sum of values divided by the number of values, the median is the middle value when all values are ordered, and the mode is the value that appears the most. By utilizing six months' worth of water bills, have your child perform several exercises. Find the mean value by adding all the bills together and then dividing by the number of bills. By ordering the bills from highest to lowest, have your student determine which bill is the median bill (or falls closest to the middle of the highest to lowest amounts). And finally, have him or her determine if there are months when the bill is nearly identical.

Does your child understand the mathematics of the "meal deal" at his or her favorite fast food restaurant? While waiting on your take-out, have your child determine how much an individual sandwich, fries, and medium drink cost individually. How much is saved by choosing the meal

deal? Can he or she go one step further and determine the percentage of savings?

When shopping for school clothes, have your child estimate savings on various items that may appear in flyers. If a skirt your daughter wants is originally \$27 and on sale for \$21, what percentage is the savings? What is the dollar amount of the savings?

And, if the store offers t-shirts or other items at "2-for-1," what is the dollar amount in savings if you purchase 2, 4, or 6 of the items? What is the percentage in savings?

Students become bored with math and complain about how it has no meaning in their real lives. It's important for you to help them make the connection and realize the application of classroom work in their day-to-day activities.

For More Information

More detailed information on the Kansas Curricular Standards and the state assessments is available on the Kansas State Department of Education website at www.ksde.org.

If you have questions regarding standards and assessments, you may contact the Kansas State Department of Education at 785-296-3201.





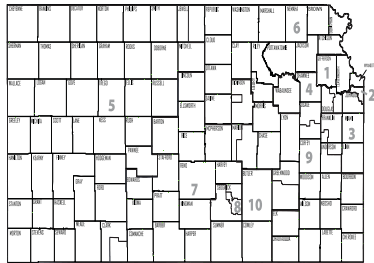
Education Priorities for a New Century

Ensure that all students meet or exceed high academic standards and are prepared for their next steps (e.g., the world of work and/or post-secondary education)

- Redesign the delivery system to meet our students' changing needs
 - Develop and implement policy on academic/vocational integration
 - Identify, replicate, and promote best practices that can be targeted to specific populations (e.g., high schools; middle school reading; early childhood)
 - Study and clarify regulations and identify challenges
 - Examine the definition of a classroom in a redesigned system
- Provide an effective educator in every classroom
 - Develop a policy on alternative compensation
 - Identify obstacles
 - Assess the effectiveness of current professional development practices
 - Identify, replicate, and promote best practice in teacher preparation and professional development
 - Improve the support system for teachers
 - Develop recruitment strategies for future teachers
 - Assess and improve the alternate licensure program
 - Promote loving, safe, supportive and nurturing environments
- Ensure a visionary and effective leader in every school
 - Identify, replicate, and promote best practices in preparation and performance
 - Identify and grow visionary leaders focused on learning
 - Study the impact of current leadership programs
- Improve communication with all constituent groups and policy partners
 - Align pre-K through 16 systems of support in collaboration with identified partners (e.g., Kansas Board of Regents, Social and Rehabilitative Services, etc.)
 - Develop a structure for regularly communicating about education with the legislative leadership of both parties with a focus on areas of common interest
 - Keep the public informed on key policy areas
 - Resume focus group meetings in each board member district and periodic meetings with the media
 - Improve communication of relevant information with school faculty

Kansas State Board of Education
Adopted 9/2007

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