

Chapter 7 Texas Assessment of Knowledge and Skills (TAKS)



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Overview

In 1999, the 76th Texas Legislature enacted Senate Bill (SB) 103, mandating implementation of a new statewide testing program. The new testing requirements, subsequently named the Texas Assessment of Knowledge and Skills (TAKS), were implemented in spring 2003. Since the initial implementation of TAKS in 2003, TAKS (Accommodated), TAKS–Modified (TAKS–M), and Linguistically Accommodated Testing (LAT) have been implemented as part of the TAKS program. In 2009, the 81st Texas Legislature passed House Bill (HB) 3, which called for a unified comprehensive assessment program—the State of Texas Assessments of Academic Readiness (STAAR)—to replace the existing TAKS program for all grades beginning in spring 2012 for students in grade 9 and below. Consequently, TAKS, TAKS (Accommodated), and TAKS–M administrations were available to examinees in grade 11 for the last time in the 2012–2013 school year. LAT administrations were administered for the last time in 2012 because LAT was administered only to students enrolled in grade 10. In the



2013–2014 school year, only TAKS retest examinees took the TAKS exit level tests. TAKS–M administrations did not occur in 2014 because TAKS–M students were not required to retake the tests if they did not pass the grade 11 TAKS–M tests that they took in 2013. Starting with the 2014–2015 school year, the TAKS exit level April retest administration was eliminated. In addition, the TAKS exit level tests were no longer administered on paper. Currently, TAKS retest examinees can take the TAKS exit level tests online three times a year, in October, March, and July.

The required assessments for the 2014–2015 school year for TAKS are illustrated in Table 7.1.

Table 7.1. 2014–2015 TAKS Assessments

Grade	Assessments
Exit level	<ul style="list-style-type: none"> • Mathematics • English language arts • Science • Social studies

A description of the TAKS is provided below.

TAKS

TAKS is an assessment designed to measure the extent to which a student has learned and is able to apply the knowledge and skills defined in the state-mandated curriculum, the Texas Essential Knowledge and Skills (TEKS). Items on every TAKS assessment are directly aligned to the TEKS being tested. Starting with the 2013–2014 school year, TAKS exit level mathematics, English language arts (ELA), science, and social studies administrations have been available to TAKS exit level retest examinees only and have contained no embedded field-test items.

Testing Requirements for Graduation

To be eligible to receive a diploma from a Texas public high school, students in grade 9 prior to the 2011–2012 school year in general education are required to pass a total of four content-area TAKS assessments: mathematics, ELA, science, and social studies.

The law further specifies that certain content must be assessed on the exit level assessments.

- The mathematics assessment must include Algebra I and geometry.
- The ELA assessment must include English III and writing.
- The science assessment must include biology and integrated physics and chemistry.

- The social studies assessment must include early American and U.S. history.

For students receiving special education services taking exit level TAKS, passing the assessment is not a requirement for graduation. A student's admission, review, and dismissal (ARD) committee determines how a student will graduate. For exit level TAKS, the ARD committee determines whether the student will participate in retest opportunities.

Test Development

Maintaining a student assessment system of the highest quality involves completing a set of tasks that must be executed during the test-development process. The procedures described in [chapter 2, "Building a High-Quality Assessment System,"](#) outline the test development process for the Texas assessment program, which includes the TAKS assessments. TEA relies heavily on input from educators and assessment specialists to ensure an equitable and accurate measure of learning for Texas public school students.

Item Development

Since TAKS is being phased out and replaced by STAAR, TAKS exit level tests are administered to retest examinees only. Therefore, no item development occurred during the 2014–2015 school year.

Training

For each test administration in the 2014–2015 school year, education service center (ESC) personnel and district coordinators were sent a district testing coordinator packet containing the information and materials necessary for overseeing test administrations, including coordinator and test administrator manuals that provided an overview of the statewide testing program. Packets and manuals were provided for the TAKS program.

2015 Directions for District Coordinators, Campus Coordinators, and Test Administrators

The [2015 Directions for District Coordinators, Campus Coordinators, and Test Administrators—TAKS](#) explains the responsibilities of district and campus testing coordinators for the TAKS program. This manual outlines preparation and administration procedures for each administration for the 2015 calendar year.



Test Administrations

Overview

During the 2014–2015 school year, 39,949 TAKS assessments were administered. Districts administered the TAKS to eligible examinees, as indicated in Table 7.2.

Table 7.2. TAKS Assessments Administered in 2014–2015

Assessment	Examinees Tested
Exit level mathematics	17,316
Exit level English language arts	8,456
Exit level science	10,230
Exit level social studies	3,947

Online Testing

In the 2014–2015 school year, the TAKS exit level retests were offered as an online test administration. Table 7.3 gives information about the scope of the online TAKS administrations.

Table 7.3. 2014–2015 TAKS Online Test Administrations

Administrations	Examinees Tested
2014 October exit level	20,083
2015 March exit level	12,856
2015 July exit level	7,010

The Online Test Delivery System

The TAKS exit level online tests were administered using the Texas Assessment Management System, delivered through Pearson Access. This system provides secure online tools for authoring tests, delivering tests, and reporting students' results. The Assessment Management System meets the stringent security requirements of the Texas assessment program and protects the integrity of test items and student data.

The Assessment Management System enables test administrators to control

- which assessment is administered,
- when it is administered,
- the number of testing sessions, and

- which examinees are assigned to each session.

Using the *Session Details* screen, a test administrator can monitor each examinee's current test status while the test session is in progress.

Make-up Testing

OUT-OF-SCHOOL TESTING

Individuals who have completed all graduation requirements but have not passed all four TAKS exit level assessments (or, if applicable, the TAKS assessments required of students for whom the Texas Assessment of Academic Skills [TAAS] was the graduation requirement) and who are no longer enrolled in a district may retake the appropriate assessment(s) each time it is administered. Districts are required to publicize the designated dates, the precise location(s) and times of testing, and the actions that out-of-school individuals interested in retesting must take to ensure access to the testing areas and to testing materials.

Individuals who are no longer enrolled in school may register for the exit level assessment online. Registered individuals receive an admission letter informing them of the date, time, and location of testing. Districts may accept walk-in examinees, as long as the examinee can provide proper identification. Test results are mailed to the individual and to the district from which the examinee is eligible to receive a diploma.

Educational Materials Required for Testing

DICTIONARIES AND THESAURUSES

English-language dictionaries and thesauruses must be provided to examinees for the reading and written composition portions of the exit level ELA assessment.

There must be at least one dictionary for every five examinees; it is also recommended that there be one thesaurus for every five examinees, if possible. Examinees may also use a combination dictionary/thesaurus. An English as a second language (ESL) dictionary that uses simple English and pictures to define words may be provided for English language learners (ELLs).

A dictionary or thesaurus may not be used on the revising and editing section of the TAKS ELA assessment. The ELA assessment contains two sections; the first section contains the written composition and reading portion, and the second section contains the revising and editing portion. After an examinee completes the first section, the test administrator collects the examinee's dictionary and thesaurus. The examinee may then begin the revising and editing portion of the assessment.

CALCULATORS

For the exit level mathematics assessment, districts must provide each examinee with a graphing calculator for the entire administration. Examinees may use their own calculators instead of those provided by the district. Any kind of graphing calculator may be used except one with a typewriter-style keypad (known as QWERTY) or one





that includes a computer algebra system (CAS). All types of memory, including standard memory, RAM, ROM, and flash ROM, must be cleared to factory default both before and after testing. In addition, any programs or applications must be removed or disabled prior to the test administration.

Calculators may also be used on the exit level science assessment. Examinees must have access to four-function, scientific, or graphing calculators. Again, examinees may use their own calculators instead of those provided by the district. There must be at least one calculator for every five examinees. If examinees share a calculator, the memory must be cleared after each examinee uses it. The guidelines for kinds of graphing calculators, clearing of memory, and removal of programs and applications for the science assessment are the same as those listed for mathematics.

Testing Accommodations

Accommodations are provided on an individual basis based on judgments by ARD committees who take into consideration the needs of each individual student. It is neither appropriate nor effective to provide one-size-fits-all accommodations to students. For example, one student with a visual impairment might use large-print instructional materials, whereas another student with a visual impairment might benefit more from a magnification device. In most cases, accommodations are selected for a specific student based on their appropriateness/effectiveness and should not be provided to an entire group of students, such as those in the same class or disability category.

Accommodations for Students with Disabilities

Accommodations are categorized in four ways: presentation (P), response (R), setting (S), and timing and scheduling (T).

- Presentation (P) accommodations allow students to access information in alternate formats other than regular print. These alternate modes of access may include auditory, multisensory, tactile, and visual modes.
- Response (R) accommodations allow students to complete activities, assignments, and assessments using methods other than paper-and-pencil or machine-scorable responses. Response accommodations may also include allowing students to solve or organize problems using some type of supplemental aid.
- Setting (S) accommodations change the location in which an assessment or assignment is given or the conditions of the assessment setting.
- Timing and scheduling (T) accommodations increase the standard length of time to complete an assignment or assessment or change the way the time is organized.



STUDENTS WITH VISUAL IMPAIRMENT

Test administrators receive specific instructions for testing visually-impaired students with braille test booklets. Districts are instructed to indicate on the answer document whether a student used a braille version of an assessment. Braille test booklets are available for all TAKS administrations.

Accommodations Resources

More information about testing accommodations for the Texas assessment program administered in the 2014–2015 school year is available in the [Directions for District Coordinators, Campus Coordinators, and Test Administrators—TAKS](#) on TEA’s [Student Assessment Division](#) website.

Scores and Reports

There are a variety of reports that show an examinee’s performance on the TAKS assessments. See below for information about the types of scores given on reports and the types of reports available.

Description of Scores

Scores for the TAKS assessments consist of the number of items answered correctly (raw scores), scale scores, and the resulting performance level associated with the examinee’s score.

RAW SCORE

The number of items that an examinee answers correctly on an assessment is his or her raw score. The raw score can be interpreted only in terms of the specific set of test questions. However, because the difficulty of items might vary among test forms over time, raw scores alone cannot be used to compare performance across assessments or administrations. To make these comparisons of examinee performance, raw scores must be converted to scale scores.

SCALE SCORE

A scale score is a conversion of the raw score onto a “scale” that is common to all test forms for that assessment. Scale scores allow direct comparisons of examinee performance between specific sets of test questions from different test administrations.

The scale score can be used to determine whether an examinee attained Met Standard or Commended Performance. Performance-level cut scores for TAKS are discussed in the [Performance Standards](#) section of this chapter.

Scale scores can also be used to compare the performance of an individual student with the performance of a demographic group, a program group, or an entire campus or district at a particular grade level. For example, the scores for a Hispanic student in a career and technical education program could be compared with the average scores

of Hispanic students, other students in career and technical education programs, all the students on a campus, or any combination of these aggregations at that grade.

ADDITIONAL PERFORMANCE INFORMATION

Other scores can provide information about an examinee’s relative strengths or weaknesses in core academic areas. For example, objective-level data can identify areas in which an examinee might be having difficulty.

Report Formats

Two types of reports are provided for the various testing programs: standard and optional. Standard reports are provided automatically to districts. Information contained in standard reports satisfies mandatory reporting requirements. To receive optional reports that present student performance data in additional formats and, in some instances, in greater detail, a district must have completed the *Administration Details* screen in the Assessment Management System. Generally, districts are required to pay a nominal fee for each optional report requested.

For more information, refer to the TEA publication [Interpreting Assessment Reports](#) located on TEA’s Student Assessment Division website.

Use of Test Results

Test results can be used to evaluate the performance of a group over time. Average scale scores and the percentage of students meeting standards can be analyzed across administrations within the same grade and content area to give insight into whether examinee performance is improving across years. For example, the average scale score for examinees who receive special education services taking the TAKS exit level science assessment can be compared for spring 2014 and spring 2015.



Test scores can be used to compare the performance of different demographic or program groups. Within the same testing program (e.g., TAKS), test scores can be analyzed within the same content area of any single administration to determine which demographic or program group had the highest average scale score, the lowest percentage meeting the standard, the highest percentage achieving commended performance, etc. Other scores can be used to help evaluate the academic performances of demographic or program groups in core academic areas.

Parent Brochures

TEA’s Student Assessment Division produces a series of brochures titled [“Understanding the Confidential Student Report—A Guide for Parents”](#) to help parents understand their child’s TAKS test results. Each brochure provides a brief summary of the TAKS program, explains a sample Confidential Student Report (CSR) so that

parents can understand their child's test report, and gives a brief summary of each test objective for each content area tested. The brochures, developed in both English and Spanish, are provided to districts each spring for distribution with individual student TAKS performance results.

Performance Standards

Performance standards relate levels of test performance directly to what examinees are expected to learn, as expressed in the statewide curriculum. This is done by establishing cut scores that distinguish performance levels or categories, such as Met Standard and Commended Performance. Standard setting is the process of establishing cut scores on an assessment that define the performance levels.

Performance Level Descriptors

For TAKS, the performance levels are

- Did Not Meet Standard,
- Met Standard, and
- Commended Performance.

Descriptions of these performance levels, known as the general Performance Level Descriptors (PLDs), are as follows:

DID NOT MEET STANDARD

This category represents unsatisfactory academic achievement. Students in this category performed at a level that was below the state passing standard for that test. Students demonstrated an insufficient understanding of the knowledge and skills measured at this grade.

MET STANDARD

This category represents satisfactory academic achievement. Students in this category performed at a level that was at or somewhat above the state passing standard for that test. Students demonstrated a sufficient understanding of the knowledge and skills measured at this grade.

COMMENDED PERFORMANCE

This category represents high academic achievement. Students in this category performed at a level that was considerably above the state passing standard for that test. Students demonstrated a thorough understanding of the knowledge and skills measured at this grade.

Standard Setting for TAKS

The performance standards for TAKS were originally set in 2002 (2005 for grade 8 science) by the State Board of Education (SBOE). When a set of performance





standards has been adopted for an assessment, the standards apply as long as they are judged to be appropriate for defining student performance levels on the assessment. It is recommended that performance standards be reviewed when a change occurs in the assessment program.

The exit level assessments test a student’s level of academic preparation for graduation from high school as well as his or her readiness to enroll in an institution of higher education. To provide a measure of students’ postsecondary readiness, the Texas Higher Education Coordinating Board (THECB) established a Higher Education Readiness Standard for TAKS exit level mathematics and ELA in spring 2004.

Scaling

As with many of the other programs in the Texas assessment program, the TAKS assessments use the Rasch Partial-Credit Model (RPCM) to place test items on the same scale across administrations. Once performance standards have been set for an assessment, its initial scale is then transformed to a more user-friendly metric to facilitate interpretation and reporting of the test scores. Details of the RPCM scaling method used in Texas are provided in [chapter 3, “Standard Technical Processes.”](#)

Reporting Scales

TAKS exit level assessments report scale scores on a horizontal scale score system. Horizontal scale scores allow direct comparisons of student performance between specific sets of test questions from different test administrations. The Met Standard and Commended Performance standards were used in developing the reporting scale score system for TAKS.

Using the procedures described in [chapter 3, “Standard Technical Processes,”](#) a unique scale transformation was then developed in each grade and content area so that the resulting set of scale scores would have the panel-recommended Met Standard performance level cut set at a scale score of 2100 and the panel-recommended Commended Performance level cut set at a scale score of 2400. Once established, these same transformations are applied each year to the Rasch proficiency level estimates (θ) for that year’s set of test questions. Specifically, this transformation is accomplished by first multiplying any given student proficiency (θ) by a slope (A) and subsequently adding an intercept (B). This operation is given by the equation below:

$$SS_{\theta} = A \times \theta + B \quad (1)$$

where SS_{θ} is the scale score for a Rasch partial-credit model proficiency level estimate (θ). A and B in Equation (1) are referred to as the horizontal scaling constants. Values for TAKS, including TAKS (Accommodated), horizontal scaling constants are provided in Table 7.4 for the assessments that were administered in 2014–2015. The linear transformation in Equation (1) was applied to the resulting Rasch student proficiency

estimates at each possible total score point of the assessment, yielding the final RSSS conversion tables for TAKS.

Table 7.4. Horizontal Scaling Constants for TAKS

Exit Level TAKS Assessment	A	B
Mathematics	140.58107	2064.71415
ELA	113.48162	2017.62369
Science	129.47777	2070.86750
Social studies	126.47555	2093.29680

Equating

In the 2014–2015 school year, TEA conducted equating activities, including pre-equating, for the TAKS assessments. In addition, results from field-test equating, post-equating, and comparability analysis that were conducted in previous years applied to some of the TAKS assessments administered in 2014–2015. Refer to [chapter 3, “Standard Technical Processes,”](#) for detailed information about equating.

Pre-Equating

In general, pre-equating is conducted for exit level retest forms. Because the retest population is not representative of the general population, a pre-equated scoring table is used for reused test forms for retest administrations.

Post-Equating

In the 2014–2015 school year, post-equating was not conducted for any of the TAKS assessments. The last time post-equating was conducted for the TAKS program was in spring 2013.

Field-Test Equating

In the 2014–2015 school year, field-test equating was not conducted for any of the TAKS assessments.

Comparability Analyses

When assessments were administered both online and on paper (as is the case for the TAKS exit level retests prior to the 2014–2015 school year), the Standards for Educational and Psychological Testing (AERA, APA, NCME, 1999) require comparability between test scores resulting from online and paper modes to be evaluated. For each operational TAKS administration, the online and paper versions of the assessments consist of identical items.





Comparability studies were conducted for TAKS exit level assessments from 2005 through 2010 to determine if the paper and online results were comparable and did not advantage students who tested in either mode. Based on recommendations from the Texas Technical Advisory Committee (TTAC), policy decisions regarding score adjustments to online tests have been based on the information from this set of comparability studies. The policy decisions used since April 2010 are listed below.

- For mathematics, it was determined that the cut scores should be changed so that both the Met Standard and Commended Performance cuts for online are one raw score point easier than the corresponding cuts for paper.
- For ELA, it was determined that the cut scores on the RSSS conversion table for students taking the retest online should be changed so that the online Met Standard cut point is one raw score point easier and the Commended Performance cut point is one raw score point more difficult than those on the paper RSSS conversion table.
- For science and social studies, it was determined that the paper RSSS conversion tables should be used for students testing online with no changes to the raw score cuts.

Reliability

Reliability for TAKS test scores from the primary administrations are estimated using statistical measures such as internal consistency, classical standard error of measurement, conditional standard error of measurement, and classification accuracy. Refer to [chapter 3, “Standard Technical Processes,”](#) for detailed information about reliability.

In the 2014–2015 school year, reliability for TAKS test scores was not conducted because all TAKS assessments administered were exit level retests based on previously developed items.

Validity

Validity refers to the extent to which a test measures what it is intended to measure. When test scores are used to make inferences about student achievement, it is important that the assessment supports those inferences. In other words, the assessment should measure what it was intended to measure in order for any uses and interpretations about test results to be valid. Validity evidence for an assessment can come from a variety of sources including test content, response processes, internal structure, relationships with other variables, and the consequences of testing. Refer to [chapter 3, “Standard Technical Processes,”](#) for additional information about validity.

In the past, validity evidence was collected annually to support the various uses of TAKS scores. However, in the 2014–2015 school year, validity evidence for TAKS test

scores was not collected because all TAKS assessments administered were exit level retests based on previously developed items.

Measures of Student Progress

Student progress within the TAKS assessment program was measured using the Texas Projection Measure (TPM). The TPM was developed to meet HB 1, SB 1031, and HB 3 legislative requirements for a measure of annual improvement in student achievement. The 2011–2012 school year was the last year TPM projections were reported, as it was the last time TAKS and TAKS–M grade 10 assessments were administered.

In the 2014–2015 school year, evaluations of the accuracy of projections previously reported to students were not conducted, since the TAKS assessments were administered to exit level retest examinees only.

Sampling

In 2014–2015, there were no research studies, audits, or field tests conducted for TAKS. Therefore, sampling was not required.

Test Results

In the past, scale score distributions and statistics, RSSS conversion tables, mean p-values, reliability estimates by objective and content area, and pass rates for primary TAKS assessments were provided annually. However, starting with the 2013–2014 school year, such information for TAKS was not generated, since TAKS assessments were administered to exit level retesters only.

