

## Calibrating Assessments at Des Moines Public Schools

**Snapshot Summary.** New cut points for SRI and SMI achievement levels have been established for the 2013-14 school year. These revised achievement levels will allow schools and teacher to use the SRI and SMI assessments to more accurately predict Iowa Assessments proficiency and Common Core grade level performance.

Through a test equating process, equivalent scores of the Reading/ Mathematics Iowa Assessment and SRI/SMI were established to find equivalent the scores on the different assessments. These equivalent scores were used to determine SRI and SMI achievement level cut points that more accurately predict performance on the Iowa Assessments and Common Core grade level performance.

The assessment department has created new achievement level cut points for the Scholastic Reading Inventory (SRI) and Scholastic Math Inventory (SMI). These revised achievement levels will allow schools and teachers to use the SRI and SMI assessments to more accurately predict Iowa Assessments proficiency and Common Core grade level performance. With the new cut points:

- The basic cut point (lower threshold of the achievement level) aligns with proficiency on the Iowa Assessments.
- The proficient cut point (lower threshold of the achievement level) aligns with Common Core expectations.

These new achievement levels have been programmed into the SRI and SMI databases (SAM).

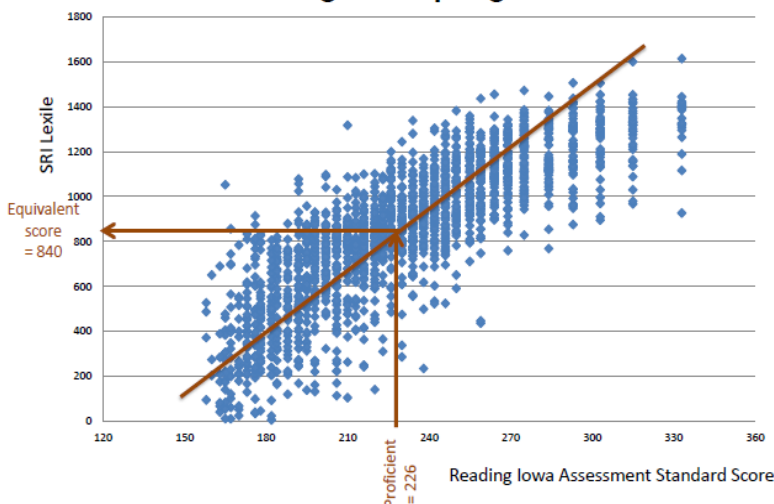
**Methodology.** Data from DMPS students who took both the reading Iowa Assessment and SRI in the spring of 2013 were used to calibrate cut points for the reading assessments. Data from DMPS students who took both the mathematics Iowa Assessment and SMI in the spring of 2013 were used to calibrate cut points for the mathematics assessments. Through the

process of test equating, comparable scores on the two different tests were determined.

In essence, the following steps were used to equate the SRI with the reading Iowa Assessment and the SMI with the mathematics Iowa Assessment.

1. For each assessment and tested grade level, all students who took both the Iowa Assessments and the SRI or SMI in the spring of 2013 were plotted on a graph. For example (see graph below), when comparing the 7<sup>th</sup> grade reading assessments, the reading Iowa Assessments standard score was plotted on the x-axis and SRI Lexile score was plotted on the y-axis.
2. The best fit line that determined the relationship between the reading Iowa Assessment standard score and SRI Lexile score was established.
3. The reading Iowa Assessment proficiency cut score (226) was located on the graph.
4. Using the best fit line, the equivalent SRI Lexile score was located (840).

**7th Grade SRI Lexile and Iowa Assessments Reading NSS, Spring 2013**



Therefore, a Lexile score of 840 at grade 7 is used as the score to predict proficiency on the 7<sup>th</sup> grade reading Iowa Assessment. This process was repeated for all tested grade levels in both reading and mathematics.

The following SRI and SMI achievement level cut points were established.

SRI/SMI Cut Point	Measure
Basic (lower threshold)	Iowa Assessment proficiency
Proficient (lower threshold)	Common Core grade level performance (end of year)
Advanced (lower threshold)	Top ten percent of spring 2013 SRI/SMI scores

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**Implications.** These equated cut points allow DMPS schools and teachers to more accurately predict student proficiency on the Iowa Assessments and Common Core grade level performance. The new achievement level cut points are significantly different than the cut points used during the 2012-13 school year (see below).

Scholastic Reading Inventory (SRI)									
Previous (2012-13) Achievement Levels					New (2013-14) Achievement Levels				
Grade	Below Basic	Basic	Proficient	Advanced	Grade	Below Basic	Basic	Proficient	Advanced
3	BR - 249	250 - 499	500 - 800	800+	3	BR - 344	345 - 584	585 - 829	830+
4	BR - 349	350 - 599	600 - 900	900+	4	BR - 484	485 - 759	760 - 949	950+
5	BR - 449	450 - 699	700 - 1000	1000+	5	BR - 624	625 - 844	845 - 1079	1080+
6	BR - 499	500 - 799	800 - 1050	1050+	6	BR - 789	790 - 954	955 - 1139	1140+
7	BR - 549	550 - 849	850 - 1100	1100+	7	BR - 839	840 - 1019	1020 - 1249	1250+
8	BR - 599	600 - 899	900 - 1150	1150+	8	BR - 929	930 - 1069	1070 - 1269	1270+
9	BR - 649	650 - 999	1000 - 1200	1200+	9	BR - 999	1000 - 1149	1150 - 1299	1300+
10	BR - 699	700 - 1024	1025 - 1250	1250+	10	BR - 1049	1050 - 1199	1200 - 1349	1350+
11-12	BR - 799	800 - 1049	1050 - 1300	1300+	11-12	BR - 1099	1100 - 1249	1250 - 1399	1400+

Scholastic Math Inventory (SMI)									
Previous (2012-13) Achievement Levels					New (2013-14) Achievement Levels				
Grade	Below Basic	Basic	Proficient	Advanced	Grade	Below Basic	Basic	Proficient	Advanced
2	EM - 100	105 - 215	220 - 420	425 - 600	2	EM - 210	215 - 375	380 - 585	590+
3	EM - 215	220 - 395	400 - 520	525 - 800	3	EM - 340	345 - 495	500 - 710	715+
4	EM - 350	355 - 465	470 - 720	725 - 900	4	EM - 455	460 - 670	675 - 790	795+
5	EM - 550	555 - 675	680 - 820	825 - 1000	5	EM - 535	540 - 705	710 - 920	925+
6	EM - 640	645 - 775	780 - 950	955 - 1100	6	EM - 640	645 - 785	790 - 955	960+
7	EM - 700	705 - 885	890 - 1040	1045 - 1150	7	EM - 670	675 - 850	855 - 980	985+
8	EM - 800	805 - 1025	1030 - 1140	1145 - 1250	8	EM - 695	700 - 870	875 - 1020	1025+
9	EM - 865	870 - 1095	1100 - 1220	1225 - 1350	9	EM - 755	760 - 935	940 - 1095	1100+

The new achievement level cut points are an improvement over previous cut points in their ability to predict performance, but they are not perfect predictors. DMPS schools and teachers should expect a 15 percent misclassification rate when predicting Iowa Assessments proficiency with the SMI and SRI basic achievement level cut point. Approximately 15 percent of all students will either be at or above the basic achievement level but not proficient on the Iowa Assessments or below the basic achievement level but proficient on the Iowa Assessments.

For more information about the SRI, SMI and Iowa Assessments, visit the websites below:

- Scholastic Reading Inventory (SRI): [www.scholastic.com/sri/](http://www.scholastic.com/sri/)
- Scholastic Math Inventory (SMI): <http://teacher.scholastic.com/math-assessment/scholastic-math-inventory/>
- Iowa Assessments: <http://itp.education.uiowa.edu/ia/default.aspx>