

About SRI

What is Scholastic Reading Inventory (SRI)?

SRI (SRI) is a research-based, computer-adaptive reading assessment for Grades K–12 that measures students' level of reading comprehension and reports it using the Lexile Framework® for Reading. Data aggregation and disaggregation by demographic subgroup helps administrators monitor progress toward Annual Yearly Progress (AYP) while classroom and student-level reports help teachers to place students, differentiate instruction, monitor progress, and forecast state test results.

What is SRI Enterprise Edition?

The newest edition, the Enterprise Edition of the suite of Scholastic technology products, is built on *Industry-Standard Technology* that is smarter and faster and features *SAM* (Scholastic Achievement Manager)—a robust new management system. *SAM* provides district-wide data aggregation capabilities to help administrators meet AYP accountability requirements and to provide teachers with data to differentiate instruction effectively.

What grade levels does SRI cover?

SRI may be used with students in Grades K through 12. While kindergarten and first-grade students can be enrolled in *SRI*, we recommend they use the assessment only if they are already reading.

What are the top ten features of SRI Enterprise Edition?

1. **Assess Reading Levels:** *SRI* produces accurate measures of students' reading abilities to help educators make school and district-wide instructional decisions to improve overall student achievement.
2. **Progress Monitoring:** *SRI* tracks reading progress over time, to help identify struggling readers, plan for instruction, gauge the effectiveness of a curriculum, and demonstrate accountability.
3. **Actionable Results:** *SRI* generates criterion- and norm-referenced results for each student, including a percentile rank, stanine, normal curve equivalent (NCE), grade-level standard, performance standard, and native Lexile measure.
4. **Comprehensive Reports:** More than 20 actionable reports provide valuable and timely information that clearly connects to classroom instruction and aligns to *No Child Left Behind (NCLB)* requirements.
5. **Computer-Adaptive:** The test's level of difficulty automatically adjusts in response to students' answers, resulting in fast, accurate assessment, with no "test burnout" for students.
6. **Authentic Text Passages:** All *SRI* test questions are based on authentic text passages, both fiction and nonfiction, that increase test validity as well as student interest and motivation.
7. **Match Students to Books:** Based on the *Lexile Framework for Reading*, *SRI* gives each student a personalized reading list of books matched to his or her interests and measured Lexile level.
8. **Demonstrate Accountability:** Now with full data aggregation capabilities, *SRI* Enterprise Edition enables educators to disaggregate student data by demographic subgroups to demonstrate accountability and measure progress toward AYP.

9. **Quick and Easy Administration:** *SRI* is entirely computer-based and can be administered independently in as little as 20 minutes. *SRI's* flexible and advanced technology allows tests to be administered in schools throughout districts simultaneously.
10. **Flexible and Economical:** Educators have unlimited access to *SRI* including tests and over 20 reports. Student testing licenses are reusable from year to year making formative assessment an affordable component of any curriculum.

How does *SRI* work?

With *SRI*, students receive a score in approximately 20 minutes:

1. Students log on and enter their username and password.
2. Students select areas of reading interest.
3. Students spend approximately 20 minutes taking the computer-adaptive test.
4. Students receive a personalized reading list based on their chosen interests and measured reading level (Lexile measure).
5. Educators immediately have access to clear, actionable reports.

How often should *SRI* be administered?

We recommend that *SRI* be administered three to four times a year: at the beginning, middle, and end of the school year. Spacing the assessments in this way allows time between tests for students to make gains through instruction and practice and for teachers to make informed instructional decisions.

What types of reports does *SRI* generate?

Using the Scholastic Achievement Manager (SAM), educators immediately have access to over 20 actionable reports that can be disaggregated by AYP criteria to monitor progress and forecast state test results. Classroom- and student-level reports allow teachers to monitor progress, plan for instruction, set goals, and communicate with parents or caregivers. Go to <http://teacher.scholastic.com/products/SRI/management.htm> for more information and to view sample reports.

Which demographic sub-groups are available through *SRI* reports?

All of the demographic sub-groups identified by *NCLB* are available within *SRI* as well as customizable criteria that can be defined by the school or district.

About *SRI's* Assessment Features

What is a computer-adaptive test?

SRI utilizes computer-adaptive technology. As a student takes the test, the software monitors the response to every question. If the student answers incorrectly, the next question will be slightly easier. If the student answers correctly, the next question will be slightly harder. Therefore, the test "adapts" to the student's ability, adjusting the difficulty level of each question until the student is precisely matched to a Lexile level. Computer-adaptive technology results in fast, accurate assessment with no "test burnout" for students.

What types of passages does *SRI* use to assess students?

SRI uses only authentic text passages. All items in the item bank are based exclusively on passages from authentic children's books, both fiction and nonfiction, as well as excerpts from young adult and classic literature, newspapers, magazines, and periodicals. *SRI* tests overall comprehension of this literature, providing educators with actionable data that can be used to improve performance.

Which item format does *SRI* use to assess students?

SRI uses the *embedded completion* item format, which is similar to the fill-in-the-blank or cloze format and directly assesses the reader's ability to draw inferences and establish logical connections between the ideas in the passage.

Which comprehension skills are needed to answer *SRI* questions correctly?

SRI is designed to measure how well students understand literary and expository texts of varying degrees of difficulty. *SRI* measures reading comprehension by focusing on the skills readers use when studying written materials from various content areas. These skills include identifying details in a passage, identifying cause-and-effect relationships and the sequence of events, drawing conclusions, and making comparisons and generalizations.

What are Lexiles and how are they used in *SRI*?

The Lexile Framework for Reading is a scientific approach to reading comprehension and text measurement that matches a reader's ability to a text's difficulty, allowing individualized monitoring of progress. It includes the Lexile measure and the Lexile scale. The Lexile measure is a reading ability or text difficulty score followed by an "L" (e.g., "850L"). *SRI* uses the developmental Lexile scale for texts ranging from 100L for beginning readers (BR) to above 1500L for advanced readers. Because *SRI*'s standard error of measure is ± 50 , any score below 100L is reported as "BR." Any score above 1500L is reported as 1500+ due to the limited number of authentic texts available to provide items aligned to scores above 1500L. All Lexile Framework products, tools, and services rely on the Lexile measure and scale to match reader and text.

Lexile measures are the most widely adopted reading measures in use today. Tens of thousands of books and tens of millions of newspaper and magazine articles have Lexile measures—more than 450 publishers Lexile their titles. Using Lexiles, teachers can match students to texts for both their interest level and reading ability—essentially tying assessment to instruction on a daily basis.

Why do I sometimes see my students' scores decrease from one administration to the next?

Changes in test scores from one administration to the next may be the result of several factors besides instructional interventions. There are external factors (separate from the test itself) that can and will impact the score. A student's reading level may have actually changed, so any instruction or practice that took place between test administrations must be considered. In addition, the student's state of body and mind at the time of testing can greatly affect the test score. The student may be tired, hungry, or distracted during an administration, which can impact performance.

There are also factors internal to the tests that can lead to differences in scores, even if the scores are being reported on the same scale. The item format, length of test, and level of difficulty can greatly impact the score. In addition, every test has a predictable amount of measurement error that affects a student's score and will vary from test to test. *SRI* has been designed to minimize the measurement error for any given student. For each test administration, *SRI*'s algorithm selects items based on the student's response to the previous item. If the student answered the item correctly, then a harder item is selected; if the student answered the item incorrectly, then an easier item is selected. The test constantly adjusts between more and less difficult items, but makes more precise adjustments each time. The result is to zero in on the student's true ability with the least measurement error possible. *SRI*'s test engine takes this a step farther. With each subsequent administration, the test starts at the level where the student's

previous test left off. Over time, with repeated administrations of *SRI*, the measurement error associated with a score gets smaller and smaller, resulting in much greater accuracy in reading-level measurement.

How were the cut scores established for the various proficiency levels reported by the *SRI*?

The cut scores used to define the several *SRI* performance standards were set using a well-established, conventional norming procedure. A panel of educators, including curriculum specialists, test development consultants, and other relevant educators, was convened to help set the cut scores. This panel first reviewed established reading performance standards that could be reported on the Lexile scale. They reviewed two types of standards: reader-based and text-based standards. For the reader-based standards, panel members were given information about when the standards had been established, the policy definitions of the standards (where available), the proficiency descriptors associated with each standard, the method used to set the standards, and what data, if any, had been given to previous panel members to indicate the consequences of setting the proficiency levels at certain scores.

Reader-based standards were derived from several large-scale standardized tests along with state testing programs that report results using the Lexile scale. These included the Stanford Achievement Test—Version 9, the North Carolina End-of-Grade Test, and the National Assessment of Educational Progress (NAEP).

Text-based standards were derived using the Lexile scale resulting from numerous text sources, including the reading passages of the NAEP Grades 4, 8, and 12; text materials found in classrooms and for which Lexile values were available; materials associated with adult literacy; novels; grade-level-based curriculum materials, such as *READ 180* by Scholastic Inc.; and other materials associated with literate citizenship (e.g., newspapers; readings on morals, ethics, and religion; etc.).

In Round One of setting proficiency standards, panel members studied the previously established standards and individually determined the Lexile measures that each thought should define student performance within the “Proficient” category (i.e., the top and bottom Lexile values for a “Proficient” score).

In Round Two, these Lexile values were disseminated among the members of the group. The panel discussed the values and reached a consensus about which values were appropriate for each grade. In addition, the panel identified lower intervention or “at-risk” points for flagging students who score significantly below grade level on *SRI*.

Finally, in Round Three, impact data using reader-based standards were provided to panel members for the purpose of adjusting, if they deemed necessary, the cut scores of the proficiency categories. Impact data showed the panel members what percentage of a sample of students would fall into the several proficiency categories given the score ranges adopted by the panel. The panel could then decide to make further adjustments.

The final cut scores that resulted from this process are presented in the Scholastic publication, *Scholastic Reading Inventory Interactive Technical Guide*.

What is “cloze” and how is it used in *SRI* to create questions? Is it a good measure of reading comprehension?

In its simplest form, cloze is a deletion procedure used to measure syntactic and semantic understanding. In the basic cloze test, after the eighth or tenth word of a selection, every seventh or tenth word (the value varies depending on the approach) is deleted, including function words such as articles, conjunctions, etc. The student's task is to restore the deleted words. *SRI* does not use a strict cloze procedure to create questions. No words are deleted from the passages that students are presented. Only the embedded completion items, described above, omit a word or phrase, and the rules for this missing word differ from those used to create traditional cloze reading test passages. The blanks or missing phrases are designed to assess specific aspects of a student's comprehension of the reading selection and thereby provide a much more complete and in-depth measure of reading comprehension than conventional cloze test items.

Since most of the items in *SRI* use single words rather than phrases as response options, how can I be sure that the student's ability to answer correctly is not being affected by their vocabulary knowledge rather than their ability to comprehend what they have read?

Because *SRI* is a computer-adaptive assessment, each of the items is intended to probe students' comprehension of the corresponding passage. The response options for all of the items in *SRI* were written to be at or below the reading level of the passage. In addition, the response options were written to be at the same approximate level. Most students are likely to be equally familiar with all four response options. Students are likely to experience difficulty with vocabulary only if they see passages and items that are above their reading level, and *SRI* supplies easier items when students answer incorrectly.

Below is information from *Scholastic Reading Inventory Using the Lexile Framework Technical Manual* about the item format:

There are two main advantages to using the embedded completion item format in *SRI*. The first is that the level of reading of the statement and the four options is controlled to insure that their difficulty level is easier than the most difficult word in the passage. The second advantage of the embedded completion format is that authentic passages are used and no attempt is made to control the sentence length or vocabulary of the passage. The embedded completion statement is as short or shorter than the briefest sentence in the passage. These two advantages help insure that the statement is easier than the accompanying passage.

The statement portion of the embedded completion item can assess a variety of skills related to reading comprehension: paraphrase information in the passage; draw a logical conclusion based on the information in the passage; make an inference; provide a supporting detail; or make a generalization based on the information in the passage. The statement is written to ensure that by reading and comprehending the passage the reader is able to select the correct option. When the statement is read by itself, any of the four options could be plausible.

Item writers were provided vocabulary lists to use during statement and option development. The vocabulary lists were compiled from word lists compiled by MetaMetrics based on vocabulary research related to determining the Lexile measures (difficulty) of words. The rationale was that these words should be part of a reader's "working" vocabulary since they had been learned the previous year.

How do I articulate "one year's growth" using Lexiles? For example, if a student starts the year with a Lexile of 550L, according to *SRI*, what Lexile would be needed to show one year's worth of growth?

There are several ways of measuring "one year's worth of growth." If the student is in seventh grade, for example, one way to interpret one year's growth is by finding the difference between the Lexile score at the 50th percentile in seventh grade and the Lexile score at the 50th percentile in eighth grade. It is important to note, however, that reading development is not linear; that is, younger students are expected to show more growth than older students.

With that in mind, if the seventh grader above is actually reading at a second-grade level, one could also review the growth expectations from the 50th percentile in second grade to the 50th percentile in third grade, a larger difference than would be calculated in the first example.

Are there grade-level equivalents associated with the Lexile scores reported by *SRI*?

The Lexile scale is a criterion-referenced, continuous scale. Therefore, grade equivalents are less relevant to it than to other strictly norm-referenced scales. If you review the poster *SRI and the Lexile Framework* included with the *SRI* software, you will notice that the Lexile values associated with the materials for a given grade comprise a range, and the range spans more than one grade. In other words, when it comes to text-based measures, there is no single value that can be said to characterize *all* the written materials in a given grade. Similarly, if you review the normative results from *SRI*, you will see that ability within a grade spans a range of Lexile values.

The closest approximation of a given reader-based Lexile measure to a grade equivalent is the median Lexile score for that grade; that is, the Lexile score equivalent to the 50th percentile for the grade. For example, the Lexile score equivalent to the 50th percentile in spring of Grade 4 is 700L; therefore, fourth grade could be considered the grade equivalent for that score. Notice, however, that for the 50th percentile in spring of fifth grade, the corresponding Lexile scores are 805L and 810L. In this case, these two scores—or the range of scores between them—correspond to the fifth-grade level.

Again, this approach is useful for approximating grade-level equivalents. A central feature of the Lexile Framework is its continuous and criterion-referenced scale. The Lexile Framework reports on a scale of text difficulty that more readily enables you to select appropriate reading materials and, where the difficulty of the materials is fixed by the curriculum, adjust your instructional support. Strict grade equivalents, on the other hand, do not provide this flexibility.

Research and Validation

What is the research and validation behind *SRI*?

SRI has undergone extensive studies and has been proven to be an accurate indicator of performance on end-of-year state tests.

The *Technical Guide* included with the product describes how *SRI* was developed as well as its technical specifications, validity, reliability, and scoring.

What do the normative data reported by *SRI* indicate?

Norms are derived from the administration of a given assessment, in this case *SRI*, to a large and representative sample of students across several grades. Students are selected to represent as closely as possible the relevant characteristics of the national population of students. The results

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of this large, grade-by-grade administration (or the accumulation of data that produces a sample large enough to be representative) create grade-specific, rank-ordered distributions of performance. In other words, for each grade, scores are arranged from lowest to highest to determine the percentage of students at each score. The percentile rank associated with each score represents that score's position in the ranking.

Because the sample from which the percentile ranks are derived is large and nationally representative, it can be used to determine how your students compare nationally to students in the same grade. For example, when a student earns a Lexile score at the 35th percentile on *SRI*, he or she is doing as well as or better than 35% of students nationally in the same grade. A student who scores at the 50th percentile is doing as well as or better than 50% of students nationally in the same grade. Percentile ranks do not tell you in absolute terms how well your students are doing, only how well they are doing *compared to other students at their grade level*. In other words, normative information tells you nothing about students' mastery of the knowledge, skills, or abilities being measured, only about the relative standing of students compared to one another.

What was the norming sample for *SRI*?

The normative information that informs *SRI* is based on a large sample of students in a medium to large state in the U.S. The demographics of the sample were similar to the school-age population in the United States as a whole: 66.3% White, 29.3% African American, 1.7% Native American (American Indian), 1.2% Hispanic, 1.0% Asian, and 0.6% Other. Less than 1% (0.7%) were classified "limited English proficient," and 10.1% were classified "students with disabilities." Approximately 40% were eligible for free or reduced-price lunch, and approximately half of the schools in the state had some form of Title 1 program. Finally, the distribution of scores for students in the sample on norm-referenced and other standardized measures of reading comprehension (other than *SRI*) was similar to those reported for national samples.

Why do students' Lexile measures reported by *SRI* sometimes differ from those reported by another assessment?

SRI produces a score, or estimate, of reading ability based on a well-defined set of procedures that make continual use of information collected while the student is taking the test.

A Lexile reported by a paper-and-pencil test may differ from a Lexile reported by a computer-adaptive test simply because a paper-and-pencil test delivers the same items to each student, regardless of reading level, whereas a computer-adaptive assessment continually tries to deliver items that keep the student at a 75% comprehension rate, resulting in a more accurate Lexile measure.

Two Lexiles derived from computer-adaptive assessments may also differ for several reasons. External factors aside, all tests have a Standard Error of Measurement (SEM) that will cause predictable variance in results. See the next question for details on the SEM of *SRI*.

What is Standard Error of Measurement (SEM) and how does it affect *SRI*'s scoring and reporting?

Every test has some inherent measurement error related to how the test items were developed and calibrated and the number of questions asked. In addition, the test taker always introduces a degree of measurement error due to prior knowledge, health, and/or motivation. *SRI* is also subject to measurement error caused by a student's unfamiliarity with the test's item format and

mode of administration (paper and pencil versus computer) and lack of prior knowledge of a student's reading ability.

As a student takes the *SRI* multiple times, more information is gathered about the student's true reading ability and stored within the program. This history and students' growing comfort and familiarity with the assessment lead to more accurate test targeting.

For example, the SEM for the first administration of *SRI* is approximately 93L when **only** the student's grade level is known, but SEM is reduced to approximately 56L when both grade **and** reading level are known. The table below shows the average SEM on *SRI* by extent of prior knowledge. Essentially, the more information *SRI* has about a student's reading level at any given administration, the more accurate the results will be, and, correspondingly, the lower the SEM.

Average SEM on the SRI Interactive by extent of prior information		
Number of Questions	SEM: Grade Level Known	SEM: Grade and Reading Level Known
15	104L	58L
16	102L	57L
17	99L	57L
18	96L	57L
19	93L	57L
20	91L	56L
21	89L	56L
22	87L	55L
23	86L	54L
24	84L	54L

Relationship Between State Test Results and *SRI*

Can state test results be used to adjust the starting point for students taking the *SRI* for the first time?

There are several ways to use state reading test results to adjust the starting point for students taking the *SRI*. Which method you use will depend on the way in which your state reports results from the reading and/or language arts portions of your state end-of-year assessment. In particular, your state may use a test for end-of-year *NCLB* reporting from which Lexile scores are available. If this score is available, you can enter it in *SRI* before testing the student. State test results are also often reported by percentile rank and their corresponding stanines. If you have this additional information, you should enter it as well. In the absence of Lexile scores from your state's test, you should enter percentile and stanine data where available.

Is *SRI* useful for predicting students' results on end-of-year state tests?

Research conducted by Scholastic, along with research conducted independently by educators using *SRI*, has demonstrated that there is a strong and positive correlation between results obtained by *SRI* and state end-of-year assessments. In particular, when *SRI* is administered early in the school year, results can be used to identify students who may be at risk for not achieving the targeted proficiency levels in reading on end-of-year assessments. While all students can be tested and monitored throughout the school year with *SRI*, certainly students in the lowest quartile (and perhaps the lowest two quartiles) should be targeted for instructional intervention and their progress monitored throughout the year. When used in a programmatic way, *SRI* can serve as a valuable tool for evaluating the effectiveness of a particular intervention. Moreover, because *SRI* reports student results on a criterion-referenced scale that indicates the difficulty of materials that a student can read, it can also be used to select classroom reading materials as well as materials for independent reading. Criterion-referenced scores can also be used to evaluate the difficulty that struggling readers are likely to experience with the mandated materials that are a fixed part of your curriculum.

See *Because You Can't Wait Until Spring: Using the SRI to Improve Reading Performance* by Dr. Kim Knutson on using *SRI* to predict state test results for the Florida Comprehensive Assessment Test (FCAT) at: <http://teacher.scholastic.com/products/sri/research.htm>

How does *SRI* connect to high-stakes tests?

The Lexile Framework has been linked to most national norm-referenced assessments, including many individual state tests. By utilizing the Lexile Framework, *SRI* gives educators a unique opportunity to bridge the gap between high-stakes assessment and instruction and provides an indication of future performance on such tests.

High correlations with many standardized tests strongly validate *SRI* as a measure of reading comprehension. (See Enterprise Edition Tables 1 and 2 below.)

Table 1. Correlations of the SRI-P			
Test	Grade	Correlation	N
Stanford Achievement Test (SAT-8)	4	.82	16,921
	5	.79	16,870
	6	.79	20,888
	7	.80	20,349
	8	.82	19,520
	9	.79	19,527
North Carolina End-of-Grade Test of Reading Comprehension (NCEOG)	3	.85	104
	5	.90	113

(Scholastic, 1999)

Table 2. Correlations of the SRI-I			
Test	Grade	Correlation	N
SRI-P	3–5, 7	.83	93–122
Comprehensive Test of Basic Skills (CTBS)	5	.74	110
	7	.56	117
North Carolina End-of-Grade Test of Reading Comprehension (NCEOG)	3	.73	109
	4	.67	104
Pinellas Instructional Assessment Program (PIAP)	3	.62	107

(Scholastic, 2001)

In addition to the correlations above, the Lexile Framework for Reading has been linked to several standardized tests of reading comprehension. The results of some of these studies are presented in Table 3.

Table 3. Linking Studies with the Lexile Framework for Reading			
Test	Grade	Correlation	N
Stanford Achievement Test (SAT-9)	4,6,8,10	.92	1,167
Stanford Diagnostic Reading Test (SDRT-4)	4,6,8,10	.91	1,169
North Carolina End-of-Grade Test of Reading Comprehension (NCEOG)	3–5, 8	.90	956

(Scholastic, 2001)

More recently, Scholastic Education's Research and Validation Department sponsored a study linking the SRI to the Florida Comprehensive Assessment Test (FCAT), the results of which are presented in Table 4.

Table 4. Correlations of SY2001–02 Fall and Spring with Spring 2002 FCAT Reading Scale Scores				
Grade	Fall SRI-I Lexile	N	Spring SRI-I Lexile	N
3	.75	10,587	.81	11,086
4	.76	10,657	.82	11,210
5	.73	10,659	.79	11,270
6	.76	11,043	.81	10,807
7	.73	10,751	.77	10,466
8	.75	10,139	.78	9,856
9	.73	11,948	.77	11,203
10	.71	6,884	.75	7,056

(Knutson, 2006)

References

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