ACTAAP

Arkansas Comprehensive Testing, Assessment, and Accountability Program

Report Interpretation Guide

Stanford Achievement Test Series, Tenth Edition

APRIL 2009 ADMINISTRATION

GRADES

1, 2, & 9

Arkansas Department of Education

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Introduction

The *Stanford Achievement Test Series*, with a rich history dating from the early twentieth century, measures students' school achievement. This Tenth Edition of the Stanford battery (Stanford 10) provides updated content that reflects the national and state standards, curriculum, and educational trends of the beginning of the twenty-first century.

The *Stanford Achievement Test* first appeared in 1923. Revisions were published in 1929, 1940, 1953, 1964, 1973, 1982, 1989, and 1996. Each revision was provided in order to (1) update content in order to better align the test with the current curriculum trends; (2) update the normative information in order to make comparisons more valid; (3) increase and improve the kinds of information available from testing; and (4) revise the look of the test to make it more engaging and relevant to students.

The Stanford series comprises thirteen battery levels that assess students from kindergarten through grade 12. The *Stanford Early School Achievement Test* (SESAT) consists of two levels that measure achievement of children in kindergarten and the first half of first grade. The eight levels of the *Stanford Achievement Test* measure the important learning outcomes of the curriculum from the second half of grade 1 through the end of junior high school. The three levels of the *Stanford Test of Academic Skills* (TASK) are intended for use as measures of those skills in grades 9 through 12 that are requisite to continued academic training. At all levels of *Stanford Achievement Test* and *Stanford Test of Academic Skills*, there are two parallel forms that are equivalent in both content and difficulty.

Stanford 10

In order to provide maximum assessment opportunities of all kinds for all schools, Stanford 10 has moved beyond the ordinary boundaries of norm-referenced achievement batteries.

Stanford 10 has many other special features that make it stand out from other achievement batteries:

- Full-color, student-friendly layout
- Innovative new types of multiple-choice questions
  - ➢ Items that call for actual performance on the part of the students encourage divergent thinking and problem solving.
- Emphasis on Thinking Skills
  - ➢ All of the items in Stanford 10 assess either Basic Understanding or Thinking Skills, with more items than ever before assessing the higher-order skills.
- Alignment with the National Assessment of Educational Progress (NAEP)
  - ➢ The Stanford 10 Reading Comprehension subtest provides similar information about students' reading ability to that from the NAEP. Scores include type of reading selection—literary, informational, and functional—as well as the important reading processes—Initial Understanding, Interpretation, and Critical Analysis and Strategies.

- Reading selections commissioned from published authors
  - ➢ Many of the selections in the Reading Comprehension subtest of Stanford 10 are written by well-known authors of children's and young people's books and magazines.
- Mathematics subtest
  - ➢ Stanford 10 has a Mathematics Problem Solving subtest that reflects the National Council of Teachers of Mathematics (NCTM) *Principles and Standards for School Mathematics*.
- Emphasis on the NCTM *Principles and Standards*
  - ➢ As specified by the NCTM *Principles and Standards*, most mathematics items in Stanford 10 are presented in context and emphasize the problem solving and reasoning skills promoted by the NCTM *Principles and Standards* and all state content standards.
- Content and Process Cluster Scores
  - ➢ In addition to Thinking Skills scores, Stanford 10 includes embedded process scores. These scores require no additional testing time.

What Stanford 10 Assesses

Stanford 10 assesses the basic curricular objectives. At the elementary, middle, and junior high school levels, the concepts and skills assessed are those ordinarily taught during the second half of any given year and the first half of the following year. This midyear-to-midyear configuration provides for a more focused assessment of students tested in the spring of one grade and the fall of the next than could a single test level intended for use in both the fall and spring of the same school year. At the high school levels, where the TASK levels assess basic skills, a given level is appropriate for use in both the fall and spring of the same school year.

Table 1 identifies the grades and subtests that will be assessed in Arkansas for grades 1, 2, and 9. It should be noted that Stanford 10 is also administered in grades 3–8, but for those grades, the Stanford 10 is used as part of the Augmented Benchmark Examinations. A separate *Report Interpretation Guide* exists for the Augmented Benchmark Examinations. Another separate *Report Interpretation Guide* exists for the METROPOLITAN8, administered in grade K.

Table 1. Stanford 10 Strands Assessed in Arkansas for Grades 1, 2, and 9

Grade	Stanford 10 Level Name	Mathematics Strand	Reading Strand	Language Strand
1	Primary 1	Mathematics Problem Solving	Reading Comprehension	
2	Primary 2	Mathematics Problem Solving	Reading Comprehension	
9	Task 1	Mathematics	Reading Comprehension	Language

Reading (Grades 1, 2, and 9)

The Stanford 10 reading subtests are structured to reflect current thinking about the ways in which good readers construct meaning with text and the ways in which students are taught to read. Starting from the Primary 2 test level, Reading Comprehension is assessed through reading selections accompanied by questions about the selection. Research shows that good readers select and adjust strategies according to the purpose for reading and the type of text being read. The Reading Comprehension subtest assesses students within the framework of three types of material:

1. Literary: Material read for enjoyment or literary merit, including folk tales, historical fiction, contemporary fiction, humor, and poetry.
2. Informational: Level-appropriate expository material with content from natural, physical, and social science, as well as other nonfiction general information materials.
3. Functional: Material encountered in everyday life, both inside and outside of school, including directions, forms, labels, personal notes, and advertisements.

All passages on Stanford 10 are written expressly for the Reading Comprehension subtest. Reflecting literature-based curricula in most classrooms today, the literary and informational passages include original short stories and articles written by published children's authors. These passages reflect a variety of topics and diverse cultural themes that will appeal to students of varying backgrounds, experiential levels, and interests. Some narrative and informational passages were written by award-winning authors of young people's literature. Other pieces were written by seasoned writers who regularly contribute to young people's popular magazines and newspapers. Authors' names are included to enhance the students' awareness of the author of the material they have just read. The fact that the test closely resembles the kinds of materials that students read in school and in everyday life adds to the authenticity of the test and heightens student motivation and format familiarity.

Mathematics (Grades 1, 2, and 9)

The Stanford 10 mathematics subtest assesses the entire breadth of mathematical content recommended by the National Council of Teachers of Mathematics (NCTM), including number and operations, algebra, geometry, measurement, data analysis, and probability. At the SESAT 1 and SESAT 2 levels and the TASK levels, mathematics is assessed in a single subtest. In its *Principles and Standards for School Mathematics*, NCTM recognizes the necessity for developing computational fluency in students through mathematics education. "Developing fluency requires a balance and connection between conceptual understanding and computational fluency."

Several features characteristic of the Stanford 10 support vital goals for school mathematics. Standard and metric rulers are included for use with measurement items. Calculator use is an option in the Problem Solving subtest beginning at the Intermediate 1 level. Calculator use on the appropriate subtest is a local decision and should reflect student access to calculators in the everyday instructional environment. At the TASK levels, where calculators are also an option, the Mathematics subtest assesses essential elements of a true high school curriculum. Although every item can be solved by reasoning and an understanding of general mathematics, topics from algebra, geometry, trigonometry, statistics, and discrete mathematics are included. As at all levels of Stanford 10, the emphasis at the TASK levels is on assessing skills and concepts within the contexts that require those skills and concepts outside of the classroom.

The mathematics portion of the Stanford 10 is an assessment of student proficiency in a modern mathematics curriculum that encourages students to value mathematics and supports sound instructional practice in the mathematics classroom.

Language (Grade 9)

The Stanford 10 Language test measures students' achievement in applying the principles that form effective writing. From word- and sentence-level skills to whole-paper features, the test engages students in real-life activities that demand more than the mere recall of information.

To make the assessment manageable for students, the Language test is divided into three sections. The first section contains items measuring proficiency in language mechanics: capitalization, punctuation, and usage. Writing expression is tested in the second and third parts of the Language test. Students are first assessed on their writing strategies and understanding of sentence structure. At the lower grade levels, items measuring such objectives as run-ons, fragments, and awkward construction are included. As test levels progress, items measuring these objectives become more difficult, and items assessing achievement in the subtleties of sentence formation begin to appear. The third section of the Language test contains language expression items that go beyond sentence-level skills and include objectives typically assessed only in the direct assessment of writing. These items, testing such crucial aspects of understanding as the ability to recognize extraneous information, combine simplistic sentences, or use descriptive language, are linked to short, grade-appropriate paragraphs written especially for this assessment.

Types of Scores on the Score Reports

The various types of scores utilized in Stanford 10 have different uses and yield different kinds of information. Since the underlying properties of these scores are not necessarily the same, the particular score type to be used to interpret test results depends on the purpose for which the test was administered. Types of scores that are frequently utilized in Stanford 10 are described below.

Raw Scores

Raw scores are tied to a specific subtest and test content. A raw score refers to the number of test questions a student answered correctly, and its interpretation is limited to that set of questions. Because subtests differ in length, content, and difficulty, raw scores across subtests or test levels cannot be compared directly. Therefore, raw scores provide limited information about the relative performance of students.

It is not appropriate to use raw scores to compare performance over time or when different test levels have been administered. Instead, we convert raw scores into scaled scores, enabling the comparison of students' test scores with those of other students and the evaluation of changes in student performance across test levels and testing occasions. A scaled score can then be converted to one or more other derived scores, allowing for further interpretation and evaluation of the test results.

Scaled Scores

Scaled scores have the advantage of representing approximately equal units on a continuous scale. That is, a difference of 5 points between two students' scores represents the same amount of difference in achievement wherever it occurs on the scale. In addition, the Stanford scaled score system expresses student performance across all test levels of any given subtest on a single scale. For example, the Reading Comprehension subtest is linked across 11 test levels from Primary 1 through TASK 3, forming one continuous scale that makes it possible to compare scores from test level to test level. Scaled scores are especially suitable for comparing student performance in a particular subject area over time.

While scaled scores are comparable across test levels for the same subtest or total, they are not comparable from one content area to another or across subtests within a content domain total. For example, a scaled score on the Reading Comprehension subtest cannot be compared with a scaled score on the Spelling subtest, nor can a scaled score on the Reading Vocabulary subtest be compared with a scaled score for Total Reading. Although these scaled scores may look similar, each subtest has its own scaled score system. For this reason, scaled scores cannot be used to develop score profiles across subtests.

Once a raw score earned on a particular subtest has been converted to its corresponding scaled score, the *test level* that was administered is no longer a concern. The scaled score can then be converted to other derived scores such as percentile ranks, stanines, and normal curve equivalent scores.

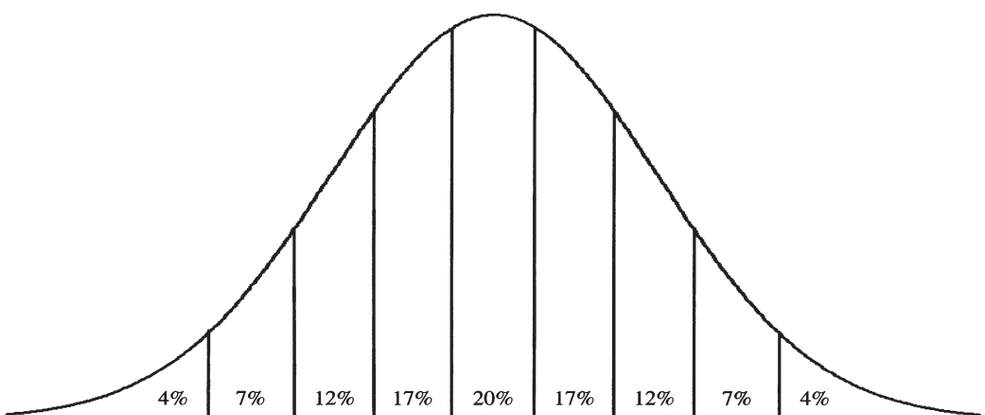
Individual Percentile Ranks

Percentile ranks range from a low of 1 to a high of 99, with 50 denoting average performance. Percentile ranks compare the relative standing of a student with students in a reference group who were in the same grade when they completed the same subtest at a comparable time of the year. For example, a percentile rank of 75 means that for a particular subtest the student performed as well as or better than 75% of the students in the reference group. The reference group may comprise a national or local sample of students and may represent a variety of population variables. Percentile ranks must always be interpreted with regard to the reference group from which they were derived.

Percentile ranks do not represent actual amounts of achievement. Furthermore, percentile ranks do not represent equal units along a scale. For example, the difference in achievement between percentile ranks 5 and 10 is not the same as the difference between percentile ranks 50 and 55. Percentile ranks do not represent equal units and their interpretation is limited to the reference group from which they were derived. For that reason, percentile ranks are best used for reporting scores when position within a reference group is of primary interest.

Stanines

Stanines range from a low of 1 to a high of 9, with 5 designating average performance. Stanines, like percentile ranks, indicate a student's relative standing when compared to a reference group. In contrast to percentile ranks, stanines represent approximately equal units of achievement. For example, the difference between stanines 2 and 4 represents about the same difference in achievement as the difference between stanines 5 and 7. Stanines are particularly useful for comparing or profiling a student's scores across subtests. Another benefit of using stanines is that broad performance categories can be easily identified. Usually, stanines of 1, 2, and 3 indicate *Below Average* performance; 4, 5, and 6 indicate *Average*; and 7, 8, and 9 indicate *Above Average*. The relationship between stanines, percentile ranks, normal curve equivalents, and performance categories in a normally distributed set of scores is shown in Figure 1.



Stanine	1	2	3	4	5	6	7	8	9
PR	Below 4	4–10	11–22	23–39	40–59	60–76	77–88	89–95	Above 95
NCE	1.0–10.4	13.1–23.0	24.2–33.7	34.4–44.1	44.7–54.8	55.3–64.9	65.6–74.7	75.8–84.6	86.9–99.0
	Below Average			Average			Above Average		

Figure 1. A Normal Distribution of Stanines, Percentile Ranks (PR), Normal Curve Equivalents (NCE), and Performance Categories

Normal Curve Equivalents

The normal curve equivalent (NCE) is a normalized standard score with a mean of 50 and a standard deviation of 21.06. This score is most often used to enable test users to manipulate the test data algebraically. NCEs may be obtained by converting percentiles to normalized *z*-scores and making the transformation

$$NCE = 50 + 21.06z.$$

In contrast to percentile ranks, NCEs provide an equal interval scale; thus, they should be used instead of percentile ranks when interpolating or averaging scores. Percentile ranks and normal curve equivalents have a direct, fixed relationship that is shown in Table 2, Normal Curve Equivalents Corresponding to Percentile Ranks, and Table 3, Percentile Ranks Corresponding to Normal Curve Equivalent Ranges. Table 2 provides NCEs corresponding to integer percentile ranks and is convenient to use when converting percentile ranks to NCEs. To convert NCEs to percentile ranks, Table 3 provides a percentile rank corresponding to ranges of NCEs.

Table 2. Normal Curve Equivalents Corresponding to Percentile Ranks

Percentile Rank	NCE	Percentile Rank	NCE	Percentile Rank	NCE	Percentile Rank	NCE
1	1.0	26	36.5	51	50.5	76	64.9
2	6.7	27	37.1	52	51.1	77	65.6
3	10.4	28	37.7	53	51.6	78	66.3
4	13.1	29	38.3	54	52.1	79	67.0
5	15.4	30	39.0	55	52.6	80	67.7
6	17.3	31	39.6	56	53.2	81	68.5
7	18.9	32	40.2	57	53.7	82	69.3
8	20.4	33	40.7	58	54.3	83	70.1
9	21.8	34	41.3	59	54.8	84	70.9
10	23.0	35	41.9	60	55.3	85	71.8
11	24.2	36	42.5	61	55.9	86	72.8
12	25.3	37	43.0	62	56.4	87	73.7
13	26.3	38	43.6	63	57.0	88	74.7
14	27.2	39	44.1	64	57.5	89	75.8
15	28.2	40	44.7	65	58.1	90	77.0
16	29.1	41	45.2	66	58.7	91	78.2
17	29.9	42	45.7	67	59.3	92	79.6
18	30.7	43	46.3	68	59.8	93	81.1
19	31.5	44	46.8	69	60.4	94	82.7
20	32.3	45	47.4	70	61.0	95	84.6
21	33.0	46	47.9	71	61.7	96	86.9
22	33.7	47	48.4	72	62.3	97	89.6
23	34.4	48	48.9	73	62.9	98	93.3
24	35.1	49	49.5	74	63.5	99	99.0
25	35.8	50	50.0	75	64.2		

Table 3. Percentile Ranks Corresponding to Normal Curve Equivalent Ranges

NCE Range	Percentile Rank	NCE Range	Percentile Rank	NCE Range	Percentile Rank	NCE Range	Percentile Rank
1.0–4.2	1	36.2–36.8	26	50.4–50.8	51	64.6–65.2	76
4.3–8.7	2	36.9–37.4	27	50.9–51.3	52	65.3–65.9	77
8.8–11.8	3	37.5–38.0	28	51.4–51.8	53	66.0–66.6	78
11.9–14.3	4	38.1–38.6	29	51.9–52.4	54	66.7–67.3	79
14.4–16.3	5	38.7–39.3	30	52.5–52.9	55	67.4–68.1	80
16.4–18.1	6	39.4–39.8	31	53.0–53.4	56	68.2–68.9	81
18.2–19.7	7	39.9–40.4	32	53.5–54.0	57	69.0–69.7	82
19.8–21.1	8	40.5–41.0	33	54.1–54.5	58	69.8–70.5	83
21.2–22.4	9	41.1–41.6	34	54.6–55.1	59	70.6–71.4	84
22.5–23.6	10	41.7–42.2	35	55.2–55.6	60	71.5–72.3	85
23.7–24.7	11	42.3–42.7	36	55.7–56.2	61	72.4–73.2	86
24.8–25.8	12	42.8–43.3	37	56.3–56.7	62	73.3–74.2	87
25.9–26.8	13	43.4–43.8	38	56.8–57.3	63	74.3–75.3	88
26.9–27.7	14	43.9–44.4	39	57.4–57.8	64	75.4–76.4	89
27.8–28.6	15	44.5–44.9	40	57.9–58.4	65	76.5–77.6	90
28.7–29.5	16	45.0–45.5	41	58.5–59.0	66	77.7–78.9	91
29.6–30.3	17	45.6–46.0	42	59.1–59.6	67	79.0–80.3	92
30.4–31.1	18	46.1–46.5	43	59.7–60.1	68	80.4–81.9	93
31.2–31.9	19	46.6–47.1	44	60.2–60.7	69	82.0–83.6	94
32.0–32.6	20	47.2–47.6	45	60.8–61.3	70	83.7–85.7	95
32.7–33.4	21	47.7–48.1	46	61.4–62.0	71	85.8–88.1	96
33.5–34.1	22	48.2–48.7	47	62.1–62.6	72	88.2–91.2	97
34.2–34.8	23	48.8–49.2	48	62.7–63.2	73	91.3–95.6	98
34.9–35.5	24	49.3–49.7	49	63.3–63.9	74	95.7–99.0	99
35.6–36.1	25	49.8–50.3	50	64.0–64.5	75		

Content Cluster and Process Cluster Performance Categories

An analysis of performance on the various Stanford 10 content clusters and subclusters can be useful in identifying students' strengths and weaknesses within a broader content area. An analysis of a student's performance on the process clusters can help in understanding other kinds of strengths and weaknesses. For example, if a student earns a Mathematics Problem Solving score that is lower than expected, a cluster analysis of this subtest will help determine whether the student's performance was consistently low for all of the subclusters within Mathematics Problem Solving or whether difficulties with a particular subcluster, e.g., Number Sense and Operations, contributed to the low Mathematics Problem Solving score.

Stanford 10 provides an analysis of content clusters and process clusters for most subtests in the battery. For each level and form of Stanford 10, frequency distributions of individual raw scores on each content cluster and each process cluster are generated separately by grade, form, and time of year. The raw score interval corresponding to each stanine is then determined. Performance categories are established as *Below Average* (stanines 1, 2, and 3); *Average* (stanines 4, 5, and 6); and *Above Average* (stanines 7, 8, and 9). For individual students, then, a raw score on a particular content cluster or process cluster can be converted to a performance category, which provides a comparison of the student's performance with that of a national sample of students in the same grade taking the same test.

It should be noted that this approach to the interpretation of performance measured by a norm-referenced test is in contrast to the setting of criterion scores (e.g., "performance levels"). The norm-referenced approach is related to the actual performance of students in the nation rather than to stated expectations for these students.

The Reports for Arkansas for Grades 1, 2, and 9

This section provides information about the Stanford 10 reports that will be provided for Arkansas students in grades 1, 2, and 9. Arkansas students in grades 1 and 2 are being assessed with one Reading and one Mathematics subtest, and Arkansas students in grade 9 are being assessed with one Reading, one Mathematics, and one Language subtest. Therefore, the reports for grades 1, 2, and 9 for Arkansas students will not have any battery totals and will have only two or three subtests identified on the score reports. Four reports are generated for Arkansas: 1) Student Report; 2) Master List of Test Results; 3) Administrator's Data Summary; 4) Item Analysis Summary.

What Information Is on the Stanford 10 Arkansas Student Report?

An example Student Report is shown in Figure 2. The top half of the report shows identifying information, the names of the subtests taken, and scores for each of these tests. The bottom part of the Student Report presents a close-up look at how well the student did in specific subject areas.

Different types of scores are available for Stanford 10. Each type of score is used in a different way to understand how the student performed on the test.

Number Correct

The number correct is simply the number of questions that the student answered correctly. (The number possible is shown to the left of the number correct and represents the total number of questions included in the subtest.) Because the subtests are of different lengths, and because one subtest may be slightly harder or easier than another, the number correct cannot be compared from one subtest to another. For example, a number correct of 20 on the Reading Comprehension subtest does not mean the same thing as a number correct of 20 on the Mathematics Problem Solving subtest.

Scaled Scores

Scaled scores can be used to show how much a student has progressed from one year to the next within a particular subject area. If this year's scaled score is higher than last year's, growth has occurred. The scaled score for one subject area test cannot be compared to the scaled score for another.

Percentile Ranks–Stanines (PR–S)

Percentile ranks (PR) and stanines (S) are useful because they can be compared from one subject area to another. A percentile rank shows the percentage of students in the comparison group whose scores were equal to or lower than this student's score. Percentile ranks range from a low of 1 to a high of 99, with 50 meaning "average." Percentile ranks do not stand for actual amounts of a student's knowledge. A percentile rank of 42, for example, does not mean that the student answered 42 percent of the questions correctly or that the student has learned 42 percent of the skills taught. A percentile rank of 42 means that this student has done as well as or better than 42 percent of the group with which he or she is being compared.

Like percentile ranks, stanines show how a student performed in relation to a group and can be compared from one subject area to another. Stanines range from a low of 1 to a high of 9, with 5 meaning "average." Stanines 1, 2, and 3 are considered *Below Average* scores; stanines 4, 5, and 6 are considered *Average* scores; and stanines 7, 8, and 9 are considered *Above Average* scores.

Normal Curve Equivalent

The normal curve equivalent (NCE) is derived from the percentile rank and is used primarily for research purposes or for averaging scores.

National Grade Percentile Bands

National grade percentile bands are another way of looking at percentile ranks. By comparing any two bands, you can easily see how the student did in one area compared with another. If the two bands overlap, however, there is probably too little difference between the two scores to have any meaning.

Content Clusters

Content clusters, shown in the lower half of the Student Report in Figure 2, give teachers a way to look at specific skills within a general subject area and identify areas of difficulty or strength. The clusters and subclusters are identified along with a "C" or a "P" on the left-hand side. A "C" indicates a content cluster, and a "P" indicates a process cluster. Next to the cluster name is information related to the number of points (NP), number attempted (NA), and number correct (NC) for each cluster.

The next set of information indicates whether the student scored *Below Average*, *Average*, or *Above Average*. A check mark in the "Below Average" column means that the student scored in the bottom 23 percent of the Stanford 10 comparison group. A check mark in the "Average" column means that the score was in the middle 54 percent, and a check mark in the "Above Average" column means that the score was in the top 23 percent.

For example, John Samplestudent's score on the Reading Comprehension subtest was *Average*. Within this subtest, John Samplestudent's performance was *Average* on questions in all areas except Functional Passages, where his performance was *Below Average*, and Initial Understanding, where his performance was *Above Average*.

Student Report | JOHN SAMPLESTUDENT

National Comparison

TEACHER: JANE SAMPLETEACHER
SCHOOL: SAMPLE SCHOOL
DISTRICT: SAMPLE DISTRICT

GRADE: 01
TEST DATE: 04/09

AGE: 7 Yrs 03 Mos

Subtests and Totals	Number Possible	Number Correct	Scaled Score	National PR-S	National NCE
Reading Comprehension	40	27	528	56-5	53.2
Mathematics Problem Solving	42	34	565	76-6	64.9

National Grade Percentile Bands: 1 10 30 50 70 90 99

About This Student's Performance:

John recently took the *Stanford Achievement Test*, Tenth Edition (Stanford 10). This test is one measure of this child's achievement. This report compares this child's performance to students in the same grade across the nation. Percentile Bands show ranges within which this child's true scores likely fall. For example, a student whose Percentile Band spans the 70th percentile performed as well as or better than 70% of students nationally in that subject.

The chart below shows this child's performance in each subject area tested.

	Clusters	NP	NA	NC	Below Avg	Avg	Above Avg
	Reading Comprehension	40	40	27		✓	
C	Two-Sentence Stories	10	10	8		✓	
C	Cloze	12	12	9		✓	
C	Short Passages w/Questions	18	18	10		✓	
C	Literary	6	6	5		✓	
C	Informational	6	6	4		✓	
C	Functional	6	6	1	✓		
P	Initial Understanding	6	6	5			✓
P	Interpretation	8	8	3		✓	
P	Critical Analysis & Strategies	4	4	2		✓	
	Mathematics Problem Solving	42	42	34		✓	
C	Number Sense & Operations	24	24	21			✓
C	Patterns/Relationships/Algebra	4	4	2		✓	
C	Data, Statistics & Probability	4	4	2		✓	
C	Geometry & Measurement	10	10	9			✓
P	Communication & Representation	6	6	6			✓
P	Estimation	3	3	3			✓
P	Mathematical Connections	22	22	16		✓	
P	Reasoning & Problem Solving	11	11	9		✓	

Clusters	NP	NA	NC	Below Avg	Avg	Above Avg

Clusters	NP	NA	NC	Below Avg	Avg	Above Avg

STANFORD LEVEL/FORM: PRIMARY 1/B
2007 NORMS: Spring

C= Content Cluster P= Process Cluster

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Figure 2. Arkansas Stanford 10 Student Report

What Information Is on the Arkansas Stanford 10 Master List of Test Results?

An example Master List of Test Results report is shown in Figure 3. The top part of the report shows identifying information and the names of the subtests taken. The next row indicates the number of points possible. For example, for this report, Reading Comprehension had a maximum score of 40 points and Mathematics Problem Solving had a maximum score of 42 points. The rest of the report contains information for each student. For each student, the student's age in years and months, number correct, scaled score, national percentile rank–stanine (PR–S), and national normal curve equivalent (NCE) are presented.

Master List of Test Results | JANE SAMPLETEACHER

SCHOOL: SAMPLE SCHOOL
DISTRICT: SAMPLE DISTRICT

GRADE: 01
TEST DATE: 04/09

PAGE 1

Student Listing is alphabetical	Reading: Reading Comprehension	Mathematics: Mathematics Problem Solving
Number Possible	40	42
SAMPLESTUDENT, JANE A 7 Yrs 03 Mos		
Number Correct	36	33
Scaled Score	589	559
National PR-S	85-7	72-6
National NCE	71.8	62.3
SAMPLESTUDENT, JOE 7 Yrs 05 Mos		
Number Correct	39	38
Scaled Score	643	595
National PR-S	97-9	91-8
National NCE	89.6	78.2
SAMPLESTUDENT, JOHN M 6 Yrs 11 Mos		
Number Correct	23	20
Scaled Score	509	503
National PR-S	43-5	20-3
National NCE	46.3	32.3
SAMPLESTUDENT, KEN 7 Yrs 03 Mos		
Number Correct	27	34
Scaled Score	528	565
National PR-S	56-5	76-6
National NCE	53.2	64.9

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2007 NORMS: Spring

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Figure 3. Arkansas Stanford 10 Master List of Test Results

What Information Is on the Arkansas Stanford 10 Administrator's Data Summary?

An example Administrator's Data Summary report is shown in Figure 4. The top part of the report shows identifying information and the names of the subtests taken. The next row indicates the number of points possible. For example, on this report, Reading Comprehension had a maximum score of 40 points and Mathematics Problem Solving had a maximum score of 42 points. The next row indicates the number of students tested.

The next section contains statistics about the number of items correct. The first number indicates the mean, or average, number of items correct for the students who were tested. As an example, on the Reading Comprehension test, the 25 students who were tested obtained an average score of 35.1 points. The standard deviation represents the average spread of the scores. In this example, the standard deviation is 6.1 points. The next set of information contains the raw score of students performing at key percentile ranks. As an example, students who scored at the 90th percentile scored 39.8 points, students who scored at the 75th percentile scored 39 points, and so on.

The next section contains statistics about the scaled scores. The first number indicates the mean, or average, scaled score for the students who were tested. As an example, on the Reading Comprehension test, the 25 students who were tested obtained an average scaled score of 598.9 points. The standard deviation represents the average spread of the scores. In this example, the standard deviation is 51.1 points. The next set of information contains the scaled score of students performing at key percentile ranks. As an example, students who scored at the 90th percentile had a scaled score of 648.9, students who scored at the 75th percentile had a scaled score of 629.5, and so on.

Page 2 of the Administrator's Data Summary contains the percentile rank and stanine (PR–S) that is equivalent to the mean NCE achieved by the students included on the report. Following is a summary of the national percentile ranks. The number of students in each percentile band is presented, followed by the percentage of students in each percentile band. The percentage of students who scored at or above the 50th percentile is also included. The next section contains the number and percentage of students who scored in each of the stanine groups. Finally, page 2 of the Administrator's Data Summary report contains the mean NCE and standard deviation of the mean NCE along with the percentile ranks of students who scored at various NCEs.

The Administrator's Data Summary is based on a combined population and will be provided in the following disaggregations as applicable:

1. Gender: Female
2. Gender: Male
3. Gender: Unknown
4. Ethnicity: Asian/Pacific Islander
5. Ethnicity: African American
6. Ethnicity: Hispanic
7. Ethnicity: Native American
8. Ethnicity: Caucasian
9. Ethnicity: Unknown
10. All IEP Students
11. Non-Disabled Students
12. LEP Students
13. First Year LEP Students
14. Monitored Former LEP (MFLEP) Students (Year 1)
15. Monitored Former LEP (MFLEP) Students (Year 2)
16. Highly Mobile Students
17. Free and/or Reduced Lunch Students
18. Non-Economically Disadvantaged Students
19. Migrant Students
20. Gifted and Talented Students
21. ESI Code: Autism
22. ESI Code: Deaf-Blindness
23. ESI Code: Hearing Impaired
24. ESI Code: Mental Retardation
25. ESI Code: Multiple Disabilities
26. ESI Code: Orthopedic Impairment
27. ESI Code: Other Health Impairment
28. ESI Code: Serious Emotional Disturbance
29. ESI Code: Specific Learning Disability
30. ESI Code: Speech or Language Impaired
31. ESI Code: Traumatic Brain Injury
32. ESI Code: Visual Impairment

STANFORD ACHIEVEMENT TEST SERIES TENTH EDITION

Administrator's Data Summary | SAMPLE SCHOOL

DISTRICT: SAMPLE DISTRICT

GRADE: 01
TEST DATE: 04/09

PAGE 1

Total Number Tested
25

	Reading	Mathematics
	Reading Comprehension	Mathematics Problem Solving
Number Possible	**40**	**42**
Number Tested	25	25
Number Correct Statistics		
Mean	35.1	33.3
Standard Deviation	6.1	7.6
Percentiles		
P90 -90th	39.8	39.6
Q3 -75th	39.0	38.3
Median -50th	36.5	35.8
Q1 -25th	32.5	30.8
P10 -10th	27.9	17.1
Scaled Score Statistics		
Mean	598.9	568.1
Standard Deviation	51.1	42.7
Percentiles		
P90 -90th	648.9	608.6
Q3 -75th	629.5	591.8
Median -50th	588.5	570.8
Q1 -25th	557.0	543.0
P10 -10th	531.6	486.1

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2007 NORMS: Spring

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Figure 4. Arkansas Stanford 10 Administrator's Data Summary

Administrator's Data Summary | SAMPLE SCHOOL

DISTRICT: SAMPLE DISTRICT

GRADE: 01
TEST DATE: 04/09

Total Number Tested
25

	Reading	Mathematics
	Reading Comprehension	Mathematics Problem Solving
Number Possible	**40**	**42**
Number Tested	25	25
National Individual PR-S of Mean NCE	73.6	60.6
Natl PR Summary		
Number 76 - 99	12	9
51 - 75	5	8
26 - 50	6	5
1 - 25	2	3
Percent 76 - 99	48	36
51 - 75	20	32
26 - 50	24	20
1 - 25	8	12
Percent At/Above the National 50th PR	68	68
National Stanine Summary		
(Above Avg) 7,8,9 N	12	9
(Average) 4,5,6 N	11	13
(Below Avg) 1,2,3 N	2	3
(Above Avg) 7,8,9 %	48	36
(Average) 4,5,6 %	44	52
(Below Avg) 1,2,3 %	8	12
National NCE Statistics		
Mean	63.1	55.5
Standard Deviation	22.2	19.3
Percentiles		
P90 -90th	85.7	73.1
Q3 -75th	78.0	66.7
Median -50th	59.7	57.7
Q1 -25th	43.8	44.9
P10 -10th	33.5	15.6

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2007 NORMS: Spring

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What Information Is on the Arkansas Stanford 10 Item Analysis Summary?

An example Arkansas Stanford 10 Item Analysis Summary report is shown in Figure 5. The Item Analysis Summary report will be provided in district and state modes. The top part of the report shows identifying information such as district name, grade, and test date. Next, the report presents information on the items measuring each objective and cluster within the given Stanford 10 subtests. For each subtest, the report contains information on the item number, cluster, and percent selecting the correct answer.

Item Analysis Summary | SAMPLE DISTRICT

GRADE: 01
TEST DATE: 04/09

PAGE 1

SUBTEST / CLUSTER / OBJECTIVE / Items	Item Number	RESPONSE ANALYSIS PERCENT CORRECT		DISTRICT	NATIONAL	NOTES
MATHEMATICS PROBLEM SOLVING						
NUMBER SENSE AND OPERATIONS - CONTENT CLUSTER						
NUMBER SENSE						
Count from an initial number	1			25▼	94	
Count from an initial number	2			40▼	67	
Compare and order numbers to 100	3			35▼	90	
Identify number names and notation: matching notation	4			35	51	
Compare numbers and sets to 100	5			30▼	50	
Compare and order numbers to 500	6			45	43	
Identify a number that is 100 greater or 100 less than a given number	7			30▼	72	
Compare and order numbers to 100	8			40▼	84	
Identify ordinal positions	9			25▼	83	
Identify a fraction model that is part of a whole	10			20▼	82	
Solve problems involving place value concepts	11			30▼	61	
Identify units remaining after grouping 10's	12			40▼	71	
Compare and order numbers to 100	13			20	36	
Solve problems using numerical reasoning	14			25▼	86	
Identify the number set with the least or the most elements	15			40▼	61	
Match a numeral to a place value description	16			25▼	47	
Identify whole numbers on a number line						
CONTENT CLUSTER SUMMARY FOR **Number Sense**						
16 Items						
Mean p-value				32	67	
Above Average				15		
Average				0		
Below Average				85		
OPERATIONS						
Identify and use correct arithmetic operations to solve problems	17			25▼	88	
Identify a number sentence that represents the commutative property of addition	18			20▼	70	
Identify and use the 0 property for subtraction	19			35▼	70	
Solve problems using appropriate addition and subtraction strategies	20			40▼	86	

▼This group's performance on this item is significantly lower than that of the norm group.

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Figure 5. Arkansas Stanford 10 Item Analysis Summary

ACTAAP

Arkansas Comprehensive Testing, Assessment, and Accountability Program

1 2 3 4 5 6 7 8 9 10 11 12 A B C D E