

LEARNING THE RULES OF THE MINE

TEA Student Assessment Division

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TAKS BLUEPRINTS

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READING AND WRITING RUBRICS

<http://www.tea.state.tx.us/student.assessment/taks/rubrics/index.html>

TAKS INFORMATION BOOKLETS

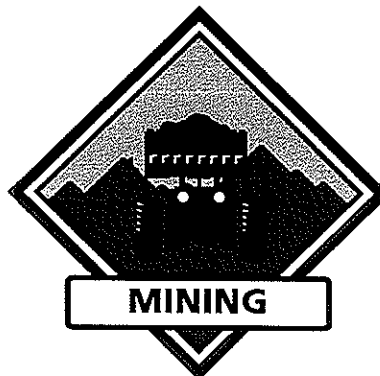
<http://www.tea.state.tx.us/student.assessment/taks/booklets/index.html>

TAKS STUDENT STUDY GUIDES

<http://www.tea.state.tx.us/student.assessment/resources/guides/study/index.html>

TESTING CALENDARS

<http://www.tea.state.tx.us/student.assessment/admin/calendar/index.html>



TEXAS ASSESSMENT OF KNOWLEDGE AND SKILLS (TAKS)

BLUEPRINT FOR GRADES 3-8 MATHEMATICS

Objectives	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Objective 1—Numbers, operations, and quantitative reasoning	10	11	11	10	10	10
Objective 2—Patterns, relationships, and algebraic reasoning	6	7	7	9	10	10
Objective 3—Geometry and spatial reasoning	6	6	7	7	7	7
Objective 4—Measurement	6	6	7	5	5	5
Objective 5—Probability and statistics	4	4	4	6	7	8
Objective 6—Mathematical processes and tools	8	8	8	9	9	10
Total number of items	40	42	44	46	48	50

At all grade levels, items are primarily multiple choice, although a small number of griddable items will be included on a test form.

Curriculum Rationale

Overall, TAKS mathematics items are of greater complexity and require a more in-depth level of critical thinking than TAAS. Based on this, the average length of time needed to complete a TAKS test will likely increase.

In elementary and middle school, Objective 1 (understanding numbers, operations, and quantitative reasoning) receives more emphasis because the included TEKS provide the foundation for mathematics necessary to build students' fluency with numbers so that they can succeed with higher-level mathematics. This objective includes place value, comparison of numbers, addition, subtraction, multiplication, division, and estimation. The progression from grade to grade increases from whole numbers to fractions to decimals to integers, and within these groups, from smaller, simple forms of the numbers to larger, more complex forms.

In the middle grades, Objective 2 (understanding patterns, relationships, and algebraic reasoning) increases in emphasis as students prepare for Algebra I. In addition, the items increase in complexity as students move from Grade 3 to Grade 8. For example, third grade students must be able to identify number and geometric patterns. In contrast, at Grades 4 and 5, students must be able to use patterns to solve problems, interpret data, and make generalizations. Then at Grades 6, 7, and 8, students must be able to generate formulas and formulate equations and inequalities.

In elementary and middle school, the emphasis on Objective 3 (understanding geometry and spatial reasoning) remains the same. This objective includes formal geometric vocabulary, congruence, symmetry, angles, parallel and perpendicular lines, transformations, circle relationships, and location of points, first on a number line and then on a coordinate grid.

In the middle grades, the emphasis on Objective 4 (understanding the concepts and uses of measurement) decreases slightly as the focus shifts to algebra foundations. This objective includes linear measurement, time, temperature, the use of standard measures, capacity, conversions, area, volume, and angle measurement. When a concept is first introduced at a particular grade level, items are written in a simple format using models. In subsequent grade levels, items that assess this same concept increase in complexity in that they require the use of formulas.

In the middle grades, the emphasis on Objective 5 (understanding probability and statistics) increases as the included TEKS build algebraic skills. This objective includes the use of data. The items move from pictographs and bar graphs to circle graphs and other, more complex graphs. In the early grades, students are required to read and interpret information. In later grades the level of complexity increases: students must make predictions and complete probability experiments as well as find the median, range, mode, and mean.

In elementary and middle school, Objective 6 (understanding mathematical processes and tools) maintains a strong focus, as the included TEKS not only provide students varied opportunities to link skills from different mathematical areas but also allow students to think critically and problem solve effectively. The problems solved in this objective combine content from multiple objectives. For example, an item that links skills from Objectives 4 and 5 might require students to identify the bar graph that shows the difference in area of a solid figure when one dimension is changed.

Grade 5 TAKS Mathematics—Objective 4

Understanding the concepts and uses of **measurement** provides a basis for developing geometry skills. Students need to know how to find the volume of a model. This knowledge provides students the skills needed to solve geometric problems using formulas. Students should also know and understand the application of measurement concepts to problem solving. As students continue to develop their measurement skills, they should also learn how to recognize numerical relationships between units of measure. Measurement skills have many real-world applications. Understanding the basic concepts included in Objective 4 will prepare students to apply measurement skills in various situations. In addition, the knowledge and skills found in Objective 4 at fifth grade are closely aligned with the knowledge and skills found in Objective 4 at sixth grade.

Objective 4 includes the concepts within the TEKS from which an understanding of **measurement** is developed.

TAKS Objectives and TEKS Student Expectations

Objective 4

The student will demonstrate an understanding of the concepts and uses of measurement.

(5.10) **Measurement.** The student selects and uses appropriate units and procedures to measure volume. The student is expected to

(A) measure volume using [concrete] models of cubic units.

(5.11) **Measurement.** The student applies measurement concepts. The student is expected to

(A) measure to solve problems involving length (including perimeter), weight, capacity, time, temperature, and area; and

(B) describe numerical relationships between units of measure within the same measurement system, such as an inch is one-twelfth of a foot.

Objective 4—For Your Information

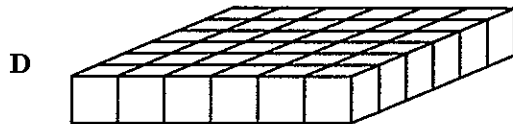
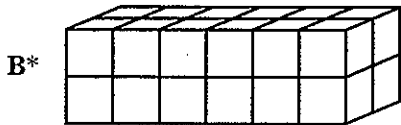
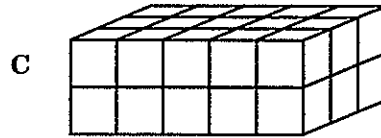
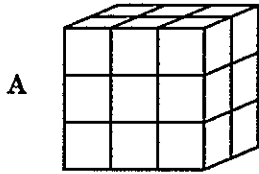
The following list provides additional information for some of the student expectations tested in Objective 4. At fifth grade, students should be able to

- utilize the conversions and formulas on the Mathematics Chart to solve problems;

- measure with the ruler on the Mathematics Chart *only if* the item specifically instructs students to use the ruler;
- use the given dimensions of a figure to solve a problem;
- recognize abbreviations of measurement units;
- solve volume problems by counting models of cubic units; and
- compare two different units of measure within the same system, either customary or metric, and choose the unit of measure that fits a given relationship (for example, 18 inches can be expressed as $1\frac{1}{2}$ feet or $\frac{1}{2}$ yard).

Objective 4 Sample Items

1 Which of these rectangular prisms has a volume of 24 cubic units?



Note: In this item, students can count the number of 1-unit cubes in the top layer of each model. Recognizing the number of 1-unit cubes in one layer, students can determine the volume of each rectangular prism. Finding volume using this procedure helps develop the volume formula used at higher grades.

2 Mike wants to watch a movie on television. The movie starts at 8:00 P.M. and is 135 minutes long. What time will the movie end?

- A 9:35 P.M.
- B 10:00 P.M.
- C* 10:15 P.M.
- D 10:35 P.M.

2005 Met Panel Recommendation

Content Area	Grade	Items Correct/Total	% Met Panel Recommendation
Math	3rd	27/40	67.5%
Math	4th	28/42	66.7%
Math	5th	30/44	68.2%
Math	6th	29/46	63.0%
Math	7th	28/48	58.3%
Math	8th	30/50	60.0%
Math	9th	31/52	60.0%
Math	10th	33/56	59.0%
Math - 1 SEM	11th	20/60	48.0%
Reading	3rd	24/36	66.7%
Reading	4th	28/40	70.0%
Reading	5th	29/42	69.0%
Reading	6th	26/42	62.0%
Reading	7th	33/48	69.0%
Reading	8th	34/48	70.8%
Reading	9th	27/42	64.0%
ELA	10th	43/73	59.0%
ELA	11th	36/73	49.0%
Writing	4th	20/32	62.5%
Writing	7th	26/44	59.0%
Science	5th	31/40	77.5%
Science	10th	34/55	61.8%
Science	11th	27/55	49.0%
Social Studies	8th	24/48	50.0%
Social Studies	10th	28/50	56.0%
Social Studies	11th	25/55	45.5%

Texas Accountability System for 2005 and Beyond
Commissioner of Education Final Decisions
March 2005

	2005	2006*	2007*	2008*	2009*	2010*
	AA/Re/Ex	AA/Re/Ex	AA/Re/Ex	AA/Re/Ex	AA/Re/Ex	AA/Re/Ex
R/ELA, W, SS	50/70/90	60/70/90	60/75/90	65/75/90	70/80/90	70/80/90
Mathematics	35/70/90	40/70/90	45/75/90	50/75/90	55/80/90	60/80/90
Science	25/70/90	35/70/90	40/75/90	40/75/90	45/80/90	50/80/90

* Standards are subject to review annually and may be adjusted.

Performance Standards

The AYP definition is based on expectations for growth in student achievement. Baseline performance standards identify the minimum percentage of students who must meet or exceed the *Met Standard* level of academic achievement in Reading/Language Arts and Mathematics in 2003.

The standards must increase over time until they reach 100 percent in 2013-14. The first increase must take place no later than 2004-05. *Table 2* below shows the intermediate standards. Note that for the first six years the standards are held constant for two years at a time, with increases occurring at the end of the second year. Beginning in 2008-09 the standards increase annually.

Table 2: AYP Performance Standards

School Year	AYP Performance Standards for Twelve Years									
	2002-03	2004-05	2006-07	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	
Reading/ Language Arts	46.8%	53.5%	60.1%	66.8%	73.4%	80.1%	86.7%	93.4%	100.0%	
Mathematics	33.4%	41.7%	50.0%	58.3%	66.6%	74.9%	83.2%	91.5%	100.0%	

Converted TAKS Results: States were required to use data from the 2001-02 school year to establish the 2002-03 baseline performance standards. Since 2001-02 was the last year of testing on the TAAS, data used to identify the baseline were the 2001-02 performance results on the TAAS converted to reflect estimated standards on the TAKS at the panel-recommended passing standards for Reading/Language Arts and Mathematics adopted by the State Board of Education (SBOE) in November 2002. The TAKS results from the field test and a special study that tested a sample of students statewide were used to make the conversion.

2005 AYP Measures and Standards

<p>Reading/Language Arts 2004-05 TAKS, LDAA, RPTe (Grades 3-8 & 10), and SDAA II (Grades 3-8 & 10), All students and each student group that meets minimum size requirements: African American Hispanic White Economically Disadvantaged Special Education Limited English Proficient</p>	<p><u>Performance Standard: 53% (at the Panel Recommended Student Passing Standard)</u> % counted as proficient on test* for students enrolled the full academic year subject to the Federal 1% cap</p> <p><i>Performance Improvement:</i> 10% decrease in percent not proficient on test* and any improvement on the other measure (Graduation Rate or Attendance Rate)</p> <p>OR</p> <p><u>Participation Standard: 95%</u> Participation in the assessment program for students enrolled on the date of testing (no more than 5% of students absent)</p> <p><i>Average Participation Rate:</i> 95% participation based on combined 2003-04 and 2004-05 assessment data</p>
<p>Mathematics 2004-05 TAKS, LDAA (Grades 3-8 & 10), and SDAA II (Grades 3-8 & 10). LEP-Exempt students will be allowed to take the TAKS math test with linguistic accommodations. All students and each student group that meets minimum size requirements (see above)</p>	<p><u>Performance Standard: 42% (at the Panel Recommended Student Passing Standard)</u> % counted as proficient on test* for students enrolled the full academic year subject to the Federal 1% cap</p> <p><i>Performance Improvement:</i> 10% decrease in percent not proficient on test* and any improvement on the other measure (Graduation Rate or Attendance Rate)</p> <p>OR</p> <p><u>Participation Standard: 95%</u> Participation in the assessment program for students enrolled on the date of testing (no more than 5% of students absent)</p> <p><i>Average Participation Rate:</i> 95% participation based on combined 2003-04 and 2004-05 assessment data</p>
<p>Other Measures** All students Graduation Rate Class of 2004 Attendance Rate 2003-04</p>	<p><u>Graduation Rate Standard: 70.0%</u> or any improvement Graduation Rate for high schools, combined elementary/secondary schools offering Grade 12, & districts offering Grade 12</p> <p><i>Attendance Rate Standard: 90.0%</i> or any improvement Attendance Rate for elementary schools, middle/junior high schools, combined elementary/secondary schools not offering Grade 12, & districts not offering Grade 12</p>

* No more than 1% of students in a district can be counted as proficient based on meeting ARD expectations on 1) SDAA II for students tested below enrolled grade level, or 2) LDAA. Results for the RPTe are counted based on number of years in U.S. schools. ** Student groups are not required to meet the Graduation Rate or Attendance Rate standards; however, they may be required to show improvement on the Graduation Rate or Attendance Rate as part of performance improvement for Reading/Language Arts or Mathematics.