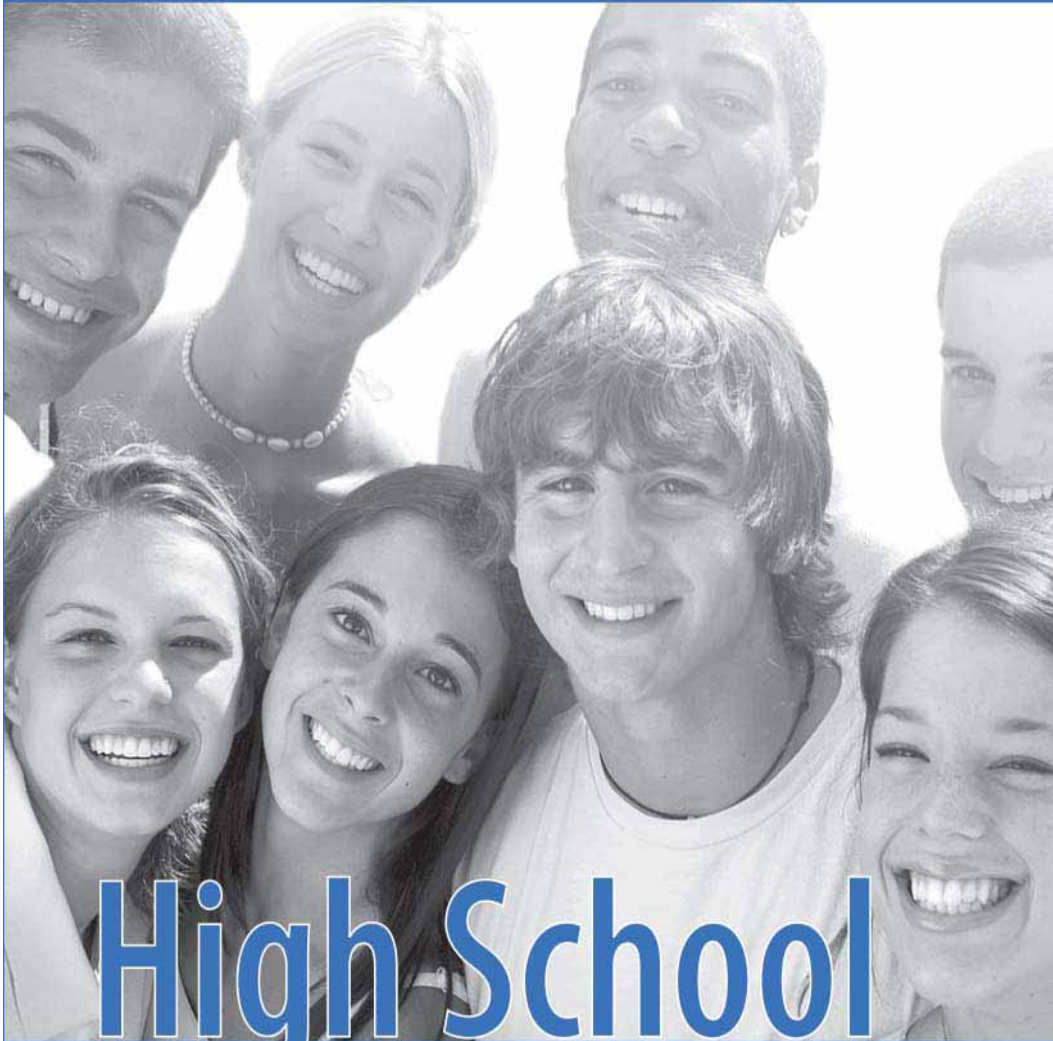


Just for Parents

A Guide to the Kansas Curricular Standards



High School

Provided by the Kansas State Department of Education



October, 2007

Introduction

This booklet is intended to help you understand what is required for high school 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 high school level in reading and mathematics.

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

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 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.

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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. By the time your child has completed 11th grade, he or she will be expected to know and be able to do the following in math:

- Be able to name and 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)
- Find the solution for a pair of equations that do not have fractions or decimals in the original equations.
- Recognize how changes in the equation of a line will make the graph of the line look different.
- Find and explain the relationship between the slopes of parallel and perpendicular lines (parallel lines have the same slopes; perpendicular lines have slopes that are opposite reciprocals).
- Be able to express the equation of line in the slope intercept form ($y=mx+b$) and use that information to graph

- the line.
- Explain the relationship between probability and odds and be able to compute one if given the other.
 - Explain the affect of outliers on the measure of averages (mean, median, and mode), range and the interquartile range (range of the middle half of the data).
 - Find an equation that could be used to represent a set of data points and then use the equation to make predictions.
 - Use known information to adjust an estimate.
 - Solve multi-step, real-world problems from the world of business, chemistry and physics using real numbers, algebraic expressions, and mathematical concepts.
 - Use equations or inequalities to represent real-world situations and be able to solve the equations.
 - Interpret the meaning of points on a line, such as where the line crosses the x- or y-axes, and interpret the meaning of a point that lies off the line.
 - Interpret the meaning of the slope of a line given a specific context.
- Use the Pythagorean Theorem to solve real-world problems.
 - Analyze and explain the impact of changes in the dimensions of a figure on the area, perimeter, and volume of the figure.
 - Use a variety of data displays (frequency tables, line plots, graphs, Venn diagrams, charts, tables, stem-and-leaf plots, scatter plots, box-and-whisker plots, and histograms) to make inferences, predictions, decisions, and arguments about two sets of data.



Reading

By the time your child has completed the 11th 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.
- Understand the meaning of word images and figures of speech.
- 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 material or information in the text to achieve the purpose for writing the text.
- Explain how various aspects of the text (characters' traits and motives, themes, problem-solution, cause-effect relationships, ideas and concepts, procedures, viewpoints, authors' purposes, persuasive techniques, use of literary devices, thoroughness of supporting evidence) are alike or different.
- Understand how one or more things can have an 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 and the effectiveness of the author's techniques to persuade the reader.
- Understand the difference between fact and opinion and recognize the different types of propaganda (advertising, media, politics, warfare, bias, stereotypes).
- Identify and describe the different types of characters

Reading

(protagonist, antagonist, round, flat, static, and dynamic) and analyze the development of characters.

- Analyze the historical, social, and cultural contexts of the setting and their influence on characters and events in the story or text.
- Analyze and evaluate how the author uses various plot elements (problem or conflict, climax, resolution, rising action, falling action, subplots, parallel episodes) to advance the plot and make connections between events.



Helping Your Child Succeed

Once your child is in high school, it may seem more difficult to find opportunities to practice the concepts being learned at school during your day-to-day activities. Helping your high school student practice math and reading may take a bit more planning, but it is still worthwhile to find ways to get your student thinking about how the things being learned at school can be used at home.

Helping with Math

You may find help in assisting your teen with mathematics in unlikely places.

For instance, if you're visiting a restaurant, use the menu to create math problems for your student to solve like this one for your son or daughter: you and your friends are leaving the restaurant. Three people had three hamburgers and three orders of French fries and their bill was \$9. Four people had five hamburgers and four orders of French fries and their bill was \$14. How much does a hamburger cost? Having your teen solve the problems you create is one way to practice math skills, it is also helpful to have your student create problems for you to solve.



Helping Your Child Succeed

If you're working in the yard with your son or daughter, take a minute and have your teen consider the roof of your home. How might the steepness of the roof (or the slope) change if the height of the roof were changed? What would happen if the width were changed? What happens when both the height and width are changed?

You can help your son or daughter remember the rule regarding the slope of parallel lines using a map. Choose a street on the map and then ask your teen to identify streets on the map that might have the same slope as the street you chose. Remembering the rule that parallel lines will have the same slope will help your student solve this problem.

Your child can conduct simple probability problems at home, as well. If your family draws names during the holidays to determine who they will buy presents for, ask your son or daughter to determine the probability and odds of drawing his or her own name if they draw first. The same exercise can be used for

other drawings, provided your teen knows how many entries are in the drawing.

Many teenagers are preoccupied with cars. If your son or daughter is pricing used cars, have him or her figure the mean, median, mode, and range for the data set that consists of the prices for five to six used cars. If the cars your student is pricing are all in the same general price range, say from \$6,000 to \$8,000, have him or her recompute the mean, median, mode, and range when a car costing \$800 is added to the data set. Have your student explain how each measure was, or was not, affected.

Your student can practice determining the line of best fit and making predictions by using some of your old electric bills. Let your son or daughter review your electric bills for several months. Have your student use the number of kilowatt hours used as one coordinate and the price of the electricity as the second coordinate and have your teen plot the points on a graph. For instance, in one month 1,100

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kilowatt hours were used and the electric bill was \$105, in another month 1,500 kilowatt hours were used and the bill was \$143. The first point on the graph would be (1100, 105) and the second point on the graph would be (1500, 143). Plot at least three months worth on the graph and then have your son or daughter make predictions about the cost if 2,200 kilowatt hours were used, or if 800 kilowatt hours were used.

They can use this same activity to make estimations. Assuming electrical costs rise by \$.05 per kilowatt

hour and your family's usage remains average, what is your next month's bill likely to be? Students can also make estimates about the monthly cost for gasoline given specific price increases.

Is your student saving for college or another future goal? Have your son or daughter work through the steps of determining how much will be in the savings account if a specific amount is deposited, say \$500, and left in the account for 10 years. Your student will need to factor in the interest rate and whether the interest

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.

compounds quarterly or annually. This represents a real-world problem with multiple steps. Other real-world situations may have your student determining the best value for his or her money given multiple factors in the buying decision. For instance, if you or your student needed to rent a car and Company A which charged \$45 a day with unlimited mileage and Company B charged \$25 a day and \$.10 per mile, how many miles must be driven to make Company B a more cost effective option than Company A?

Perhaps the most important thing you can do to help your high school student with math is to be sure he or she has at least one math class each year during high school. Continue to talk with your student about how you use math everyday at home and at work, and encourage your child to talk to other adults about the role math plays in their daily activities.

Helping with Reading

It is also important that

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your student continue to see that reading is an important part of your activities, both for practical purposes and for pleasure. Young adults are more likely to become regular readers of the newspaper if they see their parents reading the newspaper daily.

Reading is an activity you can share with your teen, regardless of his or her age. Sharing your favorite books with your son or daughter, or reading a novel at the same time as your teen, provides an opportunity for discussion. As you share books, ask your student questions about the situations or characters in the book. Have your student draw inferences or make predictions about what could happen next based on what has already been read. Have your son or daughter make inferences about characters in the book based on the words used to describe the characters. Ask him or her “who, what, when, where, how, and why” questions to make your student think about the main idea in a story, as well as the author’s motivation in writing

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the story in the way he or she did.

Don't feel as though novels are the only avenue to get your teen reading and discussing content with you. Magazines and short stories also offer opportunities to help him or her with reading and comprehension skills. Short stories are particularly suited to exercises in which you and your son or daughter compare and contrast writing styles, character traits, and motives between two different stories. Short stories and magazine articles can also be used to help your teen become skilled at summarizing information. Have your son or daughter give you summaries of the magazine articles he or she reads. If they've read a "how to" article, have your teen list the steps in proper sequence.

Comic books also offer an opportunity for your son or daughter to demonstrate necessary reading skills. Comic books are a great source for examples of onomatopoeia, which is the use of words whose sound suggests the meaning, such as buzz or hiss.

Have your teen show you examples of onomatopoeia in his or her favorite comic book. Music is another way your student can practice reading skills. Have your student pay attention to the lyrics in songs from a variety of musical styles. What kinds of words did the writer use and what kind of music were the words set to? How did it make you feel? You may ask your teen why he or she thinks the songwriter made specific choices regarding words and music. The same questions can be asked regarding text – why did the author make certain word choices, what feelings are evoked by the setting in the story, the complexity of the words, etc.

Most importantly, continue to talk with your teen about what he or she is learning in school and have regular conversations with your student's teachers about skills with which he or she may need additional help. If your teenager is planning to continue his or her education after high school, be sure you know what the course

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requirements are for admission to the postsecondary institution of choice.



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.





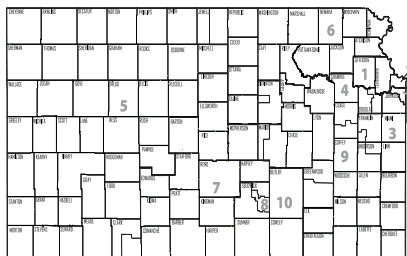
Education Priorities for a New Century

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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The Kansas State Department of Education does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: KSBE General Counsel 120 SE 10th Ave. Topeka, KS 66612 785-296-3204.