

Performance Series[®] Scores

All About Performance Series
Scores and How to Use Them

Quick Reference



WHAT type of student information is
available through Performance Series?
And **HOW** do you use this data?

Scaled Score (SS)	002
Standard Error of Measure (SEM)	004
Gain	006
National Percentile Ranking (NPR)	008
Normal Curve Equivalent (NCE)	010
Standard Item Pool Score (SIP)	012
Reading Rate	014
Lexile Measure	016
Grade Level Estimate (GLE)	018
Suggested Learning Objective (SLO)	020

Scaled Score (SS)

The scaled score is a reliable estimate of the student's ability using the statistical Rasch model and is independent of grade level. Values can range from 1300 to 3700 in Performance Series. Most computer adaptive tests use this single-parameter model to determine a student's expected level of performance within a subject area. Performance Series tests have an average reliability of 90%.

How do you use this SS?

Use this score to track progress over time, from fall to spring or year after year, as a sort of educational yardstick. In the fall, use Performance Series to create groups or for student placement. Used alongside state test data, the SS can give educators or students a target for specific performance levels. In the spring, use the Gains reports (see "Gain" on page 6) to see if students hit that target.

The scaled score is the 'yardstick' to compare students to each other or themselves across time.

The learner will determine the missing elements of a series of numbers which create a pattern.

2400

2375

2350

The learner will determine the missing divisor or dividend in a division sentence.

2325

The learner will write division number sentences which represent real world situations.

2300

2275

The learner will extend geometric patterns.

2250

The learner will write number sentences to illustrate situations involving multiplying whole numbers.

The learner will demonstrate the associative property of multiplication.

2225

Scaled Score

2200

2175

The learner will determine the missing factor in a multiplication sentence.

The learner will determine the missing number in a subtraction number sentence.

2150

The learner will continue a number pattern.

2125

The learner will identify the missing symbol for a multiplication or division number sentence

2100

Standard Error of Measure (SEM)

The SEM is presented in scaled score points and identifies the +/- factor defined by the Rasch model and is the reliability statistic for adaptive assessments. This number is presented inside parentheses and is displayed for the:

- SS
- Average or Mean SS
- Gain Score
- Mean Gain Score

How do you use the SEM?

Use the SEM to establish confidence intervals around the scaled score estimates. A student with a SS of 2000 and an SEM of (50) has a score range of 1950-2050. Circled items are the Standard Error of Measure for the column and row.













Circled items are the Standard Error of Measure for the column and row.

All Subjects Summary

Report Scope: Locations

Broken Down By: Location

 Export XLS

Location ^	Grade	Item Pool	Reading Student Count	Mean Reading SS	SE of Mean Reading SS	Reading Overall SIP (%)	Math Student Count	Mean Math SS	SE of Mean Math SS
<u>Scantlon School District</u>	Overall		2821	2777 ↓			2821	2586 ↓	
	<u>Grade 2</u>	Grade 2	190	1868 ↓	(34)	33	190	2095 ↓	(14)
	<u>Grade 3</u>	Grade 3	179	2203 ↓	(34)	56	179	2205 ↓	(15)
	<u>Grade 4</u>	Grade 4	170	2465 ↓	(31)	67	170	2386 ↓	(13)
	<u>Grade 5</u>	Grade 5	180	2637 ↓	(24)	69	180	2373 ↓	(17)
	<u>Grade 6</u>	Grade 6	301	2766 ↓	(19)	73	301	2580 ↓	(13)
	<u>Grade 7</u>	Grade 7 *	302	2857 ↓	(19)	72	302	2655 ↓	(13)
	<u>Grade 8</u>	Grade 8 *	299	2903 ↓	(20)	66	299	2715 ↓	(14)
	<u>Grade 9</u>	Grade 9 *	300	2919 ↓	(26)	62	300	2672 ↓	(16)
	<u>Grade 10</u>	Grade 10 *	300	3019 ↓	(22)	66	300	2725 ↓	(17)
	<u>Grade 11</u>	Grade 11-12 *	300	3061 ↓	(20)	55	300	2764 ↓	(19)
	<u>Grade 12</u>	Grade 11-12 *	300	3089 ↓	(24)	58	300	2769 ↓	(18)

Gain

The student gain score is the difference between scores from two Performance Series assessments. Most often this is the difference between the Spring score and the Fall score. For classes or groups this is an average, or mean, of all the students in that category. This can display as a positive or a negative number. If a student scores a 1750 in the fall and a 1905 in the spring, his gain is 155.

How do you use the gain score?

Use this score to judge knowledge “gained” over time or to compare group or class growth within a school or district.

Additionally, use testing session scores from the Gains reports to determine if gains for the individual student or class is appropriate to the grade level. A number of documents can be used to assist with this review:

- Growth Trajectory charts
- Average Gains by Grade
- Average Gains by Quartile

Math Gains

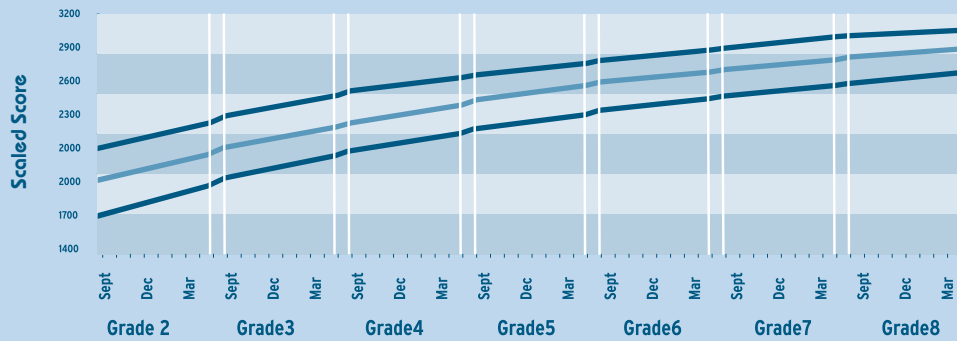
Report Scope: Classes
 Broken Down By: Class
 Export XLS

Time
 Stud

Class	Student Count	Testing Period 1 (7/1/03 to 11/30/03)		Testing Period 2 (4/1/04 to 6/30/04)		Gain	
		Mean SS	SE of Mean SS	Mean SS	SE of Mean SS	Mean SS Difference	SE
Grade 2 Homeroom, Sec. 1	35	1955	(22)	2071	(29)	+116	
Grade 2 Homeroom, Sec. 2	35	1977	(27)	2101	(34)	+124	
Grade 2 Reading, Sec. 1	30	1935	(23)	2054	(31)	+119	
Grade 2 Reading, Sec. 2	30	1991	(28)	2136	(31)	+145	
Grade 3 Homeroom, Sec. 1	30	2161	(34)	2241	(32)	+80	
Grade 3 Homeroom, Sec. 2	30	2163	(37)	2239	(40)	+76	

Positive gains appear in green.

Inter-Quartile Range for Growth Trajectories
 Reading National Sample (25th - 50th - 75th)



The pace of growth varies by ability level.

National Percentile Ranking (NPR)

The NPR uses the SS to compare the student to members of the Performance Series National Norm Group within the same grade level. The numerical value illustrates the percentage of students that the selected student would be expected to score above in norm group comparison. Different values appear for fall, winter, and spring test administrations to reflect different levels of knowledge for those time periods. NPRs are available for students who tested within the following windows: Fall: Aug. 20 - Nov. 22; Winter: Jan. 1 - Feb. 22; Spring: March 22 - June 15

How would you use the NPR?

For example, an NPR of 74 for a student would mean that his score is above 74% of his grade-level peers in the national norm group. This data is not related to state standards or comparable over time. This provides a national perspective for student performance to both parents and teachers.

Math National Percentile Rankings

Close

Report Scope: Locations


Time Frame: 7/1/03 to 6/30/04

Broken Down By: Location

Student Filtering: OFF

 [Export XLS](#)

Count: 1

Location	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
 Scantron Elementary Central	36	42	34	6							

Time Frame Clear Change
Time Frame: 7/1/03 to 6/30/04

Student Filtering: Demographics Clear Change
Demographic Filtering: All Included

Student Filtering: Groups Clear Change
Group Filtering: All Included

This school scores above 36% of 2nd graders from the national sample.

Normal Curve Equivalent (NCE)

Normal Curve Equivalents or NCEs are a transformation of the NPR onto a normal curve. NCEs are equal interval scores, while NPRs are not. Many state tests also provide an NCE score.

How would you use the NCEs?

NCEs can be used to indicate rate of growth within one year. Gains in NCE can indicate that a student is progressing faster than his/her peers. The reverse is also true.

Reading National Percentile Rankings


[Close](#)

Report Scope: Location:
Whiskers Elementary.

Time Frame: 9/1/06 to 3/20/08

Broken Down By: Student

Student Filtering: OFF

 [Export XLS](#)

Count: **2**

Student ^	Grade	NPR	NCE
Futtz, Lester	Grade 4	16	29
Haines, Martha	Grade 4	6	17

Time Frame [Clear](#) [Change](#)

Time Frame: 9/1/06 to 3/20/08

Student

Filtering: [Clear](#) [Change](#)

Demographics

Demographic Filtering: All Included

Student

Filtering: Groups [Clear](#) [Change](#)

Group Filtering: All Included

NPR National Percentile Rank for a student represents the percentage of students within his/her grade level with Scaled Scores below his/her Scaled Score.

NCE Normal Curve Equivalent (NCE) represents where a student score lies in the normal distribution (bell curve).

Standard Item Pool Score (SIP)

SIP scores are a grade-specific translation of the Scaled Score, in relation to state and national standards. Specifically, SIP scores express the probability of a student correctly answering each item within the item pool for his/her enrolled grade in that state.¹ For example, a fifth grade student who scores a SIP of 85 is expected to correctly answer 85% of the items aligned to the fifth grade standards. Both the overall subject score and the units are currently displayed with SIP scores.

How do I use the SIP score?








The SIP score, along with the SS, should be used to determine growth from the beginning of the year to the end. A lower SIP is expected for fall results, since they have not been instructed on that grade level material yet. A SIP of 23 in Number & Operations does not mean that a student “failed” Number & Operations. The SIP Score Table provided for each state displays the SIP scores for each SS in relation to each grade level. Find the SIP score table in Performance Series Help under each state curriculum alignment information. SIP scores are only comparable within one school year, since they relate to items in one specific grade level. Circled values are the SIP for that grade and subject.

All Subjects Summary

Report Scope: Locations

Broken Down By: Location

 Export XLS

Location ^	Grade	Item Pool	Reading Student Count	Mean Reading SS	SE of Mean Reading SS	Reading Overall SIP (%)	Math Student Count	Mean Math SS	SE of Mean Math SS	Math Overall SIP (%)	Language Arts Student Count	Mean Language Arts SS	SE of Mean Language Arts SS
Scantron School District	Overall		2821	2777			2821	2586			2821	2597	
	Grade 2	Grade 2	190	1868	(34)	33	190	2095	(14)	54	190	2227	
	Grade 3	Grade 3	179	2203	(34)	56	179	2205	(15)	52	179	2387	
	Grade 4	Grade 4	170	2465	(31)	67	170	2386	(13)	52	170	2522	
	Grade 5	Grade 5	180	2637	(24)	69	180	2373	(17)	32	180	2546	
	Grade 6	Grade 6	301	2766	(19)	73	301	2580	(13)	37	301	2621	

Circled values are the SIP for that grade and subject.

1. This probability is calculated using the Rasch Model:

“Rasch models are probabilistic measurement models which find their application primarily in psychological and attainment assessment, and are being increasingly used in other areas, including the health profession. Rasch models provide a foundation for the measurement of quantitative attributes and traits on a continuum, based on categorical data derived from interactions between persons and items. In principle, Rasch models can be applied in any experimental context in which persons interact with assessment questions or items in a manner that provides for comparisons between persons with respect to the magnitude of some attribute or trait.”

Found at http://en.wikipedia.org/wiki/Rasch_model on April 20, 2006

Reading Rate

This rate is based on a silent reading rate and is calculated by counting the number of words in the passages the student read and dividing that number by the time it took the student to read those passages. This score will only be accurate if the student reads the story (by him- or herself) before clicking “I have read the story” and answering questions.

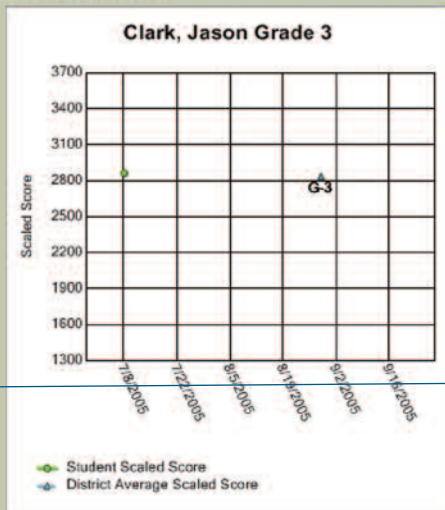
How do I use the reading rate?

When available, this score can be used as one indicator of reading fluency.

Not Applicable (NA) means that either the student did not reach a level of questions that could measure his reading rate or the unit is not adequately represented in the state or national standards for the student's grade level. By contrast, if this had read “N/M”, it means the student clicked “I have read this story” in less than five seconds, making Reading Rate a measure that cannot be calculated.

Reading Diagnostic Results

Reading Test History



[Enlarge View](#)

[Export XLS](#)

Test Date: 7/8/05
Grade: Third 2865 (62)
District Average Score: 2836 N: 8

Reading Test (Grade 3)

Test Date: 7/8/05

Unit	0%	SIP	100%
Reading Overall			
	Scaled Score: 2865 SEM: (62)		
Vocabulary			
Fiction			
Nonfiction			
Long Passage			

Score	Words Per Minute
Reading Rate	259

Score	0L	Lexile	1400L
Lexile® Measure			
Lexile Measure (Research)			
	? What is a Lexile® Measure? ? How does it relate to grade level? ? Find appropriate books.		

Lexile® Measure

The Lexile scale is a developmental scale for reading ranging from 200L for beginning readers to above 1700L for advanced text and is an optional feature offered through Performance Series. Matching the reader and text measures is the goal. This allows for selecting text that is targeted to a reader's reading ability, and the result is an expected 75-percent comprehension rate—not too difficult to be frustrating, but difficult enough to encourage reading progress.

The Lexile Measure is directed by developmental/age-related guidelines, the Lexile Measure (Research) is not. Since the Research measure is not bound by the same guidelines, these two scores may occasionally be different.

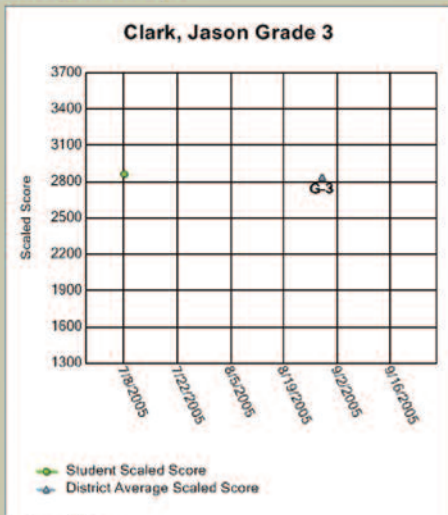
How would you use the Lexile?

Numbers of reading books and subject-matter texts are aligned to the Lexile scale. This measure can be used to determine the proper reading materials at the school library or could be given to parents to locate the appropriate level books on www.lexile.com under families. Additionally, the Lexile Measure (Research) can be used to track growth across grades, similar to the Scaled Score.

With Lexile Scores, links are provided directly to the Lexile site for immediate book searches from the Student Profile.

Reading Diagnostic Results

Reading Test History



[Enlarge View](#)

[Export XLS](#)

Test Date: 7/8/05
 Grade: Third 2865 (62)
 District Average Score: 2836 N: 8

Reading Test (Grade 3)

Test Date: 7/8/05

Unit	SIP
Reading Overall	96 Scaled Score: 2865 SEM: (62)
Vocabulary	97
Fiction	97
Nonfiction	96
Long Passage	96

Score	Words Per Minute
Reading Rate	259

Score	Lexile
Lexile® Measure	890L
Lexile Measure (Research)	945L

[? What is a Lexile® Measure?](#)
[? How does it relate to grade level?](#)
[? Find appropriate books.](#)

Grade Level Estimate (GLE)

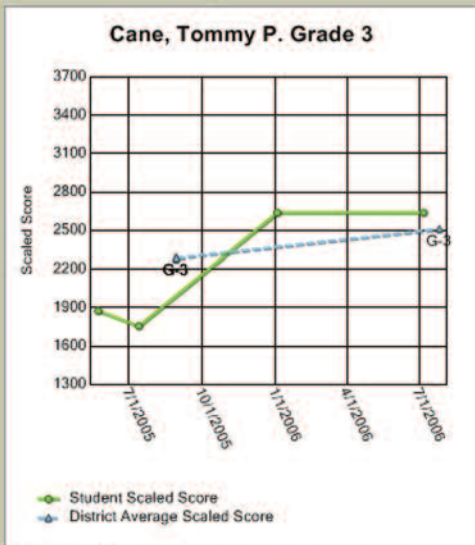
This optional feature uses a student's overall SS and positions it in relation to the National Norm Group. Values can range from less than 2.0 (< 2.0), 2.0 to 9.9, and greater than 9.9 (> 9.9). Since the national norm samples were used to develop the subject-specific GLE scales, this is a national data point and does not relate to individual state standards documents. For example, a third grader in the beginning of the school year takes the Performance Series Math test. The student in this example receives a Scaled Score of 2370 – a score equivalent to performance in the 90th percentile of the fall norm group. The Scaled Score of 2370 translates into the Grade Level Estimate Scale of 4.5.

How do you use the GLE?

Using the GLE score does not mean the student, in the example above, should be promoted to the fourth grade, since he/she may not have the curricular framework to do actual fourth grade work. Instead this means that the student should be challenged throughout the year with more complex materials that meet necessary state objectives at their current grade level. It also can be interpreted to mean that this state has fairly aggressive expectations for third grade, in comparison with the national norm sample.

Mathematics Diagnostic Results

Mathematics Test History



[Enlarge View](#)
[Export XLS](#)

Mathematics Test (Grade 3)

Test Date: 7/6/06

Unit	0%	SIP	100%
Mathematics Overall	<div style="width: 85%; background-color: green; height: 10px;"></div> 85 Scaled Score: 2639 SEM: (58)		
Geometry	<div style="width: 82%; background-color: green; height: 10px;"></div> 82		
Data Analysis & Probability	<div style="width: 84%; background-color: green; height: 10px;"></div> 84		
Algebra	<div style="width: 91%; background-color: green; height: 10px;"></div> 91		
Measurement	<div style="width: 74%; background-color: green; height: 10px;"></div> 74		
Number & Operations	<div style="width: 88%; background-color: green; height: 10px;"></div> 88		

Score	<2.0	GLE	>9.9
Grade Level Equivalent (GLE)	<div style="width: 7.5%; background-color: green; height: 10px;"></div> 7.5		

Suggested Learning Objective (SLO)

This report uses the scaled score and your state alignment guides to determine where to focus the student's learning next. Options allow you to display objectives that are expected to be mastered on future assessments alongside objectives or skills areas the student should focus to improve performance. These are always listed in the order of difficulty, the first being the least difficult.

How do you use the SLO report?

This data should direct individual interventions in the classroom based upon skills within the aligned state standards. The SLO report can assist with additional skills-based material through the study guides available in the Skills Connection Online module. SLO data is also helpful to let parents know where their student has succeeded and how to focus their assistance to help him/her to improve.

Suggested Learning Objectives PDF Help

Suggested Learning Objectives
Step 3 of 3 Close

Student

Name: Cane, Tommy P.

Mathematics - Algebra Targeted Instruction: [icon]

Successfully Attained	Suggested Learning Objectives
<input checked="" type="checkbox"/> 3AF.1.2/4AF.1.1: The learner will determine the missing factor in a multiplication sentence.	<input type="checkbox"/> 6NS.1.3: The learner will solve a mathematical proportion using algebraic methods.
<input checked="" type="checkbox"/> 3AF.1.5: The learner will demonstrate the associative property of multiplication.	<input type="checkbox"/> 6AF.1.2: The learner will evaluate a given variable expression by substituting the given values.
<input checked="" type="checkbox"/> 5AF.1.2: The learner will write number sentences to illustrate situations involving multiplying whole numbers.	<input type="checkbox"/> ALGEBRA-1 14.0 (HSEE): The learner will solve quadratic equations in real world situations.
<input checked="" type="checkbox"/> 2PS.2.1: The learner will extend geometric patterns.	<input type="checkbox"/> 6AF.1.1: The learner will obtain solutions to one step linear equations.
<input checked="" type="checkbox"/> 3AF.1.2/4AF.1.1: The learner will determine the missing divisor or dividend in a division sentence.	<input type="checkbox"/> 5AF.1.2/7AF.1.1 (HSEE): The learner will determine the correct equation for a word problem and solve.
<input checked="" type="checkbox"/> 3AF.1.1/5AF.1.2: The learner will write division number sentences which represent real world situations.	All appropriate Suggested Learning Objectives have been listed.
<input checked="" type="checkbox"/> 2PS.2.1: The learner will determine the missing elements of a series of numbers which create a pattern.	
<input checked="" type="checkbox"/> 3MR.1.1/4MR.1.1: The learner will identify when information is missing or extraneous.	
<input checked="" type="checkbox"/> 3MR.1.1/4MR.1.1/6MR.1.1/7MR.1.1 (HSEE): The learner will determine missing or extraneous information in problem solving scenarios.	
<input checked="" type="checkbox"/> 5AF.1.2: The learner will identify the expression to be used in solving a word problem.	

A list of suggested learning objectives is provided, in order of difficulty, for immediate instructional adjustment.

Product Training

Our experienced training team has a strong background in education and is dedicated to building capacity for change within schools through a series of training and consulting activities.

Training and staff development courses are offered on-site at customer locations or via online webinars and can be customized to meet your needs. For additional information on courses offered or to schedule training, please contact us at 1.800.SCANTRON ext 7458 or k12sales@scantron.com.

The Data Driven Classroom: Professional Development Series I, II and III

Part of a successful assessment implementation includes the ability to use scores to improve student learning. The Data Driven Classroom for Performance Series includes three programs that can be administered together or separately to provide techniques to combine student scores, state standards and instructional resource options that connect classroom progress and communications with both peers and students.

- PD Series I: Classroom Applications of Data
- PD Series II: Making the Connection-Students, Parents, and Peers
- PD Series III: Evaluating Student Progress & Growth

Scantron Technical Support

Scantron Technical Support is available to answer your support questions.

Web site: www.scantron.com

Phone: (800) 445-3141

Fax: (949) 639-7710

Email: support@scantron.com

Technical Support is available Monday through Friday, from 5:30 am to 4:30 pm Pacific Time, excluding holidays.

