WISCONSIN DEPARTMENT OF PUBLIC INSTRUCTION

SCHOOL REPORT CARD

TECHNICAL GUIDE

SEPTEMBER 2012

Calculating School Accountability Scores

This document explains how to calculate:

- School Report Card Overall Accountability Score
- School Report Card Priority Area Scores
- School Report Card Student Engagement Indicator deductions

You can replicate the calculations used to arrive at a school's accountability scores using data from the School Report Card Detail and this document.

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Building the Overall Accountability Score

Wisconsin's new school accountability system uses multiple measures across four Priority Areas and expectations of student engagement to build a 0-to-100-point score for each school. This document connects the data on the School Report Card Detail to the school score; it assumes the user is familiar with Wisconsin's approved federal Elementary and Secondary Education Act (ESEA) waiver (available at http://dpi.wi.gov/oea/acct/accountability.html) and the School Report Card Detail.

Individual accountability scores are calculated for Student Achievement, Student Growth, Closing Gaps, and On-Track and Postsecondary Readiness, along with potential deductions for schools missing established targets for Student Engagement Indicators. Combining all of these numbers is a bit more complicated than simply adding them together, for one very important reason—Wisconsin has schools of many different sizes, grade levels, and student populations.

Background

The Wisconsin Department of Public Instruction (DPI) bases the process of building an overall school accountability score on three important principles:

1. **We cannot calculate every Priority Area score for every school.** For example, Student Growth requires the state to have WKCE test scores for consecutive grades in the same school; because Wisconsin only tests high school students in 10th grade, traditional high schools (grades 9-12) are excluded. Every component of the index requires there be at least 20 students with data to calculate a score.
2. **A school should not be advantaged or disadvantaged by the presence or lack of a Priority Area or component.** Simply adding or averaging the Priority Areas would create a bias for high schools, which are generally not measured on Student Growth, increasing their scores compared to elementary and middle schools.
3. **The majority of Wisconsin schools have very high rates of attendance and high school graduation, both components of the On-Track and Postsecondary Readiness area.** There is very little overall statewide variation in these measures—performance gaps are driven by a "long tail" of few schools with low rates.

We use two solutions to build a score that follows these principles:

1. **Student Growth and Closing Gaps scores are aligned with Student Achievement.** Aligning scores to a common scale avoids creating a bias between these Priority Areas.
2. **On-Track and Postsecondary Readiness scores have a fixed weight no matter how many other Priority Area scores are calculated.** Fixing the weight of this Priority Area allows us to account for the narrow overall range of high attendance and graduation rates.

The process for combining priority scores and Student Engagement Indicator deductions into an Overall Accountability Score is:

- First, take the average of the Student Achievement, Student Growth, and Closing Gaps scores calculated for a school.
- Next, multiply that average by a number that depends on which components of On-Track and Postsecondary Readiness are calculated for a school:
    - If there is an attendance or graduation score (out of 80 points) and scores for the other components (out of 20 points) then the average is multiplied by 3.
    - If there is only an attendance or graduation score (out of 80 points) then the average is multiplied by 3.2.
- Add the multiplied average of Student Achievement, Student Growth, and Closing Gaps to the On-Track and Postsecondary Readiness score, and divide the sum by 4.
- Finally, subtract any Student Engagement Indicator deductions from the result to arrive at the Overall Accountability Score. Each indicator not met results in a five point deduction.

The Overall Accountability Score determines which Accountability Rating Category and level of support a school falls into:

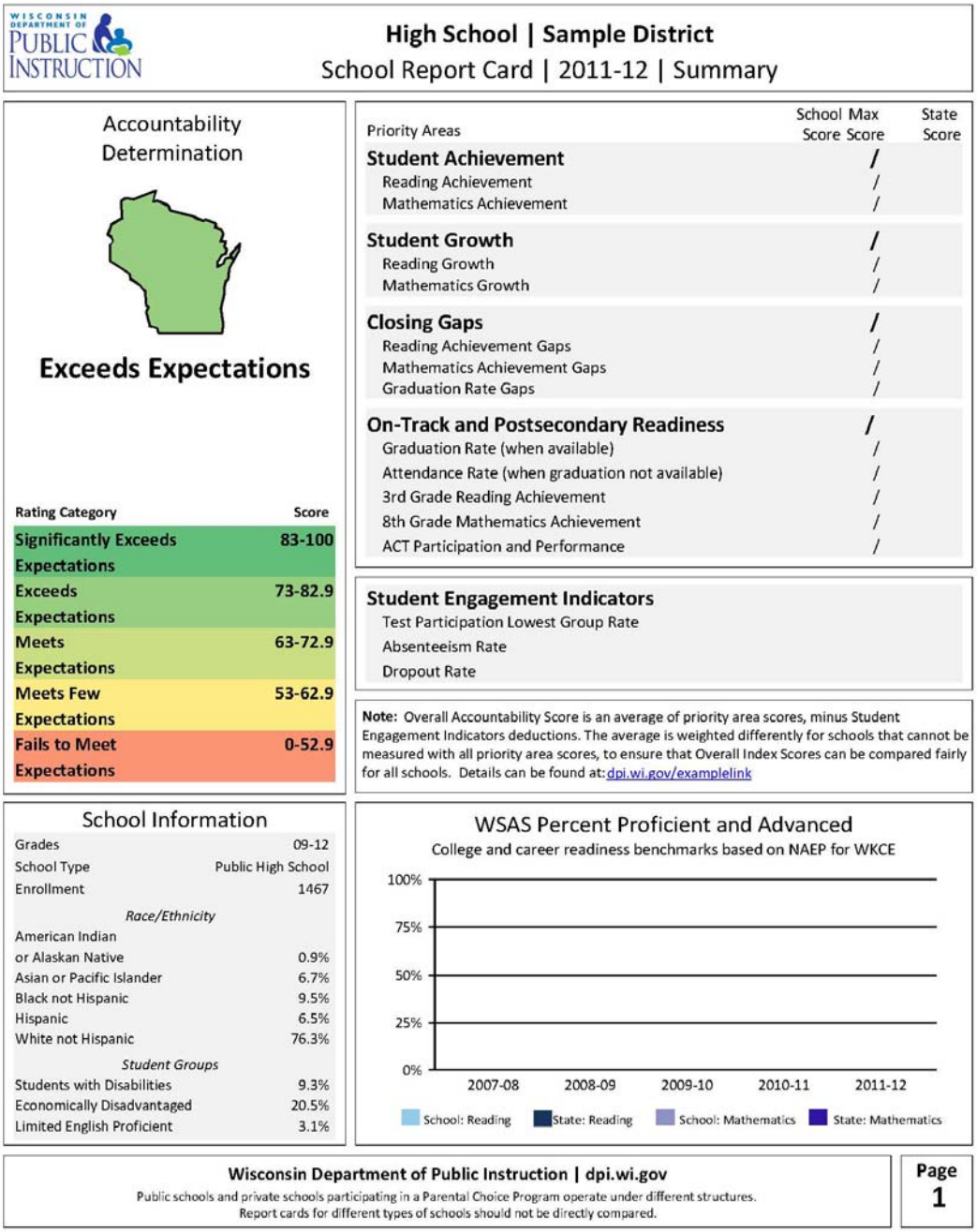
Accountability Rating Category	*Accountability Score Range*		*Level of Support*
	Minimum	*Maximum*	
Significantly Exceeds Expectations	83	100	Rewards and Replication
Exceeds Expectations	73	82.9	Rewards and Replication
Meets Expectations	63	72.9	Local Improvement Efforts
Meets Few Expectations	53	62.9	State Support
Fails to Meet Expectations	0	52.9	State Support

Global Notes

- The Accountability Index has four Priority Areas and a set of Student Engagement Indicators. Within each area, individual components are calculated. (Example: Student Achievement is a Priority Area; Reading Achievement and Mathematics Achievement are its two components.)
- Measures based upon data from the Wisconsin Student Assessment System (WSAS)—which include Student Achievement, Student Growth, and the achievement components of Closing Gaps and On-Track and Postsecondary Readiness—reflect the NAEP-based reading and mathematics cut scores developed for the Wisconsin Knowledge and Concepts Examination (WKCE). NAEP-based WKCE cut scores have been applied retroactively so that proficiency level data from prior years are directly comparable to the most current year. Proficiency level data for the Wisconsin Alternate Assessment for Students with Disabilities (WAA-SwD) are unchanged.
- All scores are calculated and reported to one-tenth of a point.
- Calculations are rounded to the third decimal point (0.001, or 0.1%). The only exception is Test Participation rates, which are rounded to the nearest whole percentage point.
- DPI uses a "cell size," the minimum number of students needed to calculate a data component, of 20 students. In most cases, the cell size is applied to only the current year of data. In the 3rd Grade Reading and 8th Grade Mathematics Achievement components of the On-Track and Postsecondary Readiness Priority Area, the cell size is applied to the two most recent years of data.
- Sample report cards will not match data shown here.
- Determination of whether a student attended a school for the Full Academic Year (FAY) is based on FAY for the school, not the district.
- State comparisons are provided on the front page for one of five grade bands (K-5, 6-8, 9-12, K-8, and K-12) that most closely matches the school. Comparison scores treat all Wisconsin students within a particular grade band as if they were one giant school. These scores are calculated using the same methodology as individual school scores.

Reading the Report Card

Overall accountability score, Priority Area scores, and Student Engagement Indicator deductions are shown on page 1 of the report card. Note that the below example does not contain any data other than school and district name, accountability determination, and school information.



WISCONSIN DEPARTMENT OF PUBLIC INSTRUCTION

High School | Sample District
School Report Card | 2011-12 | Summary

Accountability Determination

Exceeds Expectations

Rating Category	Score
Significantly Exceeds Expectations	83-100
Exceeds Expectations	73-82.9
Meets Expectations	63-72.9
Meets Few Expectations	53-62.9
Fails to Meet Expectations	0-52.9

Priority Areas	School Score	Max Score	State Score
Student Achievement	/		
Reading Achievement	/		
Mathematics Achievement	/		
Student Growth	/		
Reading Growth	/		
Mathematics Growth	/		
Closing Gaps	/		
Reading Achievement Gaps	/		
Mathematics Achievement Gaps	/		
Graduation Rate Gaps	/		
On-Track and Postsecondary Readiness	/		
Graduation Rate (when available)	/		
Attendance Rate (when graduation not available)	/		
3rd Grade Reading Achievement	/		
8th Grade Mathematics Achievement	/		
ACT Participation and Performance	/		

Student Engagement Indicators
Test Participation Lowest Group Rate
Absenteeism Rate
Dropout Rate

Note: Overall Accountability Score is an average of priority area scores, minus Student Engagement Indicators deductions. The average is weighted differently for schools that cannot be measured with all priority area scores, to ensure that Overall Index Scores can be compared fairly for all schools. Details can be found at: dpi.wi.gov/examplelink

School Information

Grades	09-12
School Type	Public High School
Enrollment	1467
Race/Ethnicity	
American Indian or Alaskan Native	0.9%
Asian or Pacific Islander	6.7%
Black not Hispanic	9.5%
Hispanic	6.5%
White not Hispanic	76.3%
Student Groups	
Students with Disabilities	9.3%
Economically Disadvantaged	20.5%
Limited English Proficient	3.1%

WSAS Percent Proficient and Advanced
College and career readiness benchmarks based on NAEP for WKCE

Wisconsin Department of Public Instruction | dpi.wi.gov
Public schools and private schools participating in a Parental Choice Program operate under different structures.
Report cards for different types of schools should not be directly compared.

Page 1

Walkthrough #1

Sample Elementary has the following Priority Area scores:

Priority Area or Component	*Score/Possible*
Student Achievement	71.7 / 100
Student Growth	59.0 / 100
Closing Gaps	62.4 / 100
On-Track and Postsecondary Readiness	
Attendance	77.6 / 80
3rd Grade Reading	15.5 / 20
Student Engagement Indicators	No deductions

Step 1: Combine Student Achievement, Student Growth, and Closing Gaps

$$\text{Average} = \frac{\text{Student Achievement Score} + \text{Student Growth Score} + \text{Closing Gaps Score}}{3}$$

This school has scores calculated for all three of these Priority Areas.

$$\text{Average} \times 3 = \frac{71.7 + 59.0 + 62.4}{3} \times 3 = \mathbf{193.1}$$

Step 2: Combine Result with On-Track/Postsecondary Scores

$$\text{Base Score} = \frac{(\text{Average} \times 3) + \text{Attendance Score} + \text{Other On-Track/Postsecondary Scores}}{4}$$

$$\text{Base Score} = \frac{193.1 + 77.6 + 15.5}{4} = \mathbf{71.6}$$

Step 3: Apply Student Engagement Indicator Deductions

$$\text{Overall Score} = \text{Base Score} - \text{Deductions}$$

$$\text{Overall Score} = 71.6 - 0 = \mathbf{71.6}$$

Sample Elementary's accountability score is 71.6, putting it into the **Meets Expectations** category.

Walkthrough #2

Example High School has the following Priority Area scores:

Priority Area or Component	*Score/Possible*
Student Achievement	56.9 / 100
Closing Gaps	70.2 / 100
On-Track and Postsecondary Readiness	
Graduation	68.8 / 80
ACT Participation/Performance	9.6 / 20
Student Engagement Indicators	-5 for Test Participation

It does not have a Student Growth score because there is only one tested grade, 10th, in the school.

Step 1: Combine Student Achievement, Student Growth, and Closing Gaps

$$\text{Average} = \frac{\text{Student Achievement Score} + \text{Closing Gaps Score}}{2}$$

$$\text{Average} \times 3 = \frac{56.9 + 70.2}{2} \times 3 = \mathbf{190.7}$$

Step 2: Combine Result with On-Track/Postsecondary Scores

$$\text{Base Score} = \frac{(\text{Average} \times 3) + \text{Graduation Score} + \text{Other On-Track/Postsecondary Scores}}{4}$$

$$\text{Base Score} = \frac{190.7 + 68.8 + 9.6}{4} = \mathbf{67.3}$$

Step 3: Apply Student Engagement Indicator Deductions

$$\text{Overall Score} = \text{Base Score} - \text{Deductions}$$

$$\text{Overall Score} = 67.3 - 5 = \mathbf{62.3}$$

Example High's accountability score is 62.3, putting it into the **Meets Few Expectations** category.

Walkthrough #3

Rural Intermediate has the following Priority Area scores:

Priority Area or Component	*Score/Possible*
Student Achievement	86.2 / 100
Student Growth	54.0 / 100
On-Track and Postsecondary Readiness	
Attendance	77.9 / 80
Student Engagement Indicators	No deductions

It does not have a Closing Gaps score because it is too small to have student groups with at least 20 students. It does not have any On-Track/Postsecondary scores beyond attendance because it is a grades 4-6 school (and thus has no 3rd grade reading or 8th grade mathematics data).

Step 1: Combine Student Achievement, Student Growth, and Closing Gaps

$$\text{Average} = \frac{\text{Student Achievement Score} + \text{Student Growth Score}}{2}$$

$$\text{Average} \times 3.2 = \frac{86.2 + 54.0}{2} \times 3.2 = \mathbf{224.3}$$

Step 2: Combine Result with On-Track/Postsecondary Scores

$$\text{Base Score} = \frac{(\text{Average} \times 3.2) + \text{Attendance Score}}{4}$$

$$\text{Base Score} = \frac{224.3 + 77.9}{4} = \mathbf{75.6}$$

Step 3: Apply Student Engagement Indicator Deductions

$$\text{Overall Score} = \text{Base Score} - \text{Deductions}$$

$$\text{Overall Score} = 75.6 - 0 = \mathbf{75.6}$$

Rural Intermediate's accountability score is 75.6, putting it into the **Exceeds Expectations** category.

Accountability Score Worksheet

Introduction

This worksheet requires that you have calculated scores found in the School Report Card Detail for each of the four Priority Areas that apply to your school:

- Student Achievement: score out of 100 points
- Student Growth: score out of 100 points
- Closing Gaps: score out of 100 points
- On-Track and Postsecondary Readiness: score out of 100 points
    - Attendance or Graduation: Score out of 80 points
    - 3rd Grade Reading, 8th Grade Mathematics, ACT Participation/Performance: Total out of 20 points

It also requires that you have data on which Student Engagement Indicators deductions, if any, are applied to your school.

Instructions

Work through the worksheet using data you have already calculated for the school. Once you have calculated the Overall Accountability Score, use it to determine the accountability rating and level of support:

Accountability Rating Category	*Accountability Score Range*		*Level of Support*
	Minimum	*Maximum*	
Significantly Exceeds Expectations	83	100	Rewards and Replication
Exceeds Expectations	73	82.9	Rewards and Replication
Meets Expectations	63	72.9	Local Improvement Efforts
Meets Few Expectations	53	62.9	State Support
Fails to Meet Expectations	0	52.9	State Support

Overall Accountability Score Worksheet

Step 1: Combine Student Achievement, Student Growth, and Closing Gaps

Leave a box blank if there is no score to enter.

(1a) Enter the Student Achievement score, if applicable	1a	
(1b) Enter the Student Growth score, if applicable	1b	
(1c) Enter the Closing Gaps score, if applicable	1c	
(1d) Add boxes 1a through 1c	1d	
(1e) How many boxes in 1a through 1c have scores?	1e	
Average: (1f) Divide box 1d by box 1e		1f

Step 2: Combine Result with On-Track/Postsecondary Scores

Leave a box blank if there is no score to enter.

(2a) Enter the Attendance or Graduation score	2a	
(2b) Enter the 3rd Grade Reading score, if applicable	2b	
(2c) Enter the 8th Grade Mathematics score, if applicable	2c	
(2d) Enter the ACT Participation/Performance score, if applicable	2d	
(2e) Add boxes 2a through 2d	2e	
(2f) Enter the average from box 1f in Step 1	2f	
(2g) Is there at least one score in boxes 2b through 2d?	2g ☐ Yes ☐ No	
(2h) If box 2g is "Yes," enter 3; if "No," enter 3.2	2h	
(2i) Multiply box 2f by box 2h	2i	
(2j) Enter the value in box 2e		2j
(2k) Enter the value in box 2i		2k
(2l) Add boxes 2j and 2k		2l
Base Accountability Score: (2m) Divide box 2l by 4		2m

Step 3: Apply Student Engagement Indicator Deductions

(3a) Enter the base accountability score from box 2k in step 2		3a
(3b) What was the school's lowest group participation rate (to the nearest percent)?	3b	
(3c) If 3b is less than 95% but at least 85%, enter -5; if 3b is less than 85%, enter -10		3c
(3d) Did the school's dropout rate exceed the goal? ☐ Yes ☐ No If "No," enter -5		3d
(3e) Did the school's absenteeism rate exceed the goal? ☐ Yes ☐ No If "No," enter -5		3e
Overall Accountability Score: (3f) Add boxes 3a, 3c, 3d, and 3e		3f

Calculating a Student Achievement Score

The Student Achievement Priority Area is designed to show **how well the students in a school have learned the knowledge and skills they are supposed to develop**. DPI uses assessment data over the past three years to build a score, with more recent years having more effect on the score. Student Achievement is a points-based measure that gives credit for achievement across multiple levels.

Background

The simplest way to measure student achievement with assessment results, as mandated in the federal No Child Left Behind Act of 2001, is by the percentage of students scoring at or above the proficient level. The definition of "proficient" for the Wisconsin Knowledge and Concepts Examination (WKCE) was originally developed in 1997 through a detailed process involving educators and testing professionals; a similar process was used in 2007 for the Wisconsin Alternate Assessment for Students with Disabilities (WAA-SwD). Wisconsin has achieved high statewide proficiency rates under that definition for many years, but other assessments found different results. For example, the 2010-11 National Assessment of Educational Progress (NAEP) found 47 percent of Wisconsin 4th graders scoring proficient in mathematics, whereas the WKCE and WAA-SwD found 79 percent proficient.

As part of developing this accountability system, DPI is setting college and career readiness benchmarks based on NAEP cut scores, thus moving to higher proficiency standards. We could not make a similar change with the WAA-SwD because that test is constructed differently, but the new Dynamic Learning Maps assessment to be introduced in a few years will reflect these higher expectations.

One of the consequences of this decision is that many students we formerly considered proficient are now scoring at lower achievement levels. To ensure schools are treated fairly, the Student Achievement measure allows students to earn points for their school based on their achievement level:

- Basic level: **0.5 points**
- Proficient level: **1 point**
- Advanced level: **1.5 points**

It also incorporates three years of data to **"smooth out the bumps" in year-to-year results**, weighting the most recent years more heavily.

Reading the Report Card

The tables in the student achievement section show the count of students scoring at each performance level over the last three years. Consider the following data on reading achievement for a sample school, which we will use throughout this walkthrough:

Sample Elementary | Student Achievement – Reading										
Performance Level	Points Multiplier	2009-10			2010-11			2011-12		
		Students		Points	Students		Points	Students		Points
		Count	Percent		Count	Percent		Count	Percent	
Advanced	1.5	22	16.3%	33	22	17.2%	33	21	16.9%	31.5
Proficient	1	35	25.9%	35	34	26.6%	34	41	33.1%	41
Basic	0.5	37	27.4%	18.5	38	29.7%	19	33	26.6%	16.5
Minimal Performance/ Not Tested	0	41	30.4%	0	34	26.6%	0	29	23.4%	0
Total Enrolled	-	135	100.0%	86.5	128	100.0%	86	124	100.0%	89

This table shows that 135 students were enrolled at this school in 2009-10, with 22 scoring Advanced, 35 scoring Proficient, 37 scoring Basic, and 41 scoring Minimal Performance or not tested. Counts for 2010-11 and 2011-12 are similarly displayed. This table also shows percent of students scoring in each performance category in 2009-10, with 16.3% scoring Advanced, 25.9% scoring Proficient, 27.4% scoring Basic, and 30.4% scoring Minimal Performance or not tested. Percentages for 2010-11 and 2011-12 are similarly displayed. Points and points multipliers for each performance level are also displayed.

Walkthrough

This walkthrough guides the user through determination of a Student Achievement score in a single content area, reading. To determine an overall student achievement score, the process is repeated for the other subject (mathematics in this case) and the two content area scores are added.

Throughout this walkthrough we use three terms to describe the year of data used in each step:

- “Prior Year 2” means the left-most school year shown on the report card. In this example, it refers to 2009-10.
- “Prior Year 1” means the center school year shown on the report card. In this example, it refers to 2010-11.
- “Current Year” means the right-most school year shown on the report card. In this example, it refers to 2011-12.

Step 1: Assign and Average Points

The first step is to assign points for student achievement and take an average for each year. Students scoring Advanced are assigned 1.5 points each; students scoring Proficient, 1 point; and students scoring Basic, 0.5 points. Students scoring Minimal Performance or not tested are assigned zero points. These point values are multiplied by the number of students, added, and divided by the total tested enrollment to determine an average. We cap each year's average at a maximum of 1.

Performance Level	Points Multiplier	2009-10			2010-11			2011-12		
		Students			Students			Students		
		Count	Percent	Points	Count	Percent	Points	Count	Percent	Points
Advanced	1.5	22	16.3%	33	22	17.2%	33	21	16.9%	31.5
Proficient	1	35	25.9%	35	34	26.6%	34	41	33.1%	41
Basic	0.5	37	27.4%	18.5	38	29.7%	19	33	26.6%	16.5
Minimal Performance/ Not Tested	0	41	30.4%	0	34	26.6%	0	29	23.4%	0
Total Enrolled	-	135	100.0%	86.5	128	100.0%	86	124	100.0%	89

Calculation

$$\text{Prior Year 2 Average} = 86.5/135 = \mathbf{0.641}$$

$$\text{Prior Year 1 Average} = 86/128 = \mathbf{0.672}$$

$$\text{Current Year Average} = 89/124 = \mathbf{0.718}$$

Step 2: Calculate Annual Weights

Next, we calculate a weight for each year's average which takes into account (1) year-to-year fluctuations in enrollment and (2) that more recent years should count more heavily. To do this, we calculate a weight that is the product of an "enrollment weight"—the enrollment that year divided by the average enrollment across all three years—and a "year weight" that is higher for more recent years.

The values that go into each year's weight depend upon how many years of data are available that meet our cell size (minimum number of students with data) of 20:

- Three years available: "Year weights" are 1.5 for the current year, 1.25 for the prior year, and 1 for the year before that; enrollment is averaged across all three years.
- Two years available: "Year weights" are 1.5 for the current year and 1 for the prior year; enrollment is averaged across only the current and prior years.
- One year available: The current year weight is 1.

Formulas

$$\text{Prior Year 2 Weight} = 1 \times \frac{\text{Prior Year 2 Enrollment}}{\text{Average Enrollment}}$$

$$\text{Prior Year 1 Weight} = 1.25 \times \frac{\text{Prior Year 1 Enrollment}}{\text{Average Enrollment}}$$

$$\text{Current Year Weight} = 1.5 \times \frac{\text{Current Year Enrollment}}{\text{Average Enrollment}}$$

Calculation

$$\text{Prior Year 2 Weight} = 1 \times \frac{135}{(135 + 128 + 124)/3} = \mathbf{1.047}$$

$$\text{Prior Year 1 Weight} = 1.25 \times \frac{128}{(135 + 128 + 124)/3} = \mathbf{1.240}$$

$$\text{Current Year Weight} = 1.5 \times \frac{124}{(135 + 128 + 124)/3} = \mathbf{1.442}$$

Step 3: Combine Points and Weights

In step three we multiply the averages determined in step one by the weights calculated in step two.

Formulas

$$\text{Prior Year 2 Score} = \text{Prior Year 2 Average} \times \text{Prior Year 2 Weight}$$

$$\text{Prior Year 1 Score} = \text{Prior Year 1 Average} \times \text{Prior Year 1 Weight}$$

$$\text{Current Year Score} = \text{Current Year Average} \times \text{Current Year Weight}$$

Calculation

$$\text{Prior Year 2 Score} = 0.641 \times 1.047 = \mathbf{0.671}$$

$$\text{Prior Year 1 Score} = 0.672 \times 1.240 = \mathbf{0.833}$$

$$\text{Current Year Score} = 0.718 \times 1.442 = \mathbf{1.035}$$

Step 4: Calculate Index Score

The achievement index score for this subject is calculated by adding the scores from step three, dividing the result by the sum of the weights determined in step two, and then multiplying the final value by 50 (creating an index subject score out of 50 points).

Formula

$$\text{Index Score} = \frac{\text{Prior Year 2 Score} + \text{Prior Year 1 Score} + \text{Current Year Score}}{\text{Prior Year 2 Weight} + \text{Prior Year 1 Weight} + \text{Current Year Weight}} \times 50$$

Calculation

$$\text{Index Score} = \frac{0.671 + 0.833 + 1.035}{1.047 + 1.240 + 1.442} \times 50 = \mathbf{34.0}$$

This school's achievement index score for this subject is 34.0.

Student Achievement Score Worksheet

Introduction

This worksheet has two parts, one for reading and one for mathematics. Both parts require you to copy data from the Student Achievement detail on **page 2** of the School Report Card Detail. Be sure to **use the counts, not the percentages**. **Note that the score calculated here may not exactly match the report card due to rounding**. Here is a key to the data needed to complete the worksheet:

Performance Level	Points Multiplier	2009-10			2010-11			2011-12		
		Students			Students			Students		
		Count	Percent	Points	Count	Percent	Points	Count	Percent	Points
Advanced	1.5	22	16.3%	33	22	17.2%	33	21	16.9%	31.5
Proficient	1	35	25.9%	35	34	26.6%	34	41	33.1%	41
Basic	0.5	37	27.4%	18.5	38	29.7%	19	33	26.6%	16.5
Minimal Performance/ Not Tested	0	41	30.4%	0	34	26.6%	0	29	23.4%	0
Total Enrolled	-	A 135	100.0%	B 86.5	C 128	100.0%	D 86	E 124	100.0%	F 89

Letters shown on the key are used to help identify data on the worksheet. Tables for reading and mathematics achievement have the same layout. Note: In the worksheet, “Prior Year 2” means the left-most year shown (2009-10 in the key), “Prior Year 1” the center year shown (2010-11 in the key), and “Current Year” the right-most year shown (2011-12 in the key).

Instructions

Work through the individual reading and mathematics worksheets step by step, entering data from the school report card where appropriate. When both are complete, add both subject scores to determine the school’s total Student Achievement score:

Reading Achievement Score: _____ out of 50 points

Mathematics Achievement Score: + _____ out of 50 points

Total Student Achievement Score: _____ out of 100 points

Reading Achievement Worksheet

Step 1: Assign and Average Points

If a year does not have data shown, leave that year's boxes blank.

Prior Year 2 Average

(1a) Total points earned (B) — 1a
(1b) Count of students (A) — 1b
(1c) Is box 1a greater than box 1b? 1c ☐ Yes ☐ No
Average: (1d) If 1c is "Yes," enter 1; if 1c is "No," divide box 1a by box 1b — 1d

Prior Year 1 Average

(1e) Total points earned (D) — 1e
(1f) Count of students (C) — 1f
(1g) Is box 1e greater than box 1f? 1g ☐ Yes ☐ No
Average: (1h) If 1g is "Yes," enter 1; if 1g is "No," divide box 1e by box 1f — 1h

Current Year Average

(1i) Total points earned (F) — 1i
(1j) Count of students (E) — 1j
(1k) Is box 1i greater than box 1j? 1k ☐ Yes ☐ No
Average: (1l) If 1k is "Yes," enter 1; if 1k is "No," divide box 1i by box 1j — 1l

Step 2: Calculate Annual Weights

Average Enrollment

(2a) Prior Year 2 count of students (A) – leave blank if not shown — 2a
(2b) Prior Year 1 count of students (C) – leave blank if not shown — 2b
(2c) Current Year count of students (E) — 2c
(2d) Add boxes 2a through 2c — 2d
(2e) How many of boxes 2a through 2c have values? — 2e
Average enrollment: (2f) Divide box 2d by box 2e — 2f

Prior Year 2 Weight

(2g) Is box 2a blank? 2g ☐ Yes ☐ No If "Yes," move on to the "Prior Year 1 Weight" section.
(2h) Enter the count from box 2a — 2h
(2i) Enter the average from box 2f — 2i
Prior Year 2 Weight: (2j) Divide box 2h by box 2i — 2j

Prior Year 1 Weight

(2k) Is box 2b blank? 2k ☐ Yes ☐ No If "Yes," move on to the "Current Year Weight" section.
(2l) Enter the count from box 2b — 2l
(2m) Enter the average from box 2f — 2m
(2n) Divide box 2l by box 2m — 2n
(2o) If 2g is "Yes," enter 1; if 2g is "No," enter 1.25 — 2o
Prior Year 1 Weight: (2p) Multiply box 2n by box 2o — 2p

Current Year Weight

(2q) Are both boxes 2a and 2b blank? 2q ☐ Yes ☐ No If "Yes," skip to box 2t.

(2q) Enter the count from box 2c	2q	
(2r) Enter the average from box 2f	2r	
(2s) Divide box 2q by box 2r		2s
Current Year Weight: (2t) If 2q is "No," multiply box 2s by 1.5; otherwise, enter 1		2t

Step 3: Combine Points and Weights

If a year does not have data, leave that year's boxes blank.

Prior Year 2 Score

(3a) Enter the average from box 1d	3a	
(3b) Enter the weight from box 2j	3b	
Prior Year 2 Score: (3c) Multiply box 3a by box 3b		3c

Prior Year 1 Score

(3d) Enter the average from box 1h	3d	
(3e) Enter the weight from box 2p	3e	
Prior Year 1 Score: (3f) Multiply box 3d by box 3e		3f

Current Year Score

(3g) Enter the average from box 1l	3g	
(3h) Enter the weight from box 2t	3h	
Current Score: (3i) Multiply box 3g by box 3h		3i

Step 4: Calculate Index Score

(4a) Enter the score from box 3c	4a	(4e) Enter the weight from box 2j	4e
(4b) Enter the score from box 3f	4b	(4f) Enter the weight from box 2p	4f
(4c) Enter the score from box 3i	4c	(4g) Enter the weight from box 2t	4g
(4d) Add boxes 4a through 4c	4d	(4h) Add boxes 4e through 4g	4h
		(4i) Divide box 4d by box 4h	4i
		Reading Achievement Score: (4j) Multiply box 4i by 50	4j

Mathematics Achievement Worksheet

Step 1: Assign and Average Points

If a year does not have data shown, leave that year's boxes blank.

Prior Year 2 Average

(1a) Total points earned (B) — 1a
(1b) Count of students (A) — 1b
(1c) Is box 1a greater than box 1b? 1c ☐ Yes ☐ No
Average: (1d) If 1c is "Yes," enter 1; if 1c is "No," divide box 1a by box 1b — 1d

Prior Year 1 Average

(1e) Total points earned (D) — 1e
(1f) Count of students (C) — 1f
(1g) Is box 1e greater than box 1f? 1g ☐ Yes ☐ No
Average: (1h) If 1g is "Yes," enter 1; if 1g is "No," divide box 1e by box 1f — 1h

Current Year Average

(1i) Total points earned (F) — 1i
(1j) Count of students (E) — 1j
(1k) Is box 1i greater than box 1j? 1k ☐ Yes ☐ No
Average: (1l) If 1k is "Yes," enter 1; if 1k is "No," divide box 1i by box 1j — 1l

Step 2: Calculate Annual Weights

Average Enrollment

(2a) Prior Year 2 count of students (A) – leave blank if not shown — 2a
(2b) Prior Year 1 count of students (C) – leave blank if not shown — 2b
(2c) Current Year count of students (E) — 2c
(2d) Add boxes 2a through 2c — 2d
(2e) How many of boxes 2a through 2c have values? — 2e
Average enrollment: (2f) Divide box 2d by box 2e — 2f

Prior Year 2 Weight

(2g) Is box 2a blank? 2g ☐ Yes ☐ No If "Yes," move on to the "Prior Year 1 Weight" section.
(2h) Enter the count from box 2a — 2h
(2i) Enter the average from box 2f — 2i
Prior Year 2 Weight: (2j) Divide box 2h by box 2i — 2j

Prior Year 1 Weight

(2k) Is box 2b blank? 2k ☐ Yes ☐ No If "Yes," move on to the "Current Year Weight" section.
(2l) Enter the count from box 2b — 2l
(2m) Enter the average from box 2f — 2m
(2n) Divide box 2l by box 2m — 2n
(2o) If 2g is "Yes," enter 1; if 2g is "No," enter 1.25 — 2o
Prior Year 1 Weight: (2p) Multiply box 2n by box 2o — 2p

Current Year Weight

(2q) Are both boxes 2a and 2b blank? 2q ☐ Yes ☐ No If "Yes," skip to box 2t.

(2q) Enter the count from box 2c	2q	
(2r) Enter the average from box 2f	2r	
(2s) Divide box 2q by box 2r		2s
Current Year Weight: (2t) If 2q is "No," multiply box 2s by 1.5; otherwise, enter 1		2t

Step 3: Combine Points and Weights

If a year does not have data, leave that year's boxes blank.

Prior Year 2 Score

(3a) Enter the average from box 1d	3a	
(3b) Enter the weight from box 2j	3b	
Prior Year 2 Score: (3c) Multiply box 3a by box 3b		3c

Prior Year 1 Score

(3d) Enter the average from box 1h	3d	
(3e) Enter the weight from box 2p	3e	
Prior Year 1 Score: (3f) Multiply box 3d by box 3e		3f

Current Year Score

(3g) Enter the average from box 1l	3g	
(3h) Enter the weight from box 2t	3h	
Current Score: (3i) Multiply box 3g by box 3h		3i

Step 4: Calculate Index Score

(4a) Enter the score from box 3c	4a	(4e) Enter the weight from box 2j	4e
(4b) Enter the score from box 3f	4b	(4f) Enter the weight from box 2p	4f
(4c) Enter the score from box 3i	4c	(4g) Enter the weight from box 2t	4g
(4d) Add boxes 4a through 4c	4d	(4h) Add boxes 4e through 4g	4h
		(4i) Divide box 4d by box 4h	4i
		Mathematics Achievement Score: (4j) Multiply box 4i by 50	4j

Calculating a Student Growth Score

The Student Growth Priority Area uses a measurement tool to evaluate schools on **student progress toward higher achievement levels** and **student decline below proficiency**. This tool allows us to set growth targets for nearly every student in Wisconsin and compare their actual growth to those targets. This measure is designed so that students farthest behind their peers can earn the most credit by making high levels of growth, and schools are not penalized for high levels of achievement.

Background

At the foundation of the Student Growth score is a growth measure called **Student Growth Percentiles (SGPs)**. While the mathematics behind SGPs are complex, the concept is fairly straightforward. When we look at one student's WKCE scores over time, we find many other students with similar scores over time and compare his or her performance to those peers. An SGP is a percentile rank that **characterizes one student's change in WKCE scores from last year to this year, compared to other students with similar score histories**. SGPs allow us to describe an individual student's growth across the full range of achievement levels, rather than focusing on growth to one specific level. Wisconsin schools already use student reports that describe past growth and the range of expected growth in the next year.

SGPs also allow us to **project student growth over time to specific achievement levels**. For example, we can project the SGP a student would need to grow to the Advanced level within the next three years, and then compare the actual SGP to that projection. In the Student Growth measure used in the report card projections to the Basic, Proficient, and Advanced levels. (This projection is different than what has been shown on student-level SGP reports.) For every student with growth data, a growth trajectory is set for each level based on the lowest of its projections over one, two, or three years—the trajectory describes the growth each student needs to grow to that level within three years. Usually, the trajectory reflects growth to a higher level within three years, or decline to a lower level within one year.

The **trajectory is set in the previous year** for growth to the current year. In the **current year**, we **compare each student's actual growth** to the previous year's trajectory. We **assign a value to those comparisons** using a "value table" that assigns positive points for growth to higher levels and negative points to decline below Proficient. Comparisons for all students with growth data in a school are combined and used to calculate that school's Student Growth score.

Reading the Report Card

The four-by-four grids shown in the Student Growth detail summarize all of the SGP-to-trajectory comparisons for students in a school. Consider the following data on reading growth for a sample school, which we will use throughout the walkthrough:

Sample Elementary – Reading Growth

Reading Growth Score is based on the 172 students tested in fall 2010 with data for growth to fall 2011.

Starting Level		Growth/Decline Trajectory			
		Min. Perf.	**Basic**	**Proficient**	**Advanced**
Minimal Performance	33	10	**16**	**6**	**1**
	19.2%	5.8%	**9.3%**	**3.5%**	**0.6%**
Basic	66	6	46	**11**	**3**
	38.4%	3.5%	26.7%	**6.4%**	**1.7%**
Proficient	60	*1*	*16*	34	**9**
	34.9%	*0.6%*	*9.3%*	19.8%	**5.2%**
Advanced	13	*0*	*0*	7	6
	7.6%	*0.0%*	*0.0%*	4.1%	3.5%

The introductory note tells us there are 172 students at Sample Elementary with WKCE growth data from fall 2010 to fall 2011 to calculate SGPs and achievement trajectories over the next three years. On the left, under "Starting Level," those students are grouped by their fall 2010 achievement level. To the right, they are grouped further based on whether or not they met the achievement trajectory for a particular level (or under Minimal Performance, whether they fell below the Basic trajectory).

Example (shown with the bold border): 66 students started at the Basic level in fall 2010. Of those, 11 met the Proficient trajectory (but did not meet the Advanced trajectory).

The layout of the table reflects how these comparisons are used to calculate a school's Student Growth score. The green/bold highlighted cells show students whose growth put them on a trajectory toward a higher achievement level, and the red/italic highlighted cells show those whose decline put them on a trajectory below Proficient.

Walkthrough

This walkthrough guides the user through determination of a growth score in a single subject, reading, for Sample Elementary. To determine an overall Student Growth score, the process is repeated for mathematics and the two subject scores are added.

Step 1: Assign Growth and Decline Points

The first step is to assign points for each student's SGP-to-trajectory comparison. We use two basic principles to assign points:

1. Students earn +1 point for each level they are on a trajectory to grow toward.
2. Students earn -1 point if they are on a trajectory to decline below Proficient.

These principles can be combined to create a value table showing how many points a student can earn for each combination of starting level and trajectory met:

Starting Level	Growth/Decline Trajectory			
	Min. Perf.	**Basic**	**Proficient**	**Advanced**
Min Perf	0	+1	+2	+3
Basic	0	0	+1	+2
Proficient	-1	-1	0	+1
Advanced	-1	-1	0	0

By applying the value table to our sample school's report card data, we can figure out how many points students earned:

Starting Level		**Growth/Decline Trajectory**			
		Min. Perf.	**Basic**	**Proficient**	**Advanced**
Minimal Performance	33 students	10 students	**16 students**	**6 students**	**1 student**
		0 points	**+16 points**	**+12 points**	**+3 points**
Basic	66 students	6 students	46 students	**11 students**	**3 students**
		0 points	0 points	**+11 points**	**+6 points**
Proficient	60 students	*1 student*	*16 students*	34 students	**9 students**
		-1 point	*-16 points*	0 points	**+9 points**
Advanced	13 students	*0 students*	*0 students*	7 students	6 students
		0 points	*0 points*	0 points	0 points

Total Growth Points: +57 points	*Total Decline Points: -17 points*

Step 2: Calculate Growth and Decline Factors

One thing to note about step 1 is that because of the way we look at student growth, certain students cannot earn points depending on their starting level—Advanced students cannot earn positive growth points since there is no higher performance level to grow to, and Minimal Performance or Basic students cannot earn negative decline points since they are already below proficient. We incorporate Advanced students into growth and Minimal Performance or Basic students into decline by calculating **growth and decline factors**, values that represent the average numbers of points earned by students who can earn points, scaled by the percentages of students who cannot.

Definitions

Note: Within definitions, an achievement level (Minimal Performance, Basic, Proficient, or Advanced) refers to the starting level in the growth detail table, not the trajectory.

$$\text{Average Growth Points} = \frac{\text{Total Growth Points}}{\text{Number Min. Perf.} + \text{Number Basic} + \text{Number Proficient}}$$

$$\text{Percent Advanced} = \frac{\text{Number Advanced}}{\text{Total Students with Growth Data}}$$

$$\text{Average Decline Points} = \frac{\text{Total Decline Points}}{\text{Number Proficient} + \text{Number Advanced}}$$

$$\text{Percent Min. Perf. or Basic} = \frac{\text{Number Min. Perf.} + \text{Number Basic}}{\text{Total Students with Growth Data}}$$

Formulas

$$\text{Growth Factor} = \text{Average Growth Points} + \text{Percent Advanced} - (\text{Average Growth Points} \times \text{Percent Advanced})$$

$$\text{Decline Factor} = \text{Average Decline Points} - (\text{Average Decline Points} \times \text{Percent Min. Perf. or Basic})$$

Note: The formulas are set up this way so that a school with all Advanced students receives full credit for growth (Growth Factor = 1) and a school with all Minimal Performance or Basic students receives no penalty for decline (Decline Factor = 0).

Calculation

$$\text{Average Growth Points} = \frac{+57 \text{ points}}{\begin{matrix}33 \text{ Min. Perf. students} + 66 \text{ Basic students} \\ +60 \text{ Proficient students}\end{matrix}} = 0.358$$

$$\text{Percent Advanced} = \frac{13 \text{ Advanced students}}{172 \text{ total students}} = 0.076$$

$$\text{Growth Factor} = 0.358 + 0.076 - (0.358 \times 0.076) = \mathbf{0.407}$$

$$\text{Average Decline Points} = \frac{-17 \text{ points}}{60 \text{ Proficient students} + 13 \text{ Advanced students}} = -0.233$$

$$\text{Percent Min. Perf. or Basic} = \frac{33 \text{ Min. Perf. students} + 66 \text{ Basic students}}{172 \text{ total students}} = 0.576$$

$$\text{Decline Factor} = -0.233 - (-0.233 \times 0.576) = \mathbf{-0.099}$$

Step 3: Combine Growth and Decline Factors into Total Factor

Once the growth and decline factors have been calculated, they are combined into a single value, the **total factor**. The basic formula for the total factor is:

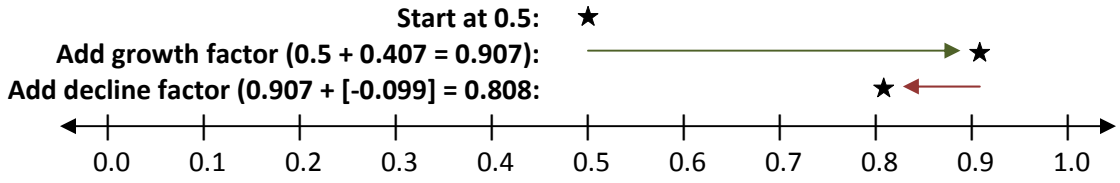
$$\text{Total Factor} = \text{Growth Factor} + \text{Decline Factor} + 0.5$$

Why add the growth and decline factors to 0.5? The reason is to create a value like a rate that we can use to determine a score. This makes more sense if we illustrate the calculation for our sample school:

$$\text{Total Factor} = 0.407 + (-0.099) + 0.5 = \mathbf{0.808}$$

The total factor formula puts the school on a range between zero and one. A total factor of 0.5 represents a school where student growth and decline are balanced. As the total factor moves away from 0.5 it shows that either growth or decline is more predominant:

We can show the total factor calculation on this number line:



A total factor of 0.808 shows that our sample school has quite a bit more growth than decline.

The basic equation above can give a value for the total factor of less than zero or greater than one. Therefore, we add two conditions that restrict the final value to a zero-to-one range:

$$\text{If Growth Factor} + \text{Decline Factor} + 0.5 < 0, \text{then Total Factor} = 0$$

$$\text{If Growth Factor} + \text{Decline Factor} + 0.5 > 1, \text{then Total Factor} = 1$$

$$\text{Otherwise, Total Factor} = \text{Growth Factor} + \text{Decline Factor} + 0.5$$

Step 4: Calculate a 75% Confidence Interval

As with any measure, there is some statistical uncertainty in the calculation of a Student Growth score. One way to address this uncertainty is to calculate a **confidence interval**, a value that expresses how the number of students in our measure creates uncertainty—fewer students leads to more uncertainty. Calculating a confidence interval can be tricky because it does not work well with values close to zero or one, or for very small numbers of students. Using a confidence interval is a necessary statistical safeguard, but it adds a layer of complexity to the calculation.

N and P

A rule of thumb for confidence intervals is that the product of N (the number of items in a sample—in this case, the number of students) and P (the percentage or rate calculated) should be at least 5, and the product of N and (1 – P) should also be at least 5. When either of these products is less than 5 we substitute a new value of P that meets the rule of thumb.

Example 1: $N = 20; P = 0.6. N \times P = 20 \times 0.6 = \mathbf{12}; N \times (1 - P) = 20 \times 0.4 = \mathbf{8}.$
We're OK!

Example 2: $N = 20; P = 0.1. N \times P = 20 \times 0.1 = \mathbf{2}; N \times (1 - P) = 20 \times 0.9 = \mathbf{18}.$
Fails the N × P test! Solution: $P_{New} = 5/N = 5/20 = \mathbf{0.25}.$

Example 3: $N = 20; P = 0.8. N \times P = 20 \times 0.8 = \mathbf{16}; N \times (1 - P) = 20 \times 0.2 = \mathbf{4}.$
Fails the N × (1 – P) test! Solution: $P_{New} = 1 - (5/N) = 1 - (5/20) = \mathbf{0.75}.$

Definitions

$N =$ Total number of students with growth data

$TF =$ Total Factor determined in previous step

Total Factor-CI = Total Factor used in confidence interval calculation:

If $N \times TF \geq 5$ and $N \times (1 - TF) \geq 5$, then Total Factor-CI $= TF$

If $N \times TF < 5$, then Total Factor-CI $= 5/N$

If $N \times (1 - TF) < 5$, then Total Factor-CI $= 1 - (5/N)$

Formula

$$\text{Confidence Interval} = 1.15 \times \sqrt{\frac{\text{Total Factor-CI} \times (1 - \text{Total Factor-CI})}{\text{Total number of students with growth data}}}$$

Calculation

$$N = 172; TF = 0.808$$

$$N \times TF = 172 \times 0.808 = 139; N \times (1 - TF) = 172 \times 0.192 = 33$$

$$\text{Passes both tests, so Total Factor-CI} = TF = 0.808$$

$$\text{Confidence Interval} = 1.15 \times \sqrt{\frac{0.808 \times 0.192}{172}} = \mathbf{0.035}$$

Note: A confidence interval is a value that is added or subtracted to create a range. In this example, the confidence interval means we are reasonably confident that the true growth score for these 172 students falls within a range from 0.773 to 0.843 (0.808 ± 0.035). As we will see in the next step, the top of this range—the maximum value we can reliably determine for the school—is used to determine the growth score.

Step 5: Determine the Student Growth Score

Now that we have the total factor and the 75 percent confidence interval, we can determine this school's Student Growth score in reading. The formula is complex in order to put Student Growth scores on a similar scale as Student Achievement. Like the WKCE, the new school accountability system includes different kinds of data and different scores that carry different meanings; it is necessary to align components like Student Growth to a common scale.

Formula

$$\text{Growth Score} = ([(\text{Total Factor} + \text{Confidence Interval}) \times 1.01] - 0.16) \times 50$$

Note: Adding the confidence interval to the total factor gives the highest reasonable value for growth within the 75 percent confidence interval. 1.01 and 0.16 are numbers that align Student Growth to the common scale based on Student Achievement scores. 50 sets the subject growth score out of 50 points.

Calculation

$$\text{Growth Score} = ([(0.808 + 0.035) \times 1.01] - 0.16) \times 50 = \mathbf{34.6}$$

Sample Elementary's Student Growth score in reading is 34.6.

Student Growth Score Worksheet

Introduction

This worksheet has two parts, one for reading and one for mathematics. Both parts require you to copy data from the Student Growth detail of the School Report Card Detail. Be sure to **use the counts, not the percentages**. **Note that the score calculated here may not exactly match the report card due to rounding**. Here is a key to the data needed to complete the worksheet:

Sample Elementary – Reading Growth

Reading Growth Score is based on **A** 172 students tested in fall 2010 with data for growth to fall 2011.

Starting Level		Growth/Decline Trajectory			
		Min. Perf.	Basic	Proficient	Advanced
Minimal Performance	**B** 33	10	**F** **16**	**G** **6**	**H** **1**
	19.2%	5.8%	**9.3%**	**3.5%**	**0.6%**
Basic	**C** 66	6	46	**I** **11**	**J** **3**
	38.4%	3.5%	26.7%	**6.4%**	**1.7%**
Proficient	**D** 60	**L** *1*	**M** *16*	34	**K** **9**
	34.9%	*0.6%*	*9.3%*	19.8%	**5.2%**
Advanced	**E** 13	**N** *0*	**O** *0*	7	6
	7.6%	*0.0%*	*0.0%*	4.1%	3.5%

Letters shown on the key are used to help identify data on the worksheet. Note: Although the key shows an example for reading growth, the same components are used for mathematics growth as well.

Instructions

Work through the individual reading and mathematics worksheets step by step, entering data from the School Report Card Detail where appropriate. When both are complete, add both content area scores to determine the school's total Student Growth score:

Reading Growth Score: _____ out of 50 points

Mathematics Growth Score: + _____ out of 50 points

Total Student Growth Score: _____ out of 100 points

Reading Growth Score

Step 1: Assign Growth and Decline Points

Growth Points

(1a) Min. Perf. toward Advanced students (H)		× 3 =	1a
(1b) Min. Perf. toward Proficient students (G)		× 2 =	1b
(1c) Basic toward Advanced students (J)		× 2 =	1c
(1d) Min. Perf. toward Basic students (F)		× 1 =	1d
(1e) Basic toward Proficient students (I)		× 1 =	1e
(1f) Proficient toward Advanced students (K)		× 1 =	1f
Total Growth Points: (1g) Add boxes 1a through 1f			1g

Decline Points

(1h) Proficient toward Min. Perf. students (L)		× -1 =	1h
(1i) Proficient toward Basic students (M)		× -1 =	1i
(1j) Advanced toward Min. Perf. students (N)		× -1 =	1j
(1k) Advanced toward Basic students (O)		× -1 =	1k
Total Decline Points: (1l) Add boxes 1h through 1k (will be a negative number)			1l

Step 2: Calculate Growth and Decline Factors

Growth Factor

(2a) Number of Min. Perf. students (B)	2a		
(2b) Number of Basic students (C)	2b		
(2c) Number of Proficient students (D)	2c		
(2d) Enter Total Growth Points from box 1g		2d	
(2e) Add boxes 2a through 2c		2e	
Average Growth Points: (2f) Box 2d ÷ box 2e			2f
(2g) Number of Advanced students (E)		2g	
(2h) Total students with growth data (A)		2h	
Percent Advanced: (2i) Box 2g ÷ box 2h			2i
Growth Factor: (2j) Box 2f + box 2i – (box 2f × box 2i)			2j

Decline Factor

(2k) Number of Proficient students (D)	2k		
(2l) Number of Advanced students (E)	2l		
(2m) Enter Total Decline Points from box 1l		2m	
(2n) Add boxes 2k and 2l		2n	
Average Decline Points: (2o) Box 2m ÷ box 2n (will be a negative number)			2o
(2p) Number of Min. Perf. students (B)		2p	
(2q) Number of Basic students (C)		2q	
(2r) Add boxes 2p and 2q		2r	
(2s) Total students with growth data (A)		2s	
Percent Min. Perf. or Basic: (2t) Box 2r ÷ box 2s			2t
Decline Factor: (2u) Box 2o – (box 2o × box 2t) (will be a negative number)			2u

Step 3: Combine Growth and Decline Factors into Total Factor

(3a) Enter Growth Factor from box 2j	3a
(3b) Enter Decline Factor from box 2u	3b
(3c) Box 3a + box 3b + 0.5	3c
(3d) Is box 3c less than zero?	3d ☐ Yes ☐ No
(3e) If 3d is 'Yes,' enter 0	3e
(3f) Is box 3c greater than one?	3f ☐ Yes ☐ No
(3g) If box 3f is 'Yes,' enter 1	3g
(3h) If boxes 3d and 3f are 'No,' enter box 3c	3h
Total Factor: (3i) Enter whichever one of boxes 3e, 3g, or 3h contains a value	3i

Step 4: Calculate a 75% Confidence Interval

(4a) Total students with growth data (A)	4a
(4b) Enter Total Factor from box 3i	4b
(4c) Multiply box 4a by box 4b	4c
(4d) Enter 5 ÷ box 4a	4d
(4e) Is box 4c less than 5?	4e ☐ Yes ☐ No
(4f) If 4e is 'Yes,' enter box 4d	4f
(4g) Enter 1 minus box 4b	4g
(4h) Multiply box 4a by box 4g	4h
(4i) Is box 4h less than 5?	4i ☐ Yes ☐ No
(4j) If 4i is 'Yes,' enter (1 – box 4d)	4j
(4k) If both 4e and 4i are 'No,' enter Total Factor from box 4b	4k
(4l) Enter whichever one of boxes 4f, 4j, or 4k contains a value	4l
(4m) Enter 1 minus box 4l	4m
(4n) Multiply box 4l by box 4m	4n
(4o) Divide box 4n by box 4a	4o
(4p) Take the square root of box 4o	4p
Confidence Interval: (4q) Multiply box 4p by 1.15	4q

Step 5: Determine the Reading Growth Score

(5a) Enter the Total Factor from box 3i	5a
(5b) Enter the Confidence Interval from box 4q	5b
(5c) Add boxes 5a and 5b	5c
(5d) Multiply box 5c by 1.01	5d
(5e) Enter box 5d minus 0.16	5e
Reading Growth Score: (5f) Multiply box 5e by 50	5f

Mathematics Growth Score

Step 1: Assign Growth and Decline Points

Growth Points

(1a) Min. Perf. toward Advanced students (H)		× 3 =	1a
(1b) Min. Perf. toward Proficient students (G)		× 2 =	1b
(1c) Basic toward Advanced students (J)		× 2 =	1c
(1d) Min. Perf. toward Basic students (F)		× 1 =	1d
(1e) Basic toward Proficient students (I)		× 1 =	1e
(1f) Proficient toward Advanced students (K)		× 1 =	1f
Total Growth Points: (1g) Add boxes 1a through 1f			1g

Decline Points

(1h) Proficient toward Min. Perf. students (L)		× -1 =	1h
(1i) Proficient toward Basic students (M)		× -1 =	1i
(1j) Advanced toward Min. Perf. students (N)		× -1 =	1j
(1k) Advanced toward Basic students (O)		× -1 =	1k
Total Decline Points: (1l) Add boxes 1h through 1k (will be a negative number)			1l

Step 2: Calculate Growth and Decline Factors

Growth Factor

(2a) Number of Min. Perf. students (B)	2a		
(2b) Number of Basic students (C)	2b		
(2c) Number of Proficient students (D)	2c		
(2d) Enter Total Growth Points from box 1g		2d	
(2e) Add boxes 2a through 2c		2e	
Average Growth Points: (2f) Box 2d ÷ box 2e			2f
(2g) Number of Advanced students (E)		2g	
(2h) Total students with growth data (A)		2h	
Percent Advanced: (2i) Box 2g ÷ box 2h			2i
Growth Factor: (2j) Box 2f + box 2i – (box 2f × box 2i)			2j

Decline Factor

(2k) Number of Proficient students (D)	2k		
(2l) Number of Advanced students (E)	2l		
(2m) Enter Total Decline Points from box 1l		2m	
(2n) Add boxes 2k and 2l		2n	
Average Decline Points: (2o) Box 2m ÷ box 2n (will be a negative number)			2o
(2p) Number of Min. Perf. students (B)		2p	
(2q) Number of Basic students (C)		2q	
(2r) Add boxes 2p and 2q		2r	
(2s) Total students with growth data (A)		2s	
Percent Min. Perf. or Basic: (2t) Box 2r ÷ box 2s			2t
Decline Factor: (2u) Box 2o – (box 2o × box 2t) (will be a negative number)			2u

Step 3: Combine Growth and Decline Factors into Total Factor

(3a) Enter Growth Factor from box 2j	3a	
(3b) Enter Decline Factor from box 2u	3b	
(3c) Box 3a + box 3b + 0.5	3c	
(3d) Is box 3c less than zero?	3d ☐ Yes ☐ No	
(3e) If 3d is 'Yes,' enter 0	3e	
(3f) Is box 3c greater than one?	3f ☐ Yes ☐ No	
(3g) If box 3f is 'Yes,' enter 1	3g	
(3h) If boxes 3d and 3f are 'No,' enter box 3c	3h	
Total Factor: (3i) Enter whichever one of boxes 3e, 3g, or 3h contains a value		3i

Step 4: Calculate a 75% Confidence Interval

(4a) Total students with growth data (A)	4a	
(4b) Enter Total Factor from box 3i	4b	
(4c) Multiply box 4a by box 4b	4c	
(4d) Enter 5 ÷ box 4a	4d	
(4e) Is box 4c less than 5?	4e ☐ Yes ☐ No	
(4f) If 4e is 'Yes,' enter box 4d	4f	
(4g) Enter 1 minus box 4b	4g	
(4h) Multiply box 4a by box 4g	4h	
(4i) Is box 4h less than 5?	4i ☐ Yes ☐ No	
(4j) If 4i is 'Yes,' enter (1 – box 4d)	4j	
(4k) If both 4e and 4i are 'No,' enter Total Factor from box 4b	4k	
(4l) Enter whichever one of boxes 4f, 4j, or 4k contains a value		4l
(4m) Enter 1 minus box 4l		4m
(4n) Multiply box 4l by box 4m		4n
(4o) Divide box 4n by box 4a		4o
(4p) Take the square root of box 4o		4p
Confidence Interval: (4q) Multiply box 4p by 1.15		4q

Step 5: Determine the Mathematics Growth Score

(5a) Enter the Total Factor from box 3i		5a
(5b) Enter the Confidence Interval from box 4q		5b
(5c) Add boxes 5a and 5b		5c
(5d) Multiply box 5c by 1.01		5d
(5e) Enter box 5d minus 0.16		5e
Mathematics Growth Score: (5f) Multiply box 5e by 50		5f

Calculating a Closing Gaps Score

The Closing Gaps Priority Area evaluates schools based on the **change in student achievement and graduation from one year to the next among key student groups**. It focuses on the groups that experience statewide achievement gaps, rewarding schools for improving their performance and penalizing them for reducing the performance of comparison groups.

Background

Wisconsin has a number of specific and significant gaps in reading and mathematics achievement and high school graduation. The Closing Gaps Priority Area is designed to **look at improvement among particular student groups** in a way that **rewards schools for contributing toward closing our achievement gaps**. We evaluate schools' progress in closing achievement gaps using the same measure as in the Student Achievement Priority Area, and in closing graduation gaps using the high school cohort graduation rate. Each "gaps" group is contrasted with a **comparison group** which is factored in **only as a penalty when the comparison group's performance declines**. The student "gaps" groups and comparison groups that are included in Closing Gaps scores are:

"Gaps" Group	Comparison Group
American Indian	White not Hispanic
Asian	White not Hispanic
Black not Hispanic	White not Hispanic
Hispanic	White not Hispanic
Students with disabilities	Students without disabilities
Economically disadvantaged	Not economically disadvantaged
Limited English proficient	English proficient
Supergroup*	Not in supergroup*

We do not evaluate how the size of each gap changes over time, because that would not allow us to focus on improvement among these particular student groups. (We do report five year change in gaps in the School Report Card for all of the above groups, except the supergroup.) If we simply looked at whether gaps were closing, a school with declining comparison groups would get as good a score as a school with improving "gaps" groups.

* A **"supergroup"** is **a group of students belonging to one or more of the binary groups** (students with disabilities, economically disadvantaged, or limited English proficient). We use a supergroup only when individual groups do not have enough students to be considered in a school's Closing Gaps score, but when combined into the supergroup , they do. For example, in a school with 14 students with disabilities and 16 economically disadvantaged students, there are too few students in either group to be considered in Closing Gaps. However, if there are 25 students in the "students with disabilities/economically disadvantaged" supergroup (9 with disabilities, 11 economically disadvantaged, and 5 in both groups) then we can consider all of those students together in the supergroup.

Reading the Report Card

All of the Closing Gaps measures are based on comparisons between specific groups of students and their peers:

- For racial/ethnic groups we compare each of American Indian, Asian, Black (not Hispanic), and Hispanic students to White (not Hispanic) students.
- For binary groups (those where a student either is or is not a member: students with disabilities, economically disadvantaged students, and limited English proficient students) we compare the students within the group to those outside it.
- For supergroups (groups with students who belong to two or three supergroups, used only when those individual groups do not have enough students for comparison but the supergroup does) we compare the students within the supergroup to those outside it.

In every case, **both the group and the comparison group need to have enough students to make a comparison**. DPI uses 20 throughout the Wisconsin school accountability system as the minimum number required. Asterisks show that there are not enough students for a particular comparison.

The Closing Gaps data in the School Report Card Detail includes summary tables for Closing Achievement Gaps (one for reading and one for mathematics) and Closing Graduation Gaps. The layout of all three tables is the same, but the data are slightly different. Consider the following table showing Sample Elementary's performance in closing mathematics achievement gaps:

Sample Elementary
Closing Achievement Gaps – Mathematics | Score 39.4/50

Group						Comparison Group						Gap	
	2010-11		2011-12				2010-11		2011-12				
	3-Yr Average Students	Achievement Points	3-Yr Average Students	Achievement Points	Change		3-Yr Average Students	Achievement Points	3-Yr Average Students	Achievement Points	Change	Prior Year	Current Year
American Indian or Alaskan Native	*	*	*	*	*	White not Hispanic	*	*	*	*	*	*	*
Asian or Pacific Islander	28	13.5	30	17.3	3.8	White not Hispanic	107	34.3	112	35.8	1.4	20.8	18.4
Black not Hispanic	*	*	*	*	*	White not Hispanic	*	*	*	*	*	*	*
Hispanic	*	*	*	*	*	White not Hispanic	*	*	*	*	*	*	*
Students with Disabilities	41	20.8	40	21.8	1	Students without Disabilities	115	33.4	124	34.5	1.1	12.6	12.7
Economically Disadvantaged	64	23.4	71	25.1	1.7	Not Economically Disadvantaged	91	34.8	93	36.4	1.6	11.4	11.3
Limited English Proficient	*	*	*	*	*	English Proficient	*	*	*	*	*	*	*
"All 3" Supergroup	*	*	*	*	*	Not in "All 3" Supergroup	*	*	*	*	*	*	*
"SwD-ECD" Supergroup	*	*	*	*	*	Not in "SwD-ECD" Supergroup	*	*	*	*	*	*	*
"SwD-LEP" Supergroup	*	*	*	*	*	Not in "SwD-LEP" Supergroup	*	*	*	*	*	*	*
"ECD-LEP" Supergroup	*	*	*	*	*	Not in "ECD-LEP" Supergroup	*	*	*	*	*	*	*

The table includes five columns each for every group and comparison group. Columns headed with the prior (2010-11) and current (2011-12) school years show:

- "Students" – How many students from this group had achievement data.
- "Achievement Points" – How many achievement points those students earned, on a scale from zero to 50. (Achievement points are calculated the same way as they are for all students in the "Student Achievement" area of the Accountability Index.)

The "Change" column shows **the change in achievement points** from the prior to the current year.

Finally, the table includes a pair of "Gap" columns at the end, showing the differences in achievement points between the group and the comparison group in the prior and current years. (A positive number means that there is a gap, that the group scored lower than the comparison; a negative number shows that the group scored higher than the comparison.)

> **Example (highlighted in yellow): Last year, students with disabilities earned 20.8 achievement points; this year they earned 21.8 points, an increase of 1 point. By comparison, students without disabilities earned 33.4 points last year and 34.5 points this year, an increase of 1.1 points. Both groups increased but the gap between them—the number of points that students with disabilities are behind students without disabilities—grew slightly, from 12.6 points to 12.7 points.**

The Closing Graduation Gaps table has the same layout, but instead of achievement points it shows graduation rates and gaps:

Sample High
Closing Graduation Gaps | Score 32.7/50

Group						Comparison Group						Gap	
	2009-10		2010-11				2009-10		2010-11				
	Students	Graduation Rate	Students	Graduation Rate	Change		Students	Graduation Rate	Students	Graduation Rate	Change	Prior Year	Current Year
American Indian or Alaskan Native	35	97.1%	42	90.5%	-6.7%	White not Hispanic	436	95.2%	402	92.5%	-2.6%	-2.0%	2.1%
Asian or Pacific Islander	*	*	*	*	*	White not Hispanic	*	*	*	*	*	*	*
Black not Hispanic	*	*	*	*	*	White not Hispanic	*	*	*	*	*	*	*
Hispanic	*	*	*	*	*	White not Hispanic	*	*	*	*	*	*	*
Students with Disabilities	38	81.6%	40	75.0%	-6.6%	Students without Disabilities	452	95.6%	429	93.2%	-2.3%	14.0%	18.2%
Economically Disadvantaged	*	*	*	*	*	Not Economically Disadvantaged	*	*	*	*	*	*	*
Limited English Proficient	*	*	*	*	*	English Proficient	*	*	*	*	*	*	*
"All 3" Supergroup	*	*	*	*	*	Not in "All 3" Supergroup	*	*	*	*	*	*	*
"SwD-ECD" Supergroup	*	*	*	*	*	Not in "SwD-ECD" Supergroup	*	*	*	*	*	*	*
"SwD-LEP" Supergroup	*	*	*	*	*	Not in "SwD-LEP" Supergroup	*	*	*	*	*	*	*
"ECD-LEP" Supergroup	28	67.9%	115	82.6%	14.8%	Not in "ECD-LEP" Supergroup	462	96.1%	354	94.6%	-1.5%	28.2%	12.2%

Walkthrough

This walkthrough guides the user through determination of a Closing Achievement Gaps score in mathematics for Sample Elementary. It also includes a shorter description of a Closing Graduation Gaps determination for Sample High, illustrating how graduation differs in this Priority Area. To determine an overall Closing Gaps score, reading, mathematics, and graduation scores are calculated as appropriate and added.

Step 1: Convert Points to Rates

Closing achievement gaps data are presented in the School Report Card Detail in points—the same units as the Student Achievement area—for clarity. However, to determine a score we must convert the points to rates, which simply involves dividing the number of points by 50. For this illustration, only points data are shown:

Sample Elementary – Achievement Points

Group				Comparison Group				Gap	
	2010-11 Achievement Points	2011-12 Achievement Points	Change		2010-11 Achievement Points	2011-12 Achievement Points	Change	Prior Year	Current Year
Asian or Pacific Islander	13.5	17.3	3.8	White not Hispanic	34.3	35.8	1.4	20.8	18.4
Students with Disabilities	20.8	21.8	1	Students without Disabilities	33.4	34.5	1.1	12.6	12.7
Economically Disadvantaged	23.4	25.1	1.7	Not Economically Disadvantaged	34.8	36.4	1.6	11.4	11.3

Divided by 50

Sample Elementary – Achievement Rates

Group				Comparison Group				Gap	
	2010-11 Achievement Rate	2011-12 Achievement Rate	Change		2010-11 Achievement Rate	2011-12 Achievement Rate	Change	Prior Year	Current Year
Asian or Pacific Islander	0.270	0.346	0.076	White not Hispanic	0.686	0.716	0.028	0.416	0.368
Students with Disabilities	0.416	0.436	0.020	Students without Disabilities	0.668	0.690	0.022	0.252	0.254
Economically Disadvantaged	0.468	0.502	0.034	Not Economically Disadvantaged	0.696	0.728	0.032	0.228	0.226

Step 2: Calculate a Raw Score for Each Group-Comparison Pair

The simplest way to look at closing gaps would be to compare the prior year's gap to the current, but this would create an undesirable incentive for schools to close gaps by allowing the performance of students in comparison groups to stagnate or even decline, rather than by improving the performance of groups at a lower level. As such, we focus mainly on performance change among the "gap" groups, and only include comparison groups as a penalty when their performance declines.

Definitions

$$\text{Group Change} = \text{Group's achievement rate in the current year} - \text{Group's achievement rate in the prior year}$$

$$\text{Comparison Group Change} = \text{Comparison group's achievement rate in the current year} - \text{Comparison group's achievement rate in the prior year}$$

$$\text{Penalty} = \frac{\text{Comparison Group Change}}{2} \text{ when Comparison Group Change} < 0$$

Formula

$$\text{Raw Score} = \text{Group Change} + \text{Penalty (when applicable)}$$

Calculation

Group		Comparison Group			Raw
	Change		Change	Penalty	Score
Asian or Pacific Islander	0.076	White not Hispanic	0.028	0	**0.076**
Students with Disabilities	0.020	Students without Disabilities	0.022	0	**0.020**
Economically Disadvantaged	0.034	Not Economically Disadvantaged	0.032	0	**0.034**

Step 3: Determine the Closing Achievement Gaps Score

Once we have a raw score for each group-comparison pair in the school, we average those raw scores together and use a formula to determine the Closing Achievement Gaps score. The formula is complex, in order to put Closing Gaps scores on a similar scale to Student Achievement. Like the WKCE, Wisconsin's new school accountability system includes different kinds of data with different meanings, and it is necessary to align components like Closing Gaps to a common scale.

Definitions

$$\text{Average Raw Score} = \text{Average of all raw scores calculated for the school}$$

$$\text{Possible Points} = 25 \text{ if the school has Closing Graduation Gaps data, or } 50 \text{ if it does not}$$

Formula

$$\text{Closing Achievement Gaps Score} = [(\text{Average Raw Score} \times 3.29) + 0.67] \times \text{Possible Points}$$

Note: 3.29 and 0.67 are numbers that align Closing Gaps to a scale based on Student Achievement scores.

Calculation

$$\text{Average Raw Score} = \frac{0.076 + 0.020 + 0.034}{3} = 0.043; \text{Possible Points} = 50$$

$$\text{Closing Achievement Gaps Score} = [(0.043 \times 3.29) + 0.67] \times 50 = \mathbf{40.6}$$

Sample Elementary has a Closing Achievement Gaps score in mathematics of 40.6.

About Closing Graduation Gaps

The process for calculating a Closing Graduation Gaps score is nearly identical to that for achievement gaps, with three differences:

1. Graduation data are converted from percentages to rates by dividing the percentage by 100.
2. The number of possible points is 50 if the school has Closing Achievement Gaps data described above, or 100 if it does not.
3. The numbers in the score formula that align Closing Gaps to Student Achievement are different:

$$\text{Closing Graduation Gaps Score} = [(\text{Average Raw Score} \times 0.79) + 0.65] \times \text{Possible Points}$$

Let's step through the process to illustrate using Sample High School data.

Step 1: Convert Percentages to Rates

Sample High – Graduation Rates

Group				Comparison Group				Gap	
	2009-10 Graduation Rate	2010-11 Graduation Rate	Change		2009-10 Graduation Rate	2010-11 Graduation Rate	Change	Prior Year	Current Year
American Indian or Alaskan Native	0.971	0.905	-0.067	White not Hispanic	0.952	0.925	-0.026	-0.020	-0.021
Students with Disabilities	0.816	0.750	-0.066	Students without Disabilities	0.956	0.932	-0.023	0.140	0.182
"ECD-LEP" Supergroup	0.679	0.826	0.148	Not in "ECD-LEP" Supergroup	0.961	0.946	-0.015	0.282	0.122

Step 2: Calculate a Raw Score for Each Group-Comparison Pair

Group		Comparison Group			Raw Score
	Change		Change	Penalty	
American Indian or Alaskan Native	-0.067	White not Hispanic	-0.026	-0.013	**-0.080**
Students with Disabilities	-0.066	Students without Disabilities	-0.023	-0.012	**-0.054**
"ECD-LEP" Supergroup	0.148	Not in "ECD-LEP" Supergroup	-0.015	-0.008	**0.140**

Step 3: Determine the Closing Graduation Gaps Score

$$\text{Average Raw Score} = \frac{(-0.080) + (-0.054) + 0.140}{3} = 0.006; \text{Possible Points} = 50$$

$$\text{Closing Graduation Gaps Score} = [(0.006 \times 0.79) + 0.65] \times 50 = \mathbf{32.7}$$

Sample High has a Closing Graduation Gaps score of 32.7.

Closing Gaps Score Worksheet

This worksheet has three parts: for Closing Achievement Gaps in Reading, Closing Achievement Gaps in Mathematics, and Closing Graduation Gaps. Each part requires you to pull data from the Closing Gaps detail in the School Report Card Detail. **Note that the score calculated here may not exactly match the report card due to rounding**.

The report card for a particular school will include some or all Closing Gaps data:

- Closing Graduation Gaps only
- Closing Achievement Gaps – Reading and Closing Achievement Gaps – Mathematics
- All three Closing Gaps components

A school will not have Closing Achievement Gaps data and scores reported unless they are available for both reading and mathematics. The combination of Closing Gaps components calculated and reported for a school determines the number of possible points for each component:

Component	Present?	Possible points	Present?	Possible points	Present?	Possible points
Closing Achievement Gaps – Reading	Yes	50	No	-	Yes	25
Closing Achievement Gaps – Mathematics	Yes	50	No	-	Yes	25
Closing Graduation Gaps	No	-	Yes	100	Yes	50

Instructions

Complete the worksheets that include components calculated for the school, entering data from the School Report Card Detail where appropriate. When all applicable worksheets are complete, add the component scores to determine the school's total Closing Gaps score:

Closing Achievement Gaps – Reading Score: _____ out of _____ points

Closing Achievement Gaps – Mathematics Score: _____ out of _____ points

Closing Graduation Gaps Score: +_____ out of _____ points

Total Closing Gaps Score: _____ out of 100 points

Closing Achievement Gaps – Reading Score

Step 1: Convert Points to Rates

Enter data from the "Change" columns under the "Group" or "Comparison Group" headings in the report card detail table.
If asterisks are given for a particular pair of group and comparison group, leave the boxes blank for that pair.

Group	Change (in Points)		Change (in Rate)	Comparison Group	Change (in Points)		Change (in Rate)
(1a) American Indian or Alaska Native		÷ 50 =	1a	(1b) White not Hispanic		÷ 50 =	1b
(1c) Asian or Pacific Islander		÷ 50 =	1c	(1d) White not Hispanic		÷ 50 =	1d
(1e) Black not Hispanic		÷ 50 =	1e	(1f) White not Hispanic		÷ 50 =	1f
(1g) Hispanic		÷ 50 =	1g	(1h) White not Hispanic		÷ 50 =	1h
(1i) Students with Disabilities		÷ 50 =	1i	(1j) Students without Disabilities		÷ 50 =	1j
(1k) Economically Disadvantaged		÷ 50 =	1k	(1k) Not Economically Disadvantaged		÷ 50 =	1l
(1m) Limited English Proficient		÷ 50 =	1m	(1n) English Proficient		÷ 50 =	1n
(1o) "All 3" Supergroup		÷ 50 =	1o	(1p) Not in "All 3" Supergroup		÷ 50 =	1p
(1q) "SwD-ECD" Supergroup		÷ 50 =	1q	(1r) Not in "SwD-ECD" Supergroup		÷ 50 =	1r
(1s) "SwD-LEP" Supergroup		÷ 50 =	1s	(1t) Not in "SwD-LEP" Supergroup		÷ 50 =	1t
(1u) "ECD-LEP" Supergroup		÷ 50 =	1u	(1v) Not in "ECD-LEP" Supergroup		÷ 50 =	1v

Step 2: Calculate a Raw Score for Each Group-Comparison Pair

Enter data from step 1 above only when the boxes contain data for a pair; if the pair's boxes above are blank, leave its boxes blank.
Under the "Penalty" column, calculate a penalty (comparison group's change ÷ 2) only when the comparison group's change is less than zero.

Group-Comparison Pair	Group Change		Comparison Change		Penalty (Comparison Change ÷ 2)		Raw Score	
American Indian/White	Box 1a:	2a	Box 1b:	2b	Less than zero? ☐ Yes	2c	2a + 2c:	2d
Asian/White	Box 1c:	2e	Box 1d:	2f	Less than zero? ☐ Yes	2g	2e + 2g:	2h
Black/White	Box 1e:	2i	Box 1f:	2j	Less than zero? ☐ Yes	2k	2i + 2k:	2l
Hispanic/White	Box 1g:	2m	Box 1h:	2n	Less than zero? ☐ Yes	2o	2m + 2o:	2p
Students with/without Disabilities	Box 1i:	2q	Box 1j:	2r	Less than zero? ☐ Yes	2s	2q + 2s:	2t
Economically Disadvantaged/Not	Box 1k:	2u	Box 1l:	2v	Less than zero? ☐ Yes	2w	2u + 2w:	2x
Limited English Proficient/Proficient	Box 1m:	2y	Box 1n:	2z	Less than zero? ☐ Yes	2aa	2y + 2aa:	2ab
"All 3" Supergroup/Not	Box 1o:	2ac	Box 1p:	2ad	Less than zero? ☐ Yes	2ae	2ac + 2ae:	2af
"SwD-ECD" Supergroup/Not	Box 1q:	2ag	Box 1r:	2ah	Less than zero? ☐ Yes	2ai	2ag + 2ai:	2aj
"SwD-LEP" Supergroup/Not	Box 1s:	2ak	Box 1t:	2al	Less than zero? ☐ Yes	2am	2ak + 2am:	2an
"ECD-LEP" Supergroup/Not	Box 1u:	2ao	Box 1v:	2ap	Less than zero? ☐ Yes	2aq	2ao + 2aq:	2ar

Step 3: Determine the Closing Achievement Gaps – Reading Score

(3a) Total of "Raw Score" column in step 2:	3a
(3b) Number of boxes with data in step 2 "Raw Score" column:	3b
Average Raw Score: (3c) Enter 3a ÷ 3b:	3c

(3d) Does the school have Closing Graduation Gaps data? 3d ☐ Yes ☐ No

Possible Points: (3e) If 3d is "Yes," enter 25; if "No," enter 50:	3e
(3f) Enter Average Raw Score from box 3c:	3f
(3g) Multiply box 3f by 3.29:	3g
(3h) Add box 3g plus 0.67:	3h
(3i) Enter Possible Points from box 3e:	3i
Closing Achievement Gaps – Reading Score: (3j) Multiply boxes 3h and 3i:	3j

Closing Achievement Gaps – Mathematics Score

Step 1: Convert Points to Rates

Enter data from the "Change" columns under the "Group" or "Comparison Group" headings in the report card detail table.
If asterisks are given for a particular pair of group and comparison group, leave the boxes blank for that pair.

Group	Change (in Points)		Change (in Rate)	Comparison Group	Change (in Points)		Change (in Rate)
(1a) American Indian or Alaska Native		÷ 50 =	1a	(1b) White not Hispanic		÷ 50 =	1b
(1c) Asian or Pacific Islander		÷ 50 =	1c	(1d) White not Hispanic		÷ 50 =	1d
(1e) Black not Hispanic		÷ 50 =	1e	(1f) White not Hispanic		÷ 50 =	1f
(1g) Hispanic		÷ 50 =	1g	(1h) White not Hispanic		÷ 50 =	1h
(1i) Students with Disabilities		÷ 50 =	1i	(1j) Students without Disabilities		÷ 50 =	1j
(1k) Economically Disadvantaged		÷ 50 =	1k	(1k) Not Economically Disadvantaged		÷ 50 =	1l
(1m) Limited English Proficient		÷ 50 =	1m	(1n) English Proficient		÷ 50 =	1n
(1o) "All 3" Supergroup		÷ 50 =	1o	(1p) Not in "All 3" Supergroup		÷ 50 =	1p
(1q) "SwD-ECD" Supergroup		÷ 50 =	1q	(1r) Not in "SwD-ECD" Supergroup		÷ 50 =	1r
(1s) "SwD-LEP" Supergroup		÷ 50 =	1s	(1t) Not in "SwD-LEP" Supergroup		÷ 50 =	1t
(1u) "ECD-LEP" Supergroup		÷ 50 =	1u	(1v) Not in "ECD-LEP" Supergroup		÷ 50 =	1v

Step 2: Calculate a Raw Score for Each Group-Comparison Pair

Enter data from step 1 above only when the boxes contain data for a pair; if the pair's boxes above are blank, leave its boxes blank.
Under the "Penalty" column, calculate a penalty (comparison group's change ÷ 2) only when the comparison group's change is less than zero.

Group-Comparison Pair	Group Change		Comparison Change		Penalty (Comparison Change ÷ 2)		Raw Score	
American Indian/White	Box 1a:	2a	Box 1b:	2b	Less than zero? ☐ Yes	2c	2a + 2c:	2d
Asian/White	Box 1c:	2e	Box 1d:	2f	Less than zero? ☐ Yes	2g	2e + 2g:	2h
Black/White	Box 1e:	2i	Box 1f:	2j	Less than zero? ☐ Yes	2k	2i + 2k:	2l
Hispanic/White	Box 1g:	2m	Box 1h:	2n	Less than zero? ☐ Yes	2o	2m + 2o:	2p
Students with/without Disabilities	Box 1i:	2q	Box 1j:	2r	Less than zero? ☐ Yes	2s	2q + 2s:	2t
Economically Disadvantaged/Not	Box 1k:	2u	Box 1l:	2v	Less than zero? ☐ Yes	2w	2u + 2w:	2x
Limited English Proficient/Proficient	Box 1m:	2y	Box 1n:	2z	Less than zero? ☐ Yes	2aa	2y + 2aa:	2ab
"All 3" Supergroup/Not	Box 1o:	2ac	Box 1p:	2ad	Less than zero? ☐ Yes	2ae	2ac + 2ae:	2af
"SwD-ECD" Supergroup/Not	Box 1q:	2ag	Box 1r:	2ah	Less than zero? ☐ Yes	2ai	2ag + 2ai:	2aj
"SwD-LEP" Supergroup/Not	Box 1s:	2ak	Box 1t:	2al	Less than zero? ☐ Yes	2am	2ak + 2am:	2an
"ECD-LEP" Supergroup/Not	Box 1u:	2ao	Box 1v:	2ap	Less than zero? ☐ Yes	2aq	2ao + 2aq:	2ar

Step 3: Determine the Closing Achievement Gaps – Mathematics Score

(3a) Total of "Raw Score" column in step 2:	3a	
(3b) Number of boxes with data in step 2 "Raw Score" column:	3b	
Average Raw Score: (3c) Enter 3a ÷ 3b:	3c	
(3d) Does the school have Closing Graduation Gaps data? 3d ☐ Yes ☐ No		
Possible Points: (3e) If 3d is "Yes," enter 25; if "No," enter 50:	3e	
(3f) Enter Average Raw Score from box 3c:	3f	
(3g) Multiply box 3f by 3.29:	3g	
(3h) Add box 3g plus 0.67:	3h	
(3i) Enter Possible Points from box 3e:	3i	
Closing Achievement Gaps – Mathematics Score: (3j) Multiply boxes 3h and 3i:		3j

Closing Graduation Gaps Score

Step 1: Convert Percentages to Rates

Enter data from the "Change" columns under the "Group" or "Comparison Group" headings in the report card detail table.
If asterisks are given for a particular pair of group and comparison group, leave the boxes blank for that pair.

Group	Change (in %)		Change (in Rate)	Comparison Group	Change (in %)		Change (in Rate)
(1a) American Indian or Alaska Native		÷ 100 =	1a	(1b) White not Hispanic		÷ 100 =	1b
(1c) Asian or Pacific Islander		÷ 100 =	1c	(1d) White not Hispanic		÷ 100 =	1d
(1e) Black not Hispanic		÷ 100 =	1e	(1f) White not Hispanic		÷ 100 =	1f
(1g) Hispanic		÷ 100 =	1g	(1h) White not Hispanic		÷ 100 =	1h
(1i) Students with Disabilities		÷ 100 =	1i	(1j) Students without Disabilities		÷ 100 =	1j
(1k) Economically Disadvantaged		÷ 100 =	1k	(1k) Not Economically Disadvantaged		÷ 100 =	1l
(1m) Limited English Proficient		÷ 100 =	1m	(1n) English Proficient		÷ 100 =	1n
(1o) "All 3" Supergroup		÷ 100 =	1o	(1p) Not in "All 3" Supergroup		÷ 100 =	1p
(1q) "SwD-ECD" Supergroup		÷ 100 =	1q	(1r) Not in "SwD-ECD" Supergroup		÷ 100 =	1r
(1s) "SwD-LEP" Supergroup		÷ 100 =	1s	(1t) Not in "SwD-LEP" Supergroup		÷ 100 =	1t
(1u) "ECD-LEP" Supergroup		÷ 100 =	1u	(1v) Not in "ECD-LEP" Supergroup		÷ 100 =	1v

Step 2: Calculate a Raw Score for Each Group-Comparison Pair

Enter data from step 1 above only when the boxes contain data for a pair; if the pair's boxes above are blank, leave its boxes blank.
Under the "Penalty" column, calculate a penalty (comparison group's change ÷ 2) only when the comparison group's change is less than zero.

Group-Comparison Pair	Group Change		Comparison Change		Penalty (Comparison Change ÷ 2)		Raw Score	
American Indian/White	Box 1a:	2a	Box 1b:	2b	Less than zero? ☐ Yes	2c	2a + 2c:	2d
Asian/White	Box 1c:	2e	Box 1d:	2f	Less than zero? ☐ Yes	2g	2e + 2g:	2h
Black/White	Box 1e:	2i	Box 1f:	2j	Less than zero? ☐ Yes	2k	2i + 2k:	2l
Hispanic/White	Box 1g:	2m	Box 1h:	2n	Less than zero? ☐ Yes	2o	2m + 2o:	2p
Students with/without Disabilities	Box 1i:	2q	Box 1j:	2r	Less than zero? ☐ Yes	2s	2q + 2s:	2t
Economically Disadvantaged/Not	Box 1k:	2u	Box 1l:	2v	Less than zero? ☐ Yes	2w	2u + 2w:	2x
Limited English Proficient/Proficient	Box 1m:	2y	Box 1n:	2z	Less than zero? ☐ Yes	2aa	2y + 2aa:	2ab
"All 3" Supergroup/Not	Box 1o:	2ac	Box 1p:	2ad	Less than zero? ☐ Yes	2ae	2ac + 2ae:	2af
"SwD-ECD" Supergroup/Not	Box 1q:	2ag	Box 1r:	2ah	Less than zero? ☐ Yes	2ai	2ag + 2ai:	2aj
"SwD-LEP" Supergroup/Not	Box 1s:	2ak	Box 1t:	2al	Less than zero? ☐ Yes	2am	2ak + 2am:	2an
"ECD-LEP" Supergroup/Not	Box 1u:	2ao	Box 1v:	2ap	Less than zero? ☐ Yes	2aq	2ao + 2aq:	2ar

Step 3: Determine the Closing Graduation Gaps Score

(3a) Total of "Raw Score" column in step 2:	3a
(3b) Number of boxes with data in step 2 "Raw Score" column:	3b
Average Raw Score: (3c) Enter 3a ÷ 3b:	3c

(3d) Does the school have Closing Achievement Gaps data? 3d ☐ Yes ☐ No

Possible Points: (3e) If 3d is "Yes," enter 50; if "No," enter 100:	3e
(3f) Enter Average Raw Score from box 3c:	3f
(3g) Multiply box 3f by 0.79:	3g
(3h) Add box 3g plus 0.65:	3h
(3i) Enter Possible Points from box 3e:	3i
Closing Graduation Gaps Score: (3j) Multiply boxes 3h and 3i:	3j

Calculating an On-Track and Postsecondary Readiness Score

The On-Track and Postsecondary Readiness (On-Track/Postsecondary) Priority Area is designed to evaluate schools on **high-impact indicators** that predict student success. It includes attendance and graduation, ACT participation and performance, and student achievement among 3rd graders in reading and 8th graders in mathematics.

Background

The mission of Wisconsin public schools is to **ensure that every student becomes a high school graduate ready for college and career**. The process of getting a student to graduation begins well before 12th grade, and there are key indicators throughout elementary, middle, and high school that have a direct impact on a student's future likelihood of success. This Priority Area is designed to hold schools accountable on a number of these key indicators:

- **Attendance** drives all aspects of student success throughout their school career.
- **Graduation rate**, which we measure as a **cohort rate**—the percentage of students starting high school together who graduate within a certain time—measures the outcome of our schools' overarching mission.

Among Wisconsin high schools, attendance and graduation track each other fairly closely and have similar, narrow distributions of high rates. At the recommendation of DPI's Technical Advisory Committee, we hold schools accountable on **either graduation or attendance**, depending on whether or not they graduate students.

- **Reading achievement in 3rd grade** and **mathematics achievement in 8th grade** are measures that strongly predict future success in school transitions and graduation.
- **Participation and performance on the ACT**—the most widely-taken college placement examination in Wisconsin—is the best measure of college readiness we currently have.

Each of these measures is not applicable to every school. As we developed a method of combining these measures into a score, DPI strove to be as fair as possible to the diverse array of school types in Wisconsin, which made the process of transforming measures into scores particularly complex. As other indicators become available, we will evaluate them for inclusion in this Priority Area.

Reading the Report Card

Attendance

The first table shown in the On-Track and Postsecondary Readiness detail is the attendance rate, the number of days that students actually attended divided by the number of days they could possibly have attended:

Group	Enrollment	Attended Days	Possible Days	Rate
All Students	248	42,199.0	43,830.0	96.3%

Graduation

The next table shows graduation rate information:

Group	Four-Year Cohort Graduation Rate			Six-Year Cohort Graduation Rate		
	Students in Cohort	Graduates	Rate	Students in Cohort	Graduates	Rate
All Students	311	255	82.0%	328	299	91.2%

Graduation rates are given for a particular "cohort" of students, which is the group of high school students that make up a particular four-year graduating class and do not transfer to a private school, move to another state or country, or are deceased. We report two graduation rates:

- The four-year cohort graduation rate is the percentage of students in the cohort at the end of the fourth year who have graduated from high school.
- The six-year cohort graduation rate is the percentage of students in the cohort at the end of the sixth year (e.g. at the end of 2012-13 for the 2010-11 cohort) who have graduated from high school. This "extended" rate is used to include students who require more than four years to finish high school. Note: For the first year of accountability determinations (2011-12) we will use a five-year rate rather than a six-year rate because six-year data are not yet available.

ACT Participation and Performance

The third table provides information on how many 12th grade students took the ACT and how they did:

Group	Enrolled	Tested		Reading		English		Mathematics		Science	
	Students	Students	Percent	Students	Percent	Students	Percent	Students	Percent	Students	Percent
12th Graders	313	170	54.3%	125	73.5%	142	83.5%	120	70.6%	160	94.1%

The percentage of 12th graders tested divided by the number enrolled gives the school's ACT participation rate. The subject breakdowns show how many of the ACT-tested students reached college readiness benchmarks on those portions of the ACT (we use students' best exams for this measure):

- Reading: 21 or higher
- English: 18 or higher

- Mathematics: 22 or higher
- Science: 24 or higher

(More information on ACT's college readiness benchmarks is available at http://www.act.org/education/benchmarks.html)

Example: At the school shown, 170 of 313 (54.3%) of 12th graders took the ACT. Of those 170 tested students, 125 (73.5%) scored 21 or higher in reading, 142 (83.5%) scored 18 or higher in English, 120 (70.6%) scored 22 or higher in mathematics, and 160 (94.1%) scored 24 or higher in science.

3rd Grade Reading/8th Grade Mathematics Achievement

The final two tables in the On-Track and Postsecondary Readiness detail give information on reading achievement for 3rd grade students and mathematics achievement for 8th grade students. These tables are presented in the same format as Student Achievement, described on page 10.

The difference between this specific measure and other parts of the report card is in how "cell size"—the minimum number of students with data necessary to calculate a score—is used. In most places we use a cell size of 20 in the most recent year, but applying this to a single grade would omit a large number of small elementary schools. Instead, for this measure only, we use a cell size of 20 over the two most recent years. This change affects only whether data is presented on the report card and used to determine a score, not the process by which the score is calculated.

Combining Individual Components Into a Priority Area Score

Different schools will have different components for this Priority Area. The number of points possible for each component depends on which are available for a particular school, with the requirements that (1) graduation or attendance will be 20 percent of the school's overall score and (2) the other On-Track and Postsecondary Readiness component scores will total 5 percent of the school's overall score. Graduation or attendance will always be determined as scores out of 80 points. Possible scores for the other components are:

3rd Grade Reading	Alone	**20 points**
	With 8th grade mathematics	**10 points**
	With both 8th grade mathematics and ACT participation & performance	**5 points**
8th Grade Mathematics	Alone	**20 points**
	With 3rd grade reading	**10 points**
	With ACT participation & performance	**10 points**
	With both 3rd grade reading and ACT participation & performance	**5 points**
ACT Participation and Performance	Alone	**20 points**
	With 3rd grade reading and/or 8th grade mathematics	**10 points**

Walkthrough #1

This walkthrough will use data on attendance and 3rd grade reading achievement to determine a score for Sample Elementary.

Step 1: Calculate the Graduation/Attendance Score

Group	Enrollment	Attended Days	Possible Days	Rate
All Students	248	42,199.0	43,830.0	96.3%

This is an elementary school; it does not graduate students, so its attendance rate is used to determine the score. The graduation/attendance score is simply the rate (expressed as a decimal, not a percentage) multiplied by 80:

$$\text{Graduation/Attendance Score} = \text{Attendance Rate} \times 80$$

$$\text{Graduation/Attendance Score} = 0.963 \times 80 = \mathbf{77.0}$$

Step 2: Calculate the 3rd Grade Reading Achievement Score

Performance Level	Points Multiplier	2009-10			2010-11			2011-12		
		Students			Students			Students		
		Count	Percent	Points	Count	Percent	Points	Count	Percent	Points
Advanced	1.5	9	20.9%	13.5	10	22.7%	15	8	19.0%	12
Proficient	1	11	25.6%	11	14	31.8%	14	14	33.3%	14
Basic	0.5	10	23.3%	5	9	20.5%	4.5	11	26.2%	5.5
Minimal Performance/ Not Tested	0	13	30.2%	0	11	25.0%	0	9	21.4%	0
Total Enrolled	-	43	100.0%	29.5	44	100.0%	33.5	42	100.0%	31.5

The method for calculating the 3rd grade reading and 8th grade mathematics achievement scores is the same as described in the Student Achievement walkthrough on pages 11-14, with the difference that the multiplier used in the final step varies depending on the number of possible points for this component. A simplified version of that walkthrough is presented here; for a detailed description, please see pages 11-14.

Step 2A: Assign and Average Points

$$\text{Prior Year 2 Average} = 29.5/43 = \mathbf{0.686}$$

$$\text{Prior Year 1 Average} = 33.5/44 = \mathbf{0.761}$$

$$\text{Current Year Average} = 31.5/42 = \mathbf{0.750}$$

Step 2B: Calculate Annual Weights

$$\text{Prior Year 2 Weight} = 1 \times \frac{\text{Prior Year 2 Enrollment}}{\text{Average Enrollment}} = 1 \times \frac{43}{(43+44+42)/3} = \mathbf{1.000}$$

$$\text{Prior Year 1 Weight} = 1.25 \times \frac{\text{Prior Year 1 Enrollment}}{\text{Average Enrollment}} = 1.25 \times \frac{44}{(43+44+42)/3} = \mathbf{1.279}$$

$$\text{Current Year Weight} = 1.5 \times \frac{\text{Current Year Enrollment}}{\text{Average Enrollment}} = 1.5 \times \frac{42}{(43+44+42)/3} = \mathbf{1.465}$$

Step 2C: Combine Points and Weights

$$\text{Prior Year 2 Score} = \text{Prior Year 2 Avg.} \times \text{Prior Year 2 Weight} = 0.686 \times 1.000 = \mathbf{0.686}$$

$$\text{Prior Year 1 Score} = \text{Prior Year 1 Avg.} \times \text{Prior Year 1 Weight} = 0.761 \times 1.279 = \mathbf{0.973}$$

$$\text{Current Year Score} = \text{Current Year Avg.} \times \text{Current Year Weight} = 0.750 \times 1.465 = \mathbf{1.099}$$

Step 2D: Calculate Component Score

$$\text{Comp. Score} = \frac{\text{Prior Year 2 Score} + \text{Prior Year 1 Score} + \text{Current Year Score}}{\text{Prior Year 2 Weight} + \text{Prior Year 1 Weight} + \text{Current Year Weight}} \times \text{Poss. Pts.}$$

Sample Elementary only has a 3rd grade reading achievement component, so the number of possible points is 20:

$$\text{3rd Grade Reading Achievement Score} = \frac{0.686 + 0.973 + 1.099}{1.000 + 1.279 + 1.465} \times 20 = \mathbf{14.7}$$

Step 3: Determine the Total On-Track/Postsecondary Score

The total score for this Priority Area is the sum of all its components' scores:

Graduation/Attendance Score		77.0
3rd Grade Reading Achievement Score	+	14.7
Total On-Track/Postsecondary Score		**91.7**

Sample Elementary has an On-Track and Postsecondary Readiness score of 91.7.

Walkthrough #2

This walkthrough will use data on graduation and ACT participation and performance to determine a score for Sample High.

Step 1: Calculate the Graduation/Attendance Score

Group	Four-Year Cohort Graduation Rate			Six-Year Cohort Graduation Rate		
	Students in Cohort	Graduates	Rate	Students in Cohort	Graduates	Rate
All Students	311	255	82.0%	328	299	91.2%

This is a high school; it graduates students, so its graduation rates are used to determine the score. The graduation/attendance score here is the average of the four-year and six-year cohort graduation rates (expressed as a decimal, not a percentage) multiplied by 80:

$$\text{Graduation/Attendance Score} = \frac{\text{4-Year Cohort Rate} + \text{6-Year Cohort Rate}}{2} \times 80$$

$$\text{Graduation/Attendance Score} = \frac{0.820 + 0.912}{2} \times 80 = \mathbf{69.3}$$

Step 2: Calculate the ACT Participation and Performance Score

Group	Enrolled	Tested		Reading		English		Mathematics		Science	
	Students	Students	Percent	Students	Percent	Students	Percent	Students	Percent	Students	Percent
12th Graders	313	170	54.3%	125	73.5%	142	83.5%	120	70.6%	160	94.1%

The ACT participation and performance score is the average of the five rates in the table—participation (tested) rate and the four college-ready benchmark rates in reading, English, mathematics, and science—multiplied by the possible score. In this case, with no other components present for the school, the possible score is 20 points:

$$\text{ACT Score} = \frac{\text{Participation} + \text{Reading} + \text{English} + \text{Mathematics} + \text{Science}}{5} \times \text{Possible Score}$$

$$\text{ACT Score} = \frac{0.543 + 0.735 + 0.835 + 0.706 + 0.941}{5} \times 20 = \mathbf{15.0}$$

Step 3: Determine the Total On-Track/Postsecondary Score

Graduation/Attendance Score	69.3
ACT Participation and Performance Score +	15.0
Total On-Track/Postsecondary Score	**84.3**

Sample High has an On-Track and Postsecondary Readiness score of 84.3.

Walkthrough #3

This walkthrough will use data on graduation, ACT participation and performance, 8th grade mathematics achievement, and 3rd grade reading to determine a score for Sample K-12.

Step 1: Calculate the Graduation/Attendance Score

Attendance

Group	Enrollment	Attended Days	Possible Days	Rate
All Students	252	39,288.0	42,173.0	93.2%

Graduation

Group	Four-Year Cohort Graduation Rate			Six-Year Cohort Graduation Rate		
	Students in Cohort	Graduates	Rate	Students in Cohort	Graduates	Rate
All Students	21	19	90.5%	*	*	*

Sample K-12 graduates students, so we use graduation rates to determine this score. Data for the six-year cohort rate are redacted—presumably, the six-year cohort must not meet the cell size of 20. Therefore, the graduation/attendance score is based only on the four-year cohort rate:

$$\text{Graduation/Attendance Score} = \text{4-Year Cohort Rate} \times 80$$

$$\text{Graduation/Attendance Score} = 0.905 \times 80 = \mathbf{72.4}$$

Step 2: Calculate the ACT Participation and Performance Score

Group	Enrolled	Tested		Reading		English		Mathematics		Science	
	Students	Students	Percent	Students	Percent	Students	Percent	Students	Percent	Students	Percent
12th Graders	21	14	66.7%	10	47.6%	11	52.4%	8	38.1%	5	23.8%

With 8th grade mathematics and 3rd grade reading achievement present for the school, the possible score for this component is 10 points:

$$\text{ACT Score} = \frac{\text{Participation} + \text{Reading} + \text{English} + \text{Mathematics} + \text{Science}}{5} \times \text{Possible Score}$$

$$\text{ACT Score} = \frac{0.667 + 0.476 + 0.524 + 0.381 + 0.238}{5} \times 10 = \mathbf{4.6}$$

Step 3: Calculate the 8th Grade Mathematics Achievement Score

Performance Level	Points Multiplier	2009-10			2010-11			2011-12		
		Students			Students			Students		
		Count	Percent	Points	Count	Percent	Points	Count	Percent	Points
Advanced	1.5	4	21.1%	6	3	16.7%	4.5	3	14.3%	4.5
Proficient	1	6	31.6%	6	5	27.8%	5	7	33.3%	7
Basic	0.5	5	26.3%	2.5	6	33.3%	3	8	38.1%	4
Minimal Performance/ Not Tested	0	4	21.1%	0	4	22.2%	0	3	14.3%	0
Total Enrolled	-	19	100.0%	14.5	18	100.0%	12.5	21	100.0%	15.5

Step 3A: Assign and Average Points

$$\text{Prior Year 2 Average} = 14.5/19 = \mathbf{0.763}$$

$$\text{Prior Year 1 Average} = 12.5/18 = \mathbf{0.694}$$

$$\text{Current Year Average} = 15.5/21 = \mathbf{0.738}$$

Step 3B: Calculate Annual Weights

$$\text{Prior Year 2 Weight} = 1 \times \frac{19}{(19+18+21)/3} = \mathbf{0.983}$$

$$\text{Prior Year 1 Weight} = 1.25 \times \frac{18}{(19+18+21)/3} = \mathbf{1.164}$$

$$\text{Current Year Weight} = 1.5 \times \frac{21}{(19+18+21)/3} = \mathbf{1.629}$$

Step 3C: Combine Points and Weights

$$\text{Prior Year 2 Score} = 0.763 \times 0.983 = \mathbf{0.750}$$

$$\text{Prior Year 1 Score} = 0.694 \times 1.164 = \mathbf{0.808}$$

$$\text{Current Year Score} = 0.738 \times 1.629 = \mathbf{1.202}$$

Step 3D: Calculate Component Score

With ACT participation and performance and 3rd grade reading achievement present for the school, the possible score for this component is 5 points:

$$\text{8th Grade Mathematics Achievement Score} = \frac{0.750 + 0.808 + 1.202}{0.983 + 1.164 + 1.629} \times 5 = \mathbf{3.7}$$

Step 4: Calculate the 3rd Grade Reading Achievement Score

Performance Level	Points Multiplier	2009-10			2010-11			2011-12		
		Students			Students			Students		
		Count	Percent	Points	Count	Percent	Points	Count	Percent	Points
Advanced	1.5	7	31.8%	10.5	3	17.6%	4.5	6	31.3%	9
Proficient	1	10	45.5%	10	8	47.1%	8	6	43.8%	6
Basic	0.5	3	13.6%	1.5	4	23.6%	2	3	18.8%	1.5
Minimal Performance/ Not Tested	0	2	9.1%	0	2	11.8%	0	1	6.3%	0
Total Enrolled	-	22	100.0%	22	17	100.0%	14.5	16	100.0%	16.5

Step 4A: Assign and Average Points

$$\text{Prior Year 2 Average} = 22/22 = \mathbf{1.000}$$

$$\text{Prior Year 1 Average} = 14.5/17 = \mathbf{0.853}$$

$$\text{Current Year Average} = 16.5/16 > \mathbf{1.000}$$

Note: Remember that the average has a ceiling of one—the true average for the current year is 1.031 (16.5/16) but we use 1.000 in the calculation.

Step 4B: Calculate Annual Weights

$$\text{Prior Year 2 Weight} = 1 \times \frac{22}{(22+17+16)/3} = \mathbf{1.200}$$

$$\text{Prior Year 1 Weight} = 1.25 \times \frac{17}{(22+17+16)/3} = \mathbf{1.159}$$

$$\text{Current Year Weight} = 1.5 \times \frac{16}{(22+17+16)/3} = \mathbf{1.309}$$

Step 4C: Combine Points and Weights

$$\text{Prior Year 2 Score} = 1.000 \times 1.200 = \mathbf{1.200}$$

$$\text{Prior Year 1 Score} = 0.853 \times 1.159 = \mathbf{0.989}$$

$$\text{Current Year Score} = 1.000 \times 1.309 = \mathbf{1.309}$$

Step 4D: Calculate Component Score

With ACT participation and performance and 8th grade mathematics achievement present for the school, the possible score for this component is 5 points:

$$\text{3rd Grade Reading Achievement Score} = \frac{1.200+0.989+1.309}{1.200+1.159+1.309} \times 5 = \mathbf{4.8}$$

Step 5: Determine the Total On-Track/Postsecondary Score

Graduation/Attendance Score		72.4
ACT Participation and Performance Score		4.6
8th Grade Mathematics Achievement Score		3.7
3rd Grade Reading Achievement Score	+	4.8
Total On-Track/Postsecondary Score		**85.5**

Sample K-12 has an On-Track and Postsecondary Readiness score of 85.5.

On-Track and Postsecondary Readiness Score Worksheet

Introduction

This worksheet has four parts, for Graduation/Attendance, ACT Participation and Performance, 8th Grade Mathematics Achievement, and 3rd Grade Reading Achievement. Each part requires you to copy data from the On-Track/Postsecondary detail on **pages 8 and 9** of the school report card, and your school may not have data for every component—we only report data for components that have scores. **Note that the score calculated here may not exactly match the report card due to rounding**. The key on page 14 of this document may be used to help read the 8th grade mathematics/3rd grade reading tables.

Instructions

Complete the following worksheet only for the components of On-Track and Postsecondary Readiness with data on your school's report card. Remember that only one of attendance or graduation—not both—is used to calculate that portion of the score. Use this grid to determine the number of possible points for the other On-Track/Postsecondary components:

3rd Grade Reading	Alone	**20 points**
	With 8th grade mathematics	**10 points**
	With both 8th grade mathematics and ACT participation & performance	**5 points**
8th Grade Mathematics	Alone	**20 points**
	With 3rd grade reading	**10 points**
	With ACT participation & performance	**10 points**
	With both 3rd grade reading and ACT participation & performance	**5 points**
ACT Participation and Performance	Alone	**20 points**
	With 3rd grade reading and/or 8th grade mathematics	**10 points**

Total the components calculated for your school to determine the total Priority Area score:

Graduation/Attendance Score: _____ out of 80 points

ACT Participation and Performance Score: _____ out of _____ points

8th Grade Mathematics Achievement Score: _____ out of _____ points

3rd Grade Reading Achievement Score: + _____ out of _____ points

Total On-Track/Postsecondary Score: _____ out of _____ points

Graduation/Attendance Worksheet

Calculate the Graduation/Attendance Score

(1a) Does the school have a reported graduation rate(s)? 1a ☐ Yes ☐ No

(1b) If 1a is "No," enter the attendance rate (in %): 1b

(1c) Divide box 1b by 100: 1c

(1d) If 1a is "Yes," enter the 4-year cohort graduation rate (in %): 1d

(1e) If 1a is "Yes," enter the 6-year* cohort graduation rate (in %): 1e

(1f) Add boxes 1d and 1e: 1f

(1g) Divide box 1f by 200: 1g

(1h) Enter whichever of boxes 1c or 1g has a value: 1h

Graduation/Attendance Score: (1i) Multiply box 1h by 80: 1i

ACT Participation and Performance Worksheet

Calculate the ACT Participation and Performance Score

(1a) Enter the percent of 12th graders tested on the ACT: 1a

(1b) Enter the percent tested meeting the Reading benchmark: 1b

(1c) Enter the percent tested meeting the English benchmark: 1c

(1d) Enter the percent tested meeting the Mathematics benchmark: 1d

(1e) Enter the percent tested meeting the Science benchmark: 1e

(1f) Add boxes 1a through 1e: 1f

(1g) Divide box 1f by 500: 1g

(1h) Enter the number of possible points: 1h

ACT Participation & Performance Score: (1i) Multiply box 1g by box 1h: 1i

8th Grade Mathematics Achievement Worksheet

Step 1: Assign and Average Points

If a year does not have data shown, leave that year's boxes blank.

Prior Year 2 Average

(1a) Total points earned (B) 1a

(1b) Count of students (A) 1b

(1c) Is box 1a greater than box 1b? 1c ☐ Yes ☐ No

Average: (1d) If 1c is "Yes," enter 1; if 1c is "No," divide box 1a by box 1b 1d

Prior Year 1 Average

(1e) Total points earned (D) 1e

(1f) Count of students (C) 1f

(1g) Is box 1e greater than box 1f? 1g ☐ Yes ☐ No

Average: (1h) If 1g is "Yes," enter 1; if 1g is "No," divide box 1e by box 1f 1h

Current Year Average

(1i) Total points earned (F) 1i

(1j) Count of students (E) 1j

(1k) Is box 1i greater than box 1j? 1k ☐ Yes ☐ No

Average: (1l) If 1k is "Yes," enter 1; if 1k is "No," divide box 1i by box 1j 1l

Step 2: Calculate Annual Weights

Average Enrollment

(2a) Prior Year 2 count of students (A) – leave blank if not shown | 2a |

(2b) Prior Year 1 count of students (C) – leave blank if not shown | 2b |

(2c) Current Year count of students (E) | 2c |

(2d) Add boxes 2a through 2c | 2d |

(2e) How many of boxes 2a through 2c have values? | 2e |

Average enrollment: (2f) Divide box 2d by box 2e | 2f |

Prior Year 2 Weight

(2g) Is box 2a blank? 2g ☐ Yes ☐ No If "Yes," move on to the "Prior Year 1 Weight" section.

(2h) Enter the count from box 2a | 2h |

(2i) Enter the average from box 2f | 2i |

Prior Year 2 Weight: (2j) Divide box 2h by box 2i | 2j |

Prior Year 1 Weight

(2k) Is box 2b blank? 2k ☐ Yes ☐ No If "Yes," move on to the "Current Year Weight" section.

(2l) Enter the count from box 2b | 2l |

(2m) Enter the average from box 2f | 2m |

(2n) Divide box 2l by box 2m | 2n |

(2o) If 2g is "Yes," enter 1; if 2g is "No," enter 1.25 | 2o |

Prior Year 1 Weight: (2p) Multiply box 2n by box 2o | 2p |

Current Year Weight

(2q) Are both boxes 2a and 2b blank? 2q ☐ Yes ☐ No If "Yes," skip to box 2t.

(2q) Enter the count from box 2c | 2q |

(2r) Enter the average from box 2f | 2r |

(2s) Divide box 2q by box 2r | 2s |

Current Year Weight: (2t) If 2q is "No," multiply box 2s by 1.5; otherwise, enter 1 | 2t |

Step 3: Combine Points and Weights

If a year does not have data, leave that year's boxes blank.

Prior Year 2 Score

(3a) Enter the average from box 1d | 3a |

(3b) Enter the weight from box 2j | 3b |

Prior Year 2 Score: (3c) Multiply box 3a by box 3b | 3c |

Prior Year 1 Score

(3d) Enter the average from box 1h | 3d |

(3e) Enter the weight from box 2p | 3e |

Prior Year 1 Score: (3f) Multiply box 3d by box 3e | 3f |

Current Year Score

(3g) Enter the average from box 1l | 3g |

(3h) Enter the weight from box 2t | 3h |

Current Score: (3i) Multiply box 3g by box 3h | 3i |

Step 4: Calculate Index Score

(4a) Enter the score from box 3c	4a	(4e) Enter the weight from box 2j	4e
(4b) Enter the score from box 3f	4b	(4f) Enter the weight from box 2p	4f
(4c) Enter the score from box 3i	4c	(4g) Enter the weight from box 2t	4g
(4d) Add boxes 4a through 4c	4d	(4h) Add boxes 4e through 4g	4h
		(4i) Divide box 4d by box 4h	4i
		(4j) Enter the number of possible points	4j
		8th Grade Mathematics Achievement Score: (4k) Multiply box 4i by box 4j	4k

3rd Grade Reading Achievement Worksheet

Step 1: Assign and Average Points

If a year does not have data shown, leave that year's boxes blank.

Prior Year 2 Average

(1a) Total points earned (B)	1a	
(1b) Count of students (A)	1b	
(1c) Is box 1a greater than box 1b?	1c ☐ Yes ☐ No	
Average: (1d) If 1c is "Yes," enter 1; if 1c is "No," divide box 1a by box 1b		1d

Prior Year 1 Average

(1e) Total points earned (D)	1e	
(1f) Count of students (C)	1f	
(1g) Is box 1e greater than box 1f?	1g ☐ Yes ☐ No	
Average: (1h) If 1g is "Yes," enter 1; if 1g is "No," divide box 1e by box 1f		1h

Current Year Average

(1i) Total points earned (F)	1i	
(1j) Count of students (E)	1j	
(1k) Is box 1i greater than box 1j?	1k ☐ Yes ☐ No	
Average: (1l) If 1k is "Yes," enter 1; if 1k is "No," divide box 1i by box 1j		1l

Step 2: Calculate Annual Weights

Average Enrollment

(2a) Prior Year 2 count of students (A) – leave blank if not shown	2a	
(2b) Prior Year 1 count of students (C) – leave blank if not shown	2b	
(2c) Current Year count of students (E)	2c	
(2d) Add boxes 2a through 2c		2d
(2e) How many of boxes 2a through 2c have values?		2e
Average enrollment: (2f) Divide box 2d by box 2e		2f

Prior Year 2 Weight

(2g) Is box 2a blank? 2g ☐ Yes ☐ No If "Yes," move on to the "Prior Year 1 Weight" section.

(2h) Enter the count from box 2a	2h	
(2i) Enter the average from box 2f	2i	
Prior Year 2 Weight: (2j) Divide box 2h by box 2i		2j

Prior Year 1 Weight

(2k) Is box 2b blank? 2k ☐ Yes ☐ No If "Yes," move on to the "Current Year Weight" section.

(2l) Enter the count from box 2b	2l		
(2m) Enter the average from box 2f	2m		
(2n) Divide box 2l by box 2m		2n	
(2o) If 2g is "Yes," enter 1; if 2g is "No," enter 1.25		2o	
Prior Year 1 Weight: (2p) Multiply box 2n by box 2o			2p

Current Year Weight

(2q) Are both boxes 2a and 2b blank? 2q ☐ Yes ☐ No If "Yes," skip to box 2t.

(2q) Enter the count from box 2c	2q		
(2r) Enter the average from box 2f	2r		
(2s) Divide box 2q by box 2r		2s	
Current Year Weight: (2t) If 2q is "No," multiply box 2s by 1.5; otherwise, enter 1			2t

Step 3: Combine Points and Weights

If a year does not have data, leave that year's boxes blank.

Prior Year 2 Score

(3a) Enter the average from box 1d	3a	
(3b) Enter the weight from box 2j	3b	
Prior Year 2 Score: (3c) Multiply box 3a by box 3b		3c

Prior Year 1 Score

(3d) Enter the average from box 1h	3d	
(3e) Enter the weight from box 2p	3e	
Prior Year 1 Score: (3f) Multiply box 3d by box 3e		3f

Current Year Score

(3g) Enter the average from box 1l	3g	
(3h) Enter the weight from box 2t	3h	
Current Score: (3i) Multiply box 3g by box 3h		3i

Step 4: Calculate Index Score

(4a) Enter the score from box 3c	4a	(4e) Enter the weight from box 2j	4e
(4b) Enter the score from box 3f	4b	(4f) Enter the weight from box 2p	4f
(4c) Enter the score from box 3i	4c	(4g) Enter the weight from box 2t	4g
(4d) Add boxes 4a through 4c	4d	(4h) Add boxes 4e through 4g	4h
(4i) Divide box 4d by box 4h			4i
(4j) Enter the number of possible points			4j
3rd Grade Reading Achievement Score: (4k) Multiply box 4i by box 4j			4k

Student Engagement Indicators

Some measures in our school accountability system do not show a wide range of variation between schools, but rather **allow us to pinpoint the small number of schools whose performance raises concern**. Instead of including these measures within one of the Priority Areas, we place them outside into a separate category called **Student Engagement Indicators**, which are displayed in the School Report Card Detail. Failure to meet specific statewide goals for these indicators results in points being deducted from the weighted average score the school earned under the Priority Areas. The weighted average Priority Areas score minus any Student Engagement Indicator deductions equals the school's Overall Accountability Score.

These three Student Engagement Indicators are:

- **Test Participation:** With so much of the Accountability Index based on assessment data, it is important that schools test as many students as possible. The goal is for schools to test **at least 95 percent of every group of students in the school** in both the reading and mathematics assessments. A school's performance is measured by **the lowest group participation rate among all groups in either subject**.

  If a school's test participation rate is **below the goal of 95 percent but is at least 85 percent**, the school score is **reduced by 5 points**. If a school's rate is **below 85 percent**, its score is **reduced by 10 points**.

- **Absenteeism Rate:** Chronic absenteeism is a strong predictor of whether a student will struggle in the future or fail to graduate. For this Student Engagement Indicator, the school's absenteeism rate is equal to the **percentage of its students who are chronically absent.** For the purposes of this indicator, chronically absent means a student misses school at least 16 percent of the time. The goal for this Student Engagement Indicator is a school absenteeism rate of **13 percent or less**.

  If a school's absenteeism rate exceeds 13 percent, the school's score is reduced by 5 points.

- **Dropout Rate:** Dropping out of school has a direct connection with a student's future success. The goal for this Student Engagement Indicator is a dropout rate of **6 percent or less**.

  If a school has a dropout rate of more than 6 percent, **its school score is reduced by 5 points**. Penalties applied for each missed indicator (i.e., a school that misses its goals for absenteeism rate and dropout rate would be penalized 10 points) after a base accountability score is calculated from the four Priority Areas.