



# Calculation Guide

## 2016-2017 School Performance Index and Accountability Report Card

This resource will answer frequently asked questions regarding South Dakota's accountability system. Additional information can be found at: <http://doe.sd.gov/Accountability/spi.aspx>.

### The SPI

South Dakota's accountability system is based on a 100-point School Performance Index (SPI). The SPI consists of three key indicators, with a numeric value assigned to each of the indicators, to measure a school's performance. These values are added to create a total SPI score out of 100 points. The SPI recognizes both achievement and growth, while providing schools with unique student achievement targets that encourage continuous and ongoing improvement. This year's system, the last under the state's No Child Left Behind Flexibility Waiver, is similar to the information reported for 2015-16 on how students can demonstrate they are on track to becoming college, career, and life ready.

*Although the Every Student Succeeds Act (ESSA) was signed into law on December 10, 2015 and replaces the No Child Left Behind Act, all states including South Dakota remain under their previous accountability systems for this school year. Please see our website, <http://doe.sd.gov/secretary/essa.aspx> for more information and updates on South Dakota's implementation of ESSA.*

The accountability system incorporates three key indicators of school performance, described below.

#### **Indicator #1: Student Achievement**

Student achievement is based on the students' performance on the Smarter Balanced assessments in both English Language Arts (ELA) and math for most students. Those few students with the most severe cognitive disabilities take an alternate assessment.

Smarter Balanced is a single snapshot, summative assessment designed to measure each student's mastery of South Dakota's content standards in ELA and math. A student receives a scale score which falls into four achievement levels: Levels 1 and 2 are considered not proficient; Levels 3 and 4 are proficient and above. Proficiency means that a student is on track for meeting college and career readiness standards upon graduation from high school.

All students in grades 3-8 and 11 are included in the Student Achievement rate calculation for a school or district if they meet Full Academic Year (FAY). FAY means a student was enrolled continuously in a school or district – from October 1 to May 1 with an enrollment gap of no more than 15 consecutive school days. (Note: for the 2016-17 school year FAY was calculated as of September 30).

Results on the Smarter Balanced assessment are returned three ways:

- Multi-Year Proficiency
- Current Year Proficiency
- Current Year Participation

#### **Multi-Year Proficiency**

##### ***Description***

South Dakota is a small state with many small schools and districts. Because of this, Student Achievement points are awarded based on a school's performance on Smarter Balanced over the course of up to three years. This helps even out some of the highs and lows smaller schools may experience and give a more robust picture of

student achievement. The 2016-17 report card will add together the results from the 2015, 2016, and 2017 assessments to arrive at a multi-year proficiency result.

It is important to note that many schools and students are still getting accustomed to the new Smarter Balanced assessment. For that reason, most schools and districts will find that their multi-year proficiency results are lower than their current year results. This is to be expected and demonstrates that the students are improving.

**Calculation**

$$\text{Numerator} = \text{Count of FAY students who tested at Level 3 or 4 in 2014-15} + \text{count of FAY students who tested at Level 3 or 4 in 2015-16} + \text{count of FAY students who tested at Level 3 or 4 in 2016-17}$$

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$$\text{Denominator} = \text{Count of FAY students who tested in 2014-15} + \text{count of FAY students who tested in 2015-16} + \text{count of FAY students who tested in 2016-2017}$$

**Current Year Proficiency**

**Description**

The proficiency rate for FAY students on the 2017 assessment is still calculated and presented for informational purposes. Schools can compare their performance to last year's performance and track progress over time. Achievement targets, or Annual Measurable Objectives (AMOs), described below, are also calculated from Current Year proficiency.

**Calculation**

$$\text{Numerator} = \text{Count of FAY students who tested at Level 3 or 4 in 2016-17}$$

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$$\text{Denominator} = \text{Count of FAY students who tested in 2016-17}$$

**Earning SPI Points**

SPI points are based on Multi-Year Proficiency, but do not translate directly from the above overall proficiency rate. Rather, they are earned for two groups: the Gap group and Non-Gap group (see below). The points are weighted according to the size of the group. Calculations are done separately for ELA and math, which each account for half of the total points for this indicator.

1. Divide the maximum allowable index points in half to allow equal weight for ELA and math.
2. Calculate the # of students that fall into the Gap Group and Non-Gap Group for the current year and any previous years included in the multi-year proficiency rate.
3. Calculate the % of students that fall into the Gap Group and Non-Gap Group by dividing each by the total number of students.
4. Take the overall possible points (column 1) times the % of students (column 3) in each group to get the weighted points for each group.
5. Calculate the % scoring at or above the level denoting proficiency for each group.
6. Calculate the score for each group by multiplying the % from step 5 (column 5) times the weighted points for each group (column 4).
7. The sum of these represents total points for Student Achievement category.

This is what those steps would look like for an example school:

		Overall Index points possible	Number of Students	% of Students	Weighted Points	% Scoring at or above Proficiency	Score	Total Points for Student Achievement	
Math	Gap	20	71	26.20%	5.24	58.00%	3.04		
	Non-Gap		200	73.80%	14.76	83.00%	15.31		
ELA	Gap	20	71	26.20%	5.24	62.00%	3.25		
	Non-Gap		200	73.80%	14.76	88.00%	12.99		
<b>Total</b>		<b>40</b>			<b>40.00</b>				<b>34.59</b>

The only schools to earn SPI points from Current Year Proficiency are those that are either new or did not have tested students in the previous academic years. The calculation is as demonstrated above for multi-year proficiency, but using only a single year's worth of assessment results.

### **Current Year Participation**

#### **Description**

The final component of Student Achievement is the participation rate. This is calculated based on the current year performance only and includes all students enrolled at a school or district as of May 1.

Federal law requires that 95 percent of students, at the school, district, and state levels, and across every subgroup, participate in the state assessment. This allows stakeholders to gain a more robust view of how public students across the state are performing. If a school has fewer than 40 students in tested grades or in any subgroup, that school can have up to two students not participate and still be considered to have met the participation bar. All students enrolled in a South Dakota public school as of May 1 are required to participate in the ELA and math assessments. Unlike proficiency, participation does not take into account FAY. Rather, participation looks at all students enrolled in a school or district on that date. A student is considered to have participated if he or she logged on and attempted *both* portions of the assessment for both ELA and math.

#### **Calculation**

Numerator = Count of students tested who were enrolled as of May 1

Denominator = Count of eligible students enrolled as of May 1

### **Indicator #2 (High Schools): High School Completion**

At the High School level, the High School Completion Indicator is calculated using two measures: High School Completer Rate and the Four-Year Adjusted Cohort Graduation Rate. Each counts for half of the total 30 points available for this indicator and is calculated directly from the results as shown below.

#### **High School Completer Rate**

##### **Description**

This is the percent of students in the most recently completed school year who have attained a diploma or a GED. This includes students who graduated outside of the traditional four-year timeframe (both early and late graduates). This also includes students who obtained an alternate completion credential before age 21, namely the GED. The Department is able to collect GED information for all test takers in South Dakota; any schools with students who have completed a GED outside of South Dakota can submit that record to the Department through the appeal process available to districts.

##### **Calculation**

**Numerator** = Number of students who obtained a high school diploma or GED in 2016-17

**Denominator** = Dropouts (Grade 9 dropouts in 2013-14 + Grade 10 dropouts in 2014-15 + Grade 11 dropouts in 2015-16 + Grade 12 dropouts in 2016-17) + number of students who obtained a high school diploma or GED in 2016-2017

#### **Four-Year Cohort Graduation Rate**

##### **Description**

This measure is based on the number of students who graduate in four years with a regular high school diploma, divided by the number of students who form the "adjusted cohort" for that graduating class. The adjusted cohort is defined as the students who entered ninth grade for the first time four years ago, minus those who transferred out of the cohort (i.e., moved out of state, transferred to a private school, etc.), plus students who joined the cohort (i.e., students who began four years ago as a ninth grader in a private school, out of state, etc.) As opposed to the completer rate above, only students who graduate with a regular diploma are counted positively. Those who continue their education beyond four years, those who finish with a GED, and those who drop out are all counted against the Four-Year Graduation Rate. South Dakota is required to follow

the Title I Four-Year Adjusted Cohort methodology in determining Graduation Rate, as defined in 34 C.F.R. § 200.19(b).

**Calculation**

**Numerator** = Number of cohort members who graduate in four years with a high school diploma

**Denominator** = Number of first-time ninth graders in fall 2013 (starting cohort year), plus students who transfer into, minus students who are removed from, the cohort during the school years 2013-14, 2014-15, 2015-16, and 2016-17

**Earning SPI Points**

Points for this indicator are split evenly between the High School Completion Rate (15 possible points) and the Four-Year Cohort Graduation Rate (15 possible points). Points are earned as follows:

1. Multiply the High School Completion Rate achieved above by 15 points;
2. Multiply the Four-Year Cohort Graduation Rate achieved above by 15 points;
3. Add the two point totals together.

**Indicator #2 (Elementary and Middle Schools): Academic Growth**

**Description**

Academic Growth is based on the Student Growth Percentiles model. In this model, every student is compared to his or her peers – those with a like score history. Students are grouped with other South Dakota students based on their previous performance on the assessment, then their scores for the current year are compared to determine how much they grew. Those students who have a relatively higher current year score, i.e., they grew more, will have a higher SGP. Those with a relatively lower current year score, i.e., they grew less than their peers, will have a lower SGP. For a more detailed explanation on academic growth, please see:

<http://doe.sd.gov/secretary/documents/0615-SGP3.pdf>.

The modeling through Student Growth Percentiles is then used to project how the student will perform in three years. Those students who are currently proficient and projected to stay proficient receive a designation of “Keeping Up.” Those who are not yet proficient but for whom the model projects will become proficient in three years are “Catching Up.” Those who are not proficient and not projected to become proficient, but who are achieving significant growth (defined as an Student Growth Percentile of 70 or above, i.e., growing at a rate of better than 70 percent of his or her peers), are designated as having “Very High Growth.” These students are factored into the numerator of the academic growth calculation. The above three categories of students, plus the students not meeting the growth standard, constitute the denominator.

**Definition of Growth Designations**

Designation	Current Year Proficiency	In 3 Years Proficiency	Current Growth
Keeping Up	Proficient	Will stay proficient	
Catching Up	Not Proficient	Will be proficient	
Very High Growth	Not Proficient	Will not be proficient	SGP of 70 or above
Not Meeting Standard	Proficient Not Proficient	Will not be proficient Will not be proficient	SGP of below 70

Academic growth is based on the students in the current school year who meet Full Academic Year (see above) and who took the state assessment anywhere in South Dakota (both public and private schools) previously. Because a student must have two years' worth of assessment scores to calculate growth, this measure is calculated for 4<sup>th</sup> graders through 8<sup>th</sup> graders.

**Calculation**

**Numerator:** Number of FAY students with a previous assessment score who also earned a designation of Keeping Up, Catching Up, or Very High Growth

**Denominator:** Number of FAY students with a previous and current assessment score

The report card displays rates for both the “All Students” and the “Lowest Quartile” groups. The Lowest Quartile is comprised of those students who achieved the lowest 25 percent of scores on the previous year’s assessment.

### Earning SPI Points

Points are awarded based on the performance of the all students group in both ELA and math, as well as the performance of the Lowest Quartile students in ELA and math. Lowest Quartile is calculated on the lowest 25% of the previous year’s assessment scores. A Lowest Quartile is only calculated if the all students group is 40 students or more; if not, then all points are derived from the all students group.

Below is an example calculation of how points are earned for Academic Growth:

Student Groups	Math		ELA		Total SPI Points
	% Meeting Standard	SPI Points	% Meeting Standard	SPI Points	
All Students	78.00%	7.80	73.09%	7.31	27.14
Lowest Quartile	61.30%	6.13	59.03%	5.90	
Total					

### Indicator #3 (High Schools): College and Career Readiness

#### College Readiness

##### **Description**

The College Readiness score is based on those students in the previous year’s graduating cohort (those who graduated in 2015-16) who met or exceeded the Board of Regents’ cut scores on Smarter Balanced, the ACT, or Accuplacer. The points are divided equally between math and English. The indicator is comprised of:

1. The percent of students whose Smarter Balanced math score was a Level 3 or 4 –OR– whose ACT math sub-score was 20 or above —OR— whose Accuplacer score on Algebra was 76 or above.
2. The percent of students whose Smarter Balanced ELA score was a Level 3 or 4 – OR – whose ACT English sub-score was 18 or above —OR— whose Accuplacer score on sentence skills was 86 or above.

Only a student’s best performance is used in calculating success on the indicator. A student may take Smarter Balanced, ACT, Accuplacer, or all three; performance is considered equally. The denominator is comprised of all students who took Smarter Balanced, the ACT, or the Accuplacer.

##### **Calculation**

**Numerator:** Number of students in the previous year’s graduating class who met the BOR benchmark on Smarter Balanced, ACT, or Accuplacer

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**Denominator:** Number of students in the previous year’s graduating class who took Smarter Balanced, ACT or Accuplacer

#### Career Readiness

##### **Description**

Career readiness is based on the students in the previous year’s graduating cohort (those who graduated in 2015-16) who earned a certificate on the National Career Readiness Certificate (NCRC) assessment, i.e., earned a level of Platinum, Gold, Silver, or Bronze. The denominator is comprised by all students who took the assessment. A school earns points for this indicator if the school sponsored the NCRC.

## Calculation

**Numerator:** Number of students in the previous year's graduating class who earned a certificate

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**Denominator:** Number of students in the previous year's graduating class who took the NCRC

## Earning SPI Points

For a school that administered the NCRC assessment to the class of 2016, the distribution of points is as follows:

College Readiness English: 10 possible points

College Readiness Math: 10 possible points

Career Readiness: 10 possible points

Total points for College and Career Readiness: 30

For a school that did not administer the NCRC assessment to members of the class of 2016, the distribution of points is:

College Readiness English: 15 points

College Readiness Math: 15 points

Total points for College and Career Readiness: 30

## Indicator #3 (Elementary and Middle Schools): Attendance

### Description

Attendance points are awarded based on the percentage of students who attend at least 94 percent (93.50 percent with rounding) of their enrolled days. All students enrolled in grades kindergarten through grade 8 are included in the attendance calculation if they were enrolled in a school for at least 15 consecutive school days. In addition, for the Attendance Indicator only, students who are only partially enrolled in a school are counted as well, meaning that some students will count, *for attendance calculation purposes only*, at more than one school.

### Calculation

**Numerator =** Count of students who attended at least 94% of his or her enrolled days

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**Denominator =** Count of all students who were enrolled for at least 15 consecutive school days

## Earning SPI Points

Points are earned by taking the maximum possible points available for the indicator by the attendance rate achieved above.

## Student Groups – Gap and Non-Gap

One of the main components of the state accountability system is the use of a Gap Group, which consists of subgroups of students that have historically contributed to the achievement gap. This is calculated from state assessment data and is reevaluated every six years. The Gap Group contains students who are part of one or more of the following subgroups: American Indian or Alaskan Native, Black, Hispanic, English Language Learners, Students with Disabilities, and Economically Disadvantaged Students. Students who do not belong to any of these subgroups are part of the Non-Gap group. The Non-Gap group currently consists of the following subgroups: White, Asian, Hawaiian/Pacific Islander, and Multi-Racial. Because of the Gap Group, almost every school in the state has a focus on those groups of students who traditionally have experienced the largest achievement gaps.

## Annual Measurable Objectives

To hold schools accountable, South Dakota has set unique school-level, district-level and state-level goals, called Annual Measurable Objectives or AMOs. AMOs are based on the overarching goal of reducing by half within six years the percentage of students in the "all students" group and in each subgroup, including the Gap and Non-Gap Groups, who are not proficient.

AMOs are set separately for ELA and math. They are reset every six years, which last occurred for the 2014-15 report card. If a school starts the six year cycle without enough students in a subgroup to set publicly reported AMOs but has a subgroup that grows to more than 10 students, AMOs will be set for that group after one year of testing has been completed.

Schools and stakeholders can compare how schools, districts, and the state did in comparison with AMO targets through the current year proficiency rate or on the AMO Target Report graph.

## Classification, Recognition and Support

Due to the passage of the new federal education law, the Every Student Succeeds Act, school classifications are held steady for 2016-17. Below explains how they were determined out of the 2014-15 report card.

<b>Exemplary Schools</b> High Performing – SPI score at or above the top 5%
<b>Status Schools</b> SPI score at or above top 10% (excluding Exemplary)
<b>Progressing Schools</b> SPI score between bottom 5% and top 10% Most non-Title I schools that are not Exemplary or Status
<b>Priority Schools</b> Title I schools whose SPI score is at or below the bottom 5%

*A separate calculation is used to determine the Focus Schools category.*

**Exemplary Schools:** Schools whose overall SPI scores rank in the top five percent of schools across the state. No school with a significant achievement gap, as determined by the Focus School calculation (see below), will be classified as an Exemplary School.

**Status Schools:** Schools whose total SPI score is at or above the top 10 percent, excluding Exemplary Schools.

**Progressing Schools:** Schools whose total SPI score is above the bottom five percent but below the top 10 percent. In addition, the majority of schools that do not accept Title I funds and that are not classified as exemplary or status are also classified as progressing.

**Priority Schools:** Title I schools whose total SPI score is at or below the bottom five percent. Per federal requirements, the total number of Priority Schools must be at least five percent of the Title I schools in the state. This classification also applies to Title I and Title I eligible high schools whose graduation rate is below 60 percent for the last two years.

<b>Focus Schools</b> Title I schools contributing to the achievement gap Measured by certain Gap Group indicators
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**Focus Schools:** Title I schools that are contributing to the achievement gap. The primary calculation to determine Focus Schools looks specifically at Student Achievement and Four-Year Cohort Graduation Rate of the Gap Group at the high school level; and Student Achievement and Attendance of the Gap Group for elementary and middle schools.

Using this combination of factors, schools whose rank is among the lowest 10 percent of Title I schools across the state will be identified as Focus Schools. Any school that is already a Priority School would not be included on this list.

As a safeguard to ensure that no single subgroup within the larger Gap Group is ignored, a Title I school in which any subgroup whose combined ELA and math proficiency rate is 75 percent lower than the Gap Group

combined ELA and math proficiency rate at the same school for *the past two consecutive years* will be placed in the Focus School category.

Per federal regulations, the South Dakota Department of Education will work with districts that have Priority and Focus Schools to implement targeted supports and interventions, which are described in full detail in the state's approved ESEA Flexibility Waiver ([http://doe.sd.gov/secretary/nexgen\\_accountability.aspx](http://doe.sd.gov/secretary/nexgen_accountability.aspx)).

**Special District Classifications:** A district that has at least one Priority School and in which at least 50 percent of schools are Priority and/or Focus schools is a Priority District. Only public districts with three or more schools may be identified as Priority Districts.

## Confidentiality

South Dakota Department of Education takes the job of maintaining and protecting the confidentiality of South Dakota students very seriously. To that end, we have developed and utilize the following protocol:

1. Individual student's results are never reported to the public.
2. The State neither publishes nor publically releases any data pertaining to school performance or other matters for any group or subgroup with fewer than 10 members.
3. A notation will be used on all public reports when data has been suppressed.

## Questions?

Contact the SD DOE Accountability staff at 605-773-3426 or [DOE.Accountability@state.sd.us](mailto:DOE.Accountability@state.sd.us)