

**Functional Requirements
for the
2011
No Child Left Behind
Adequate Yearly Progress
Calculations**



***2011 NCLB – AYP Calculations
Functional Requirements***

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1 Introduction

1.1 Overview

The purpose of this document is to describe the No Child Left Behind (NCLB) calculation as it relates to measuring schools and districts for Adequate Yearly Progress (AYP). This document is designed to be used by those who wish to understand the details of Minnesota's accountability system. This includes developers, district accountability coordinators, Title I and Title III coordinators, and many others. Items highlighted in yellow are new for 2011.

1.2 Context (place in the system)

The AYP computational software (the calculation “engine”) interacts with the following systems and databases:

- Assessment systems to acquire current and historical results
- Organizational Unit database and the NCLB ID system to identify school/district entities
- NCLB databases to store current and acquire historical AYP data
- MARSS systems for student demographics and enrollment information
- SERVS systems to determine Title I entities

The results are made available using Educator Portal and Report Card web applications.

1.3 Target Users

The target audience includes software developers as well as program area personnel who are expert in the requirements of the NCLB act.

1.4 Glossary of Terms

ADM attribute	Average Daily Membership. An attribute of a student in the MARSS database that indicates the cumulative amount of time in academic years that the student has spent in schools in Minnesota.
AYP	Adequate Yearly Progress. A set of measurements of schools and districts to comply with the federal No Child Left Behind act (NCLB).
AYP Cell	One of up to 54 disaggregated group measurements for any AYP entity
AYP Cell Mark	The result of each cell measurement – either A (At/Above target) or B (Below target). Other codes are used to indicate altered measurements or limitations of measurement.
AYP Component	One of three AYP Indicator summaries used to determine the overall AYP Status for an entity (school or district): Academic Math, Academic Reading, and the Secondary Indicator (Graduation and/or Attendance). All three used to determine the AYP Status.
AYP Component Mark	The result of each component measurement – either A (no cell below target) or B (at least one cell below target) or X (component does not exist).
AYP Consequence	Renamed ‘In Need of Improvement Status’ in 2008.
AYP Growth Score	The proportion of students showing growth from one year to the next.
AYP Growth Points	A measure of growth between two years for an individual student. Growth points are based on current and prior year achievement levels and scores. Growth points range between 0 and 1000.
AYP Index Point	The representation of the measure of a student at or near proficiency. Students fully proficient earn 1 index point. Students partially proficient earn 0.5 index points.
AYP Indicator	One of four measurement indicators for each student group – Participation, Proficiency, Attendance, or Graduation
AYP Status	The annual result of the AYP measurement applied to an entity. An entity is identified as either ‘Making AYP’ or ‘Not Making AYP’ based on the three AYP components.
AYP Year	The fiscal year in which the AYP measurement is determined. AYP Year 2011 will use assessment data from the 2010/2011 school year (fiscal year 2011). AYP Year 2011 will use Attendance and Graduation data from the 2009/2010 school year (fiscal year 2010).
Census Test	An assessment given to all students in a particular grade throughout the state.
Confidence Interval	A statistical adjustment when comparing measured results to targets.

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Feeder School	A school that does not serve students in the assessed grades but promotes the majority of students into another school in the same district that does serve students in the assessed grades.
In Need of Improvement Status	The defined status for entities not making AYP in 2 consecutive years.
In Need of Improvement Implementation	The defined implementation based on the status for school and districts planning to receive Title I funds in the following year.
LEP	Limited English Proficiency. This is a designation given to students with a home primary language other than English who have been identified by district staff as having Limited English Proficiency (LEP) within the testing district during the testing window. Expanded LEP subgroup: Students who, at any time in the past two years or the current year, were designated as LEP in the MARSS database.
MARSS	Minnesota Automated Reporting Student System. A database maintained by MDE for the purpose of recording attendance and demographic information about all students. MARSS is mainly used for allocating funds to schools, but it is used for multiple reporting purposes. It uses a 13-character identifier to track a student over time.
MCA	1998 – 2005 Minnesota Comprehensive Assessment. A reading and math census test annually given to selected grades throughout the state.
MCA-II	Minnesota Comprehensive Assessment – Series II. Beginning in 2006, a census test given annually to grades 3-8 and 10 for Reading and grades 3-8 and 11 for Math.
MCA-III	Minnesota Comprehensive Assessment – Series III. Beginning in 2011, a census test given annually to grades 3-8 for Math.
MDE	Minnesota Department of Education
MOD-II	MCA-II Modified Assessment. Begun in 2011, offered for Reading and grade 11 in Math.
MOD-III	MCA-III Modified Assessment. Begun in 2011, offered for grades 3-8 in Math.
MN SOLOM	Minnesota Student Oral Language Observation Matrix. A test given in Minnesota to assess a student's listening and speaking language skills.
MTAS	Minnesota Test of Academic Skills. An alternate assessment given in Minnesota for Special Education students with the most significant cognitive disabilities. Beginning in 2011, only offered for Reading and grade 11 in Math.

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MTAS-III	Minnesota Test of Academic Skills – Series III. An alternate assessment given in Minnesota for Special Education students with the most significant cognitive disabilities. Begun in 2011, only offered for grades 3-8 in Math.
MTELL	Math Test for English Language Learners. A math test given in Minnesota for LEP students. This test is no longer administered and was last offered in 2010.
NCLB	No Child Left Behind. A federal act ensuring accountability (among other things) for schools designated as Title I and Title III.
NCLBID	No Child Left Behind Identification Number. A unique number identifying a school or district over multiple years, regardless of the current or previous MDE district or school number found in ORGUNIT.
NCLBID system	An application and set of tables identifying certain schools and districts to be included in the AYP calculations.
ORGUNIT	A database maintained by MDE for the purpose of identifying various educational delivery organizations and their attributes. For example, this database holds information about schools and school districts.
Safe Harbor	An alternate target used in the Proficiency measurement based on results from previous years.
SLS	The MDE Student Linking System that uses a probabilistic matching algorithm to ensure student records are linked correctly.
TEAE	Test of Emerging Academic English. Tests given in Minnesota to LEP students to assess their reading and writing English language skills.
TestWES	The Assessment Web Edit System where districts have the ability to update and verify assessment data as well as view the MARSS demographics assigned to each record

1.5 References

No Child Left Behind Act of 2001:

<http://www.ed.gov/policy/elsec/leg/esea02/107-110.pdf>

Minnesota Consolidated State Application September 1, 2003 Submission (an AMAO reference):

AYP 2011 Calculations Illustrated.XLS

This Excel file includes the basic computations including formulas designed to aid in both visualizing the computations and to check individual results:

http://education.state.mn.us/MDE/Data/Data_Downloads/Accountability_Data/NCLB_AYP/index.html

2 Functional Description

2.1 AYP (NCLB Title I Calculations)

MDE measures schools and districts annually for the purpose of evaluating them in terms of student participation in standardized testing, proficiency as measured on the standard tests, attendance, and graduation rates. Standard tests consist of instruments such as the MCA-II and MCA-III. Generally, all public school students enrolled in an applicable grade during the testing window are included in this calculation.

The output of the calculation is commonly known as the Adequate Yearly Progress (AYP) measure that is reported to the general public. An example of a report that shows the results of the calculation follows in Appendix 5 - *Example AYP Verification Report*

The sections that follow explain the AYP calculation in detail.

2.1.1 NCLBID system - Student Record Selection for School, District and State Aggregations

The state is divided into about 400 districts. Each district must have at least one school. All schools belong to a district – all students are reported at a school within a district. School measurements aggregate students reported at the school. District measurements aggregate students reported at eligible schools within the district. State measurements aggregate students reported at eligible schools within the state. District and State measurements are based on the student aggregations. State results are not based on the aggregation of district results. District results are not based on the aggregation of school results.

All districts reporting students are included in AYP measurements. These schools and districts (known as AYP entities) are identified using the NCLBID system. The NCLBID application extracts the appropriate schools and districts from ORGUNIT for a particular year before the AYP calculation is set to run. Adjustments to the AYP entity designations can be made by the MDE administrator with approval within the NCLBID system, independent of ORGUNIT.

The calculation uses the NCLBID system exclusively when selecting students for aggregation into school, district and state measurements. The calculation does not use ORGUNIT to determine which schools to include in the measurements.

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AYP Entity Status

The NCLBID system classifies schools into three groups (NCLBID School table: Field name is called *i_sAYP*).

i_sAYP = Y (Yes): the school is an AYP entity – students should be aggregated to the school, district and state entities.

i_sAYP = S (State): students reported at these schools should only be aggregated at the state level.

i_sAYP = N (No): the school is not an AYP entity – students should not be aggregated to any entity.

When aggregation is required at the school or district level, select records where *i_sAYP* = Y. When aggregation is required at the state level, select records where *i_sAYP* = Y or S. Students who are reported at schools where *i_sAYP* = N are not included in the AYP calculation.

Schools are measured over multiple years. Schools are designated as being an AYP entity if they are *currently* an AYP entity. The AYP calculation does not consider AYP entity status from previous years when calculating previous year measurements.

Districts are considered an AYP entity if they have at least one school designated as an AYP entity for the current year. If no school within the district has *i_sAYP*=Y, the district is not considered an AYP entity.

District Types

The NCLBID system designates schools belonging to districts permitted to enroll students as eligible for AYP entity designation. If a school does not belong to one of these districts, the school is not an AYP entity (for example, district type 02 students are exclusively enrolled out of state).

Schools with these District Types are eligible to be included in the AYP measurement	
01 – Independent Districts	52 – Special Education Coops
03 – Special Districts	53 – Vocational and Special Education Coops
06 – Intermediate Districts	61 – Education Districts
07 – Charter Schools	62 – Secondary Facilities Cooperatives
34 – Bureau of Indian Education (BIE) Schools	70 – State Operatives Schools
50 – Miscellaneous Coops	83 – Service Cooperatives
51 – Vocational Coops	

School Classifications

Schools within the eligible districts are then evaluated. The NCLBID system designates the following school classifications within each district as AYP entities to be aggregated at the school, district and state levels (*i_sAYP* = Y):

School Classifications included at the school, district and state levels		
10 – Elementary Schools	41 – Public Area Learning Center	60 – Secondary Vocational
20 – Middle Schools	42 – Secondary Alternative Program	70 – Correctional School
31 – Public Junior Highs	43 – Private Contract Alternatives	71 – Miscellaneous Program or Center
32 – Public Senior Highs	46 – Distance Learning Program	72 – Neglected/Delinquent School
33 – Public Secondary Schools	50 – Special Education Program	73 – Homeless School/Program
40 – Elementary/Secondary Combined	55 – Special Education / Secondary Vocational Combination	77 – Provides Oversight – Public Residential Care/Treatment
		79 - Provides Oversight – Public Day Treatment

Furthermore, NCLBID system designates the following school classifications within each district as AYP entities to be aggregated at the state level only (i.e. AYP = S):

School Classifications included at the state level only	
74 – Hospital/Medical Program	78 - Provides Oversight – Private Day Treatment
76 – Provides Oversight – Private Residential Care/Treatment	

In all cases, the NCLBID MDE administrator with approval may alter the AYP entity status using the NCLBID application, adding or removing schools from consideration or changing the aggregation level.

Individual Student Record Selection

Student record selection within each school is based on the context of the measurement. Each type of measurement includes certain types of students. For example, students not enrolled for the full academic year are excluded from the AYP Proficiency measurement while they are included in the AYP Participation measurement. Student record inclusion rules are stated within the description of each measurement.

Enrollment within an entity is based on the MARSS system. Associating the appropriate assessment document with the student enrollment record is based on a matching algorithm to ensure the correct student is linked to the correct document. This matching algorithm and other selection criteria are described in the Participation Measurement section.

2.1.2 AYP Calculation: Students Disaggregated

Student demographics are required to disaggregate into the following nine groups for each AYP entity. Each group earns a separate AYP measurement:

- A. All students
- B. American Indian / Alaskan Native Students
- C. Asian / Pacific Islander Students
- D. Hispanic Students
- E. Black Students, not of Hispanic Origin
- F. White Students, not of Hispanic Origin
- G. Limited English Proficient Students
- H. Special Education Students
- I. Students Eligible for Free or Reduced Price Meals

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The Assessments and the MARSS records have these demographics set as code values or as Y/N indicators. These demographics are obtained directly from the matching MARSS enrollment record that spans the testing window for each test. For students with multiple records in the same district, the ethnic code is obtained from the later record. The LEP, Special Ed and FRP indicators are set to Y if any of the multiple records within the district are indicated as LEP, Special Ed or FRP.

<i>SubGroup</i>	<i>Test Results Codes/Indicator</i>	<i>MARSS Codes/Indicators</i>
B. Indian	Ethnic Code = 1	Ethnic Code = 1
C. Asian	Ethnic Code = 2	Ethnic Code = 2
D. Hispanic	Ethnic Code = 3	Ethnic Code = 3
E. Black	Ethnic Code = 4	Ethnic Code = 4
F. White	Ethnic Code = 5	Ethnic Code = 5
G. LEP	LEP Indicator = Y	LEP Participation = Y
H. Special Ed	Special Ed Indicator = Y	Special Ed Status = 4 or 6 or 9
I. FRP	FRP Indicator = Y	Economic Indicator = 1, 2, 4 or 5

The calculation disaggregates records by using the correct value or positive indicator. For example, the group ‘Students Eligible for Free or Reduced Priced Meals’ is found by selecting the records with FRP indicator equal to ‘Y’. It is *not* found by selecting records with FRP Indicator not equal to ‘N’. In some cases, two indicators are used to determine the constituents of a group. These indicators are described below.

Expanded subgroups for the Proficiency measurement

Two subgroups are expanded to include students who were in the subgroup at any time in the prior two years or the current year. These two additional demographic elements (called Prior Two Year Indicators) are set with the other demographics during the initial editing/validation period.

- **LEP Group**
For the Proficiency measure only, include records where LEP Indicator = Y or LEP Prior Two Year Indicator = Y
- **Special Education Group**
For the Proficiency measure only, include records where Special Education Indicator = Y or Special Education Prior Two Year Indicator = Y

In cases where the entire subgroup only has members of the expanded subgroup, the proficiency measurement will not be made. This occurs when a few LEP or Special Education students are found to be participating (where the expanded subgroups are not included) but none of them are included in the proficiency measurement (because they were not enrolled for the full academic year).

2.1.3 AYP Calculation: Computational Comparisons

The measurements often compare a computed proportion to a target proportion. When computing and storing these proportions, the computation uses FLOAT values (floating decimal points). However, when comparing to the target values, the numbers are converted to a decimal figure rounded to four points.

For example:

The target for participation is 95%.

The school reports 488 out of 514 students participating.

Target proportion: 0.9500.

Computed proportion: 0.94941634241245136186770

Comparison of computed proportion to target: 0.9494 is less than 0.9500

Result: School did not meet participation target. The AYP Mark is set to 'B' (below target).

2.1.4 AYP Calculation: AYP Marks for Cells

The calculation assigns an AYP Mark to the various measurements within each cell. These AYP Cell Marks are defined as follows:

A: Measured result is at/above target

B: Measured result is below target

Z: Result was calculated, but the group cell size falls under minimum required for measurement

X: Group does not exist within entity

S: Measured result is below target, but results are still at/above the Safe Harbor target

2.1.5 AYP Calculation: Determining AYP Marks for Cells

The measurements are divided into four AYP Indicators: Participation, Proficiency, Attendance and Graduation. The Participation and Proficiency indicators (referred to as the Academic Indicators) are further divided into subjects: Math and Reading. The Attendance and Graduation indicators (referred to as the Secondary Indicators) are sometimes combined or used alone depending on the entity being measured. The calculation evaluates all student records and then computes the totals, targets and proportions for each of the four main groupings. Generally, there are 54 AYP Marks computed and assigned to each entity; 18 for Participation, 18 for Proficiency, 9 for Attendance and 9 for Graduation. The example below illustrates the various AYP marks computed for an individual entity.

<i>District Example: AYP Marks for Cells</i>			Academic Indicators		Secondary Indicators	
	Student Group	Subject	Participation	Proficiency	Attendance	Graduation
A	All Students	Math	A	B	A	B
		Reading	B	A		
B	Am. Indian/Alaskan Native	Math	A	A	A	A
		Reading	A	A		
C	Asian/Pacific Islander	Math	B	A	A	A
		Reading	A	B		
D	Hispanic	Math	A	A	A	A
		Reading	A	A		
E	Black	Math	B	A	A	A
		Reading	A	A		
F	White	Math	A	A	A	A
		Reading	B	A		
G	Limited English Proficient	Math	A	A	A	A
		Reading	A	A		
H	Special Education	Math	A	A	A	A
		Reading	A	A		
I	Free/Reduced Priced Meals	Math	A	A	A	A
		Reading	A	A		

2.1.6 AYP Calculation: AYP Marks for Components

To determine the entity's final AYP status, there are three AYP components for each entity; Academic Math, Academic Reading, and the Secondary Indicator. The calculation assigns an AYP Mark to each component. These AYP Component Marks are defined as follows:

- A: No cell within the component is below the target
- B: At least one cell within the component is below target
- X. Component does not exist within entity

2.1.7 AYP Calculation: Determining AYP Component Mark

Generally, when calculating the Academic AYP Component marks, the following rules should be applied.

- If any of the 18 AYP marks equal B, set the component to B.
- If no AYP Mark equals B, but at least one AYP marks equals A or S, set the component to A
- If all AYP Marks = X, set the component to X.

To determine the Secondary Indicator component, only the All Student group measure is used. When measuring a school, the single required Secondary Indicator is used (either Attendance or Graduation). When measuring a district or the state, both Secondary Indicators are used (both Attendance and Graduation). When using both Attendance and Graduation, if either mark equals B, the Final AYP component is set to B. However, if all of the marks are set to X (no data) the component mark is set to X.

The example below illustrates the Academic Math, Academic Reading, and Secondary Indicator AYP Marks and the resulting Final AYP component result.

<i>Example: Component AYP Marks for a District</i>		Academic Indicator	Math AYP Cell Marks	Reading AYP Cell Marks	Secondary Indicator	AYP Cell Marks
	Student Group					
A	All Students	Participation	A	A	Attendance	B
B	Am. Indian/Alaskan Native	Participation	A	A		
C	Asian/Pacific Islander	Participation	B	S		
D	Hispanic	Participation	Z	Z		
E	Black	Participation	B	X		
F	White	Participation	A	A		
G	Limited English Proficient	Participation	S	A		
H	Special Education	Participation	S	A		
I	Free/Reduced Priced Meals	Participation	A	A		
A	All Students	Proficiency	A	A	Graduation	A
B	Am. Indian/Alaskan Native	Proficiency	A	A		
C	Asian/Pacific Islander	Proficiency	B	S		
D	Hispanic	Proficiency	Z	Z		
E	Black	Proficiency	B	X		
F	White	Proficiency	A	A		
G	Limited English Proficient	Proficiency	A	A		
H	Special Education	Proficiency	A	A		
I	Free/Reduced Priced Meals	Proficiency	A	A		
	Final AYP Component Marks		B	A		B

2.1.8 AYP Calculation: Determining Required Indicators for AYP Components

Not all AYP Indicator Marks are used when evaluating the AYP Components for certain entities. In some instances, both attendance and graduation measures are used to determine the Secondary Indicator component, in other instances, only one of the measures is used. The following chart illustrates which AYP Indicator Marks are required to be used in computing the three AYP components.

Determining AYP Required Marks	
Participation:	Required when at least one qualifying student is enrolled in an entity during the testing window as reported on MARSS.
Proficiency:	Required when at least one qualifying student is enrolled in an entity during the testing window as reported on MARSS and at least one associated test document qualifies for the measurement.
Graduation:	Required for schools with school classifications of 32, 33, 40 and 46. These schools must also have at least one student enrolled in grade 12 of the current AYP year. These schools must also have the 'All Students' group meet or exceed the cell size minimum required for Graduation measurement. Required for all district and state measurements.
Attendance:	Required for all other schools that are not required to have a Graduation indicator. Required for all district and state measurements.

2.1.9 AYP Calculation: Determining Overall AYP Status from AYP Components

The three Final AYP Components are evaluated to determine the overall AYP Status of the entity. The overall AYP Status either evaluates to 'Making AYP', 'Not Making AYP', or 'No Data'.

1. Not Making AYP

If any of the three Final AYP component marks equal B, resulting overall AYP Status is set to B: Not Making AYP

2. Making AYP

If at least one AYP Component is set to A and there are no Bs, the AYP Status is set to A: Making AYP.

3. No Data

If all the AYP Components are set to X, the AYP Status is set to X: No Data

The example below illustrates how the three final AYP components are used to arrive at the AYP Status.

Component	Component Mark
Final Academic Math Component	B
Final Academic Reading Component	A
Final Secondary Indicator Component	B
Resulting overall AYP Status	B –Not Making AYP

2.1.10 AYP Calculation: MTAS Assessment Record Substitution for the MCA-II or MCA-III

When available, the MTAS assessment results for Math or Reading for a student (as validated through the TestWES system) will substitute for the corresponding MCA-II/MCA-III results.

AYP Index Points are assigned using Achievement Level. Partially Meeting the Standard generates 0.5 index points while Meeting or Exceeding the Standard generates 1.0 index points. However, there is a limit on the number of index points generated from MTAS substitutions.

1% cap on allowable index points contributed from MTAS records for special education students

When the district Proficiency measurement is calculated, only 1 % of the total number of student records for the cell may contribute index points from MTAS records. If a student's index points are excluded at the district level due to this 1% cap, the student's index points cannot be used when measuring the school or state entities.

Choosing which records to include is important as the corresponding demographics and index points affect more than just one cell and one entity. The formula for selecting which records may contribute to the proficiency total is described below. The description and examples are also included in the companion Excel file *AYP 2011 Computations Illustrated*.

Student records with the highest rankings are included until the limit of allowable points has been reached. Rankings might be the same for multiple student records. If so, the student's MARSS Number will serve as the tie breaking when assigning the final allowable point to a cell.

Computing number of enrollment records (Ncount) to determine the 1% figure

The count of unique students enrolled over the testing window within a district is used to compute the Ncount. Uniqueness is defined as a student with the same MARSS Number, Grade, and Student Linking System (SLS) identification number (AliasGroupID). This is equal to the denominator of the participation measurement with one exception: Students with linked assessment records with the test code of ME are included in this Ncount. (These records are normally excluded from the denominator of the participation measure.)

The maximum number of allowable index points contributed by MTAS is the ceiling of 1% of the Ncount of all linked documents included.

$$\text{CEILING}(\text{Ncount} * 0.01)$$

Districts may apply for a waiver of the 1% cap if they serve an unusually high proportion of students taking the MTAS. Depending on individual circumstances, the waiver process may provide for an increased percentage or count of MTAS records allowed. For these districts, the formula changes to use a different percentage or count when determining the maximum allowable MTAS contribution.

Ranking student records when MTAS contribution exceeds maximum at District entity

When the index points contributed by an entity exceed the maximum, records to be included are ranked in the following order. Those records with the highest rankings are included until the limit is reached. Rankings are determined by a combination of the following:

- Index Point value assigned to the record
- October 1 School flag
- Number of selected subgroups the record contributes to (LEP, Special Education, and FRP)
- MARSS Number

If the October 1 School Flag set to Y, the ranking is set to:

- $(\text{Index points} * 10) + \text{Number of subgroup cells the record contributes to}$

If October 1 School Flag set to N or is blank, the ranking is set to:

- Number of subgroup cells the record contributes to
(Index points are not considered when October 1 school flag = N since the record will not be used in the proficiency measure for the school, but may be used for the district.)

Order the records from highest to lowest (descending order) according to ranking. For students whose rankings are the same, order their records by MARSS Number from lowest to highest (ascending order). If the allowable limit is reached for students with the same rankings, the students with the lower MARSS Numbers will be included.

2.1.11 AYP Calculation: MCA-Modified Assessment Record Substitution for the MCA-II or MCA-III

When available, the MOD-II or the MOD-III assessment results for a student (as validated through the TestWES system) will substitute for the MCA-II or the MCA-III results.

AYP Index Points are assigned using Achievement Level. Partially Meeting the Standard generates 0.5 index points while Meeting or Exceeding the Standard generates 1.0 index points. However, there is a limit on the number of index points generated from MOD-II or MOD-III substitutions.

2% cap on allowable index points contributed from MOD-II or MOD-III records for special education students designated as persistently low performing.

When the district Proficiency measurement is calculated, only 2% of the total number of student records for the cell may contribute index points from MOD-II or MOD-III records. If a student's index points are excluded at the district level due to this 2% cap, the student's index points cannot be used when measuring the school or state entities.

Under certain conditions, a district may exceed the 2% cap for MCA-Modified proficiency points if they have fewer than 1% of their proficiency points coming from MTAS records. But the district is limited to an overall 3% of proficiency points being contributed from the MCA-Modified records.

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The same methods used in the 1% cap for the MTAS/MTAS-III limit to choose enrollments and computing counts are used in the 2% cap for the MOD-II/MOD-III.

2.1.12 AYP Calculation: 3% overall cap on MCA-Modified proficiency points

Generally, districts contributing more than 2% of their proficiency points from the MCA-Modified assessments will have their proficiency index reduced. However, any excess space allocated for 1% of the MTAS records can be shared with MCA-Modified records. This occurs when there are fewer than 1% of the MTAS records and more than 2% of the MCA-Modified records.

Any additional space that may be allocated to the 1% cap via the MTAS waiver process cannot be shared with MCA-Modified records.

The following example illustrates how this allocation and reduction will occur. Several other scenarios are presented in the companion Excel workbook called *AYP 2011 Calculations Illustrated*.

A district has 532 students included in the MATH Enrollment count. This district will be allowed to contribute a total of 16 proficiency points – 6 points from MTAS records and 10 points from MCA-Modified records. However, the district only has 4 MTAS records but 14 MCA-Modified records. Since there was additional room in the 1% allocation for MTAS, 12 of the 14 MCA-Modified records can be used.

		Name	Test	Index Points	Use in calculation
1% MTAS allocation	1	Bill	MTAS	1.0	YES
	2	Dave	MTAS	1.0	
	3	Ahmed	MTAS	1.0	
	4	Clarie	MTAS	1.0	
	5	James	MOD	1.0	
	6	Farod	MOD	1.0	
2% MCA-Modified allocation	7	Liza	MOD	1.0	YES
	8	William	MOD	1.0	
	9	Wallace	MOD	1.0	
	10	Keri	MOD	1.0	
	11	Jamie	MOD	1.0	
	12	Lyn	MOD	1.0	
	13	Raj	MOD	1.0	
	14	Steve	MOD	1.0	
	15	Sharon	MOD	1.0	
	16	Barb	MOD	1.0	
	17	Becky	MOD	1.0	NO
	18	Joe	MOD	1.0	

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2.1.13 AYP Calculation: Index Points Assigned Using Achievement Level

AYP Index Points are assigned using Achievement Level. Partially Meeting the Standard generates 0.5 index points while Meeting or Exceeding the Standard generates 1.0 index points.

2.1.14 AYP Calculation: Statewide Proportion Proficiency Targets for Each Grade and Subject

The targets were recomputed using the results from the new 2006 MCA-II assessments. The targets were constant for 2006 and 2007 and will gradually increase in equal increments until 100% is reached in 2014. In 2011, the Math grade 3-8 targets were recomputed using the new MCA-III, MOD-III and MTAS-III assessments. These targets will increase in equal steps each year until the proportion proficient = 1.0 (100%) in 2014. The method used to arrive at the targets is described in Appendix – ‘Computation of Statewide Percent Proficient Starting Points’.

MATH									
Statewide Targets expressed as Proportion Proficient									
Grade	2006	2007	2008	2009	2010	2011	2012	2013	2014
3	0.7895	0.7895	0.8196	0.8496	0.8797	.6975	.7983	.8992	1.0000
4	0.6964	0.6964	0.7398	0.7831	0.8265	.6538	.7692	.8846	1.0000
5	0.5979	0.5979	0.6553	0.7128	0.7702	.5559	.7039	.8520	1.0000
6	0.5989	0.5989	0.6562	0.7135	0.7708	.5280	.6853	.8427	1.0000
7	0.5880	0.5880	0.6469	0.7057	0.7646	.5754	.7169	.8585	1.0000
8	0.5839	0.5839	0.6433	0.7028	0.7622	.5699	.7133	.8566	1.0000
11	0.2813	0.2813	0.3840	0.4866	0.5893	0.6920	0.7947	0.8973	1.0000

READING									
Statewide Targets expressed as Proportion Proficient									
Grade	2006	2007	2008	2009	2010	2011	2012	2013	2014
3	0.7222	0.7222	0.7619	0.8016	0.8413	0.8809	0.9206	0.9603	1.0000
4	0.6948	0.6948	0.7384	0.7820	0.8256	0.8692	0.9128	0.9564	1.0000
5	0.7193	0.7193	0.7594	0.7995	0.8396	0.8797	0.9198	0.9599	1.0000
6	0.7027	0.7027	0.7452	0.7876	0.8301	0.8726	0.9151	0.9575	1.0000
7	0.6563	0.6563	0.7054	0.7545	0.8036	0.8527	0.9018	0.9509	1.0000
8	0.6404	0.6404	0.6918	0.7431	0.7945	0.8459	0.8973	0.9486	1.0000
10	0.6477	0.6477	0.6980	0.7484	0.7987	0.8490	0.8993	0.9497	1.0000

2.1.15 AYP Calculation: Confidence Interval Applied to Proficiency Targets

Computed proficiency targets for each cell are computed based on the number of students being evaluated (the Ncount) and the number of cells being measured for the entity. Formulas are described below and fully illustrated in the companion Excel file called *AYP 2011 Calculations Illustrated*. These calculations adjust the target; significantly when the cell Ncount is very small.

The Confidence Interval ranges between 95% and 99% depending on the number of cells included in the measurement. The sliding scale is computed using the formula below. Entities having fewer than five measured cells use the 95% value. Entities with all 18 cells use the 99% value.

- Proficiency Target Index With Confidence Interval
Target - Critical Value * Standard Error
T - CV*SE
- Degrees of Freedom
Number of students included - Number of grades evaluated
- Confidence Interval Critical Value
95% Confidence Critical Value = TINV(2*(1-0.95),(Degrees of Freedom))
99% Confidence Critical Value = TINV(2*(1-0.99),(Degrees of Freedom))

Sliding Scale for 14 equal steps

If number of cells above threshold > 4

$$CV = (99\% CV * (Cells-4) + 95\% CV * (18-Cells))/14$$

Else

$$CV = 95\% CV$$

- Variance
The Variance for the Median Condition (given Target, T) is
 $-T^2 + 1.25*T - 0.25$
 - Standard error
Square Root (Variance / N)
-

2.1.16 AYP Calculation: Safe Harbor Calculation (an Alternate Proportion Proficiency Target)

For those disaggregated groups (cells) not meeting the initial proportion proficient target an alternate target, Safe Harbor, is computed based on the cell's prior year Proficiency measurement. Use of the Safe Harbor target is dependent on the entity's required Secondary Indicator measure. If the cell did not meet the required Secondary Indicator target specific to the cell, Safe Harbor cannot be used.

The Safe Harbor target is determined by taking the cell's prior year proficiency measure and computing a 10% decrease in non-proficiency. Generally, if the current year result meets or exceeds this Safe Harbor target, and the required Secondary Indicator target is met, the cell is considered to be at/above the target.

Minimum Cell Size for Measurement

There is no minimum cell size to determine the prior year Proficiency measure. A single student in a cell from the prior year may be used to determine the Safe Harbor target.

General Formula

Safe Harbor Target = Prior Year Proficiency Index + ((1-Prior Year Proficiency Index)*0.10)

Use of Safe Harbor in Determining AYP Mark for Schools

For schools the required Secondary Indicator is evaluated.

1. If the required Secondary Indicator AYP Mark equals A or Z (target was met or cell size was under minimum)
AND
2. If the Safe Harbor Target is met
THEN
3. The Proficiency AYP Mark for the cell is set to S (meets or exceeds Safe Harbor target).
Otherwise, the Proficiency AYP Mark is left as B (below target).

Use of Safe Harbor in Determining AYP Mark for Districts and the State

For districts and the state, both Graduation and Attendance marks are required, but only one of which needs to meet the threshold to allow Safe Harbor to be set.

1. If the Graduation AYP Mark equals A or Z ---OR--- the Attendance AYP Mark A or Z
AND
2. If the Safe Harbor Target is met
THEN
3. The Proficiency AYP Mark is set to S.

Otherwise, the Proficiency AYP Mark is left as B (below target).

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Use of Safe Harbor When Proficiency AYP Mark Based on Multiple Years of Data

The Safe Harbor target will always be derived from scores not included in the current proficiency measure. This means that if two years of data were combined to arrive at the AYP Mark, the Safe Harbor target would come from the third year. If three years of data were used, Safe Harbor target would be derived from the fourth year. For example, if 2008 and 2007 were combined to determine the Proficiency AYP Mark, the Safe Harbor target would be computed from the 2006 assessment data.

2.1.17 AYP Calculation: Participation Measurement

Schools are required to administer a statewide assessment to all students enrolled in grades three through eight and grades 10 and 11. Schools that do not meet the 95% participation requirement are identified as Not Making AYP. The participation requirement is applied to all disaggregated groups. Enrollment is based on the number of students enrolled over the testing window as reported on MARSS. Participation is based on the number of assessment records reported where the student was present for testing.

Target

95% (0.9500)

Minimum Cell Size for Measurement

40

Subgroup Measurements

The Expanded LEP and Expanded Special Education designators *are not* used when measuring subgroups.

Student Record Selection

All students enrolled in an entity (as reported in MARSS) are evaluated to determine enrollment during the testing window. The most current MARSS End of Year data submitted to MDE will be used up until the close of the TestWES editing window. The selection criteria are as follows:

- The grade reported must be one of the tested grades: 3, 4, 5, 6, 7, 8, 10, 11
- MARSS Status Begin Date must be *on or before* the end of the second week of the MCA-II Reading test window (4/22/2011).
- MARSS Status End Date must be *on or after* the first day of the MCA-II Reading test window (4/11/2011).
- MARSS State Aid Category must *not* be one of the following:
14, 16, 17, 18, 24, 25, 28, 98, 46, 52
- The MARSS record must *not* have a local error (MARSS Status 1 = local error)
- The District Type must *not* equal 2 (students attending school out of state)
- The School Classification must *not* equal 45 (extended-day programs where the student is also enrolled during the day in another full-time program). These students will be included in AYP in their other full-time program.

Student Record Matching

Once the student records are selected, the appropriate test documents must be matched to each student record. To do so, the Student Linking System (SLS) is accessed with additional checks against MARSS Number and Grade. In most cases, the Last Name, First Name, Birth Date and Gender will match in addition to the MARSS Number and Grade. However, the SLS allows for slight deviations in name (such as Mike compared to Michael) to allow additional matches.

Participation is based on the MARSS enrollment record with an associated MCA-II, MCA-III, MOD-II, MOD-III, MTAS or MTAS-III record. In a few cases where the reading assessment is designated as New to Country, the TEAE data may also be accessed to ensure participation is reported correctly.

In cases where an assessment record cannot be matched to an enrollment record, the student is considered as ‘not participating’ for the appropriate subject. If an assessment record is linked, it is allocated to the district and school as reported on the MARSS record, regardless of what school or district is indicated on the assessment record.

For students who are dual enrolled or who attend two schools during the testing window, the single test record will be allocated to both schools. When summarizing these students at the district or state level, the counts will be unduplicated. In other words, a single student in a specific grade will be counted once within the school, once within the district, and once within the state, each with the associated results of the assessment record. Since some elements come directly from the enrollment record (such as the ethnic code), choosing which record to use is important to keep the summary results deterministic. When summarizing school, district or State results, the enrollment record with the later status end date (within the AYP enrollment window described above) should be used. However, for students in different schools or districts, the status end date may be the same. If so, when summarizing district results, the record with the lower school number is used when the status end dates are the same. When summarizing state results, the record with the lower district number and district type is used when the status end dates are the same.

Student demographics are derived from the MARSS enrollment records. Additionally, elements from the assessment record will be verified using the MARSS enrollment records through the TestWES application. For example, a student marked as Foreign Exchange on the assessment document will be verified against the student status as reported on MARSS.

A. Multiple enrollment records found for a single assessment record.

For multiple enrollment records where an assessment record is *not* found, all schools reporting the student will show the student as ‘not participating’. For multiple enrollment records where an assessment record *is* found, all schools reporting the student in that tested grade will be allocated the assessment record with its corresponding codes and indicators for use on the AYP measures.

B. Multiple test documents found for a single enrollment record.

Internal checks and validations will ensure there will be only one Math document and one Reading document for each student by grade. This de-duplication process occurs within the TestWES application.

C. Use of test record with associated enrollment record.

Once a corresponding assessment record is associated with a MARSS record, additional factors are evaluated to determine if the records qualify for measurement. These are outlined below:

C-1. Score Codes Excluded

Generally, all enrollments with matched test records assigned to an entity are evaluated. However, MCA-II, MCA-III, MOD-II, MOD-III, MTAS and MTAS-III documents with certain score codes are excluded from the measurement. These records are not included in either the numerator or the denominator of the proportion measured.

- ME – Medical Excuse
- NE – Not Enrolled

C-2. Document Characteristics Excluded

MCA-II, MCA-III, MOD-II, MOD-III, MTAS and MTAS-III documents with certain document characteristics are also excluded from the measurement and not included in either the numerator or the denominator of the proportion measured.

- Foreign Exchange Indicator = ‘Y’
- New to Country Indicator = ‘Y’ – but only if the following conditions are met:
 1. Score code = ‘NA’ (Not Attempted)
 2. The student is LEP (Limited English Proficient)
 3. The subject = R (Reading)
 4. The student did not have an opportunity to take the TEAE Reading test. (The student’s earliest enrollment was found to be after the end second week of the TEAE testing window - after **March 20, 2011**).

C-3. Enrollment Characteristics Excluded

Additionally, some enrollment records with certain MARSS enrollment characteristics are also excluded from the measurement and not included in either the numerator or the denominator of the proportion measured.

- Full-Time PSEO students (except for those whose assessments are returned with Valid Scores). Full-Time PSEO is determined using the MARSS PSEO High School Hours =0
- Foreign Exchange students (except for those whose assessments are returned with Valid Scores). Foreign Exchange students are determined using the MARSS State Aid Category = 02.

C-4. Enrollments Excluded for administrative purposes

In rare cases, some enrollments are excluded due to computational limitations or reporting limitations. One such example is when students attend college full-time, but are not reported on MARSS as PSEO students due to reimbursement reasons with the college. In these and other rare cases, individual records will be stored in an ‘Enrollment Exclusion’ table where they will not be included in the AYP calculation.

General Formula

Proportion participating is equal to the number of matched assessments records considered participating divided by the number of students enrolled over the testing window included in the measurement.

Numerator

Students participating: MCA-II, MCA-III, MOD-II, MOD-III, MTAS and MTAS-III documents with certain score codes or document characteristics:

- Score Code VS – Valid Score: Student was present and earned a valid score
- Score Code NC – Not Completed: Student was present and answered at least 4 questions in a single section but did not answer enough questions to score the test
- Score Code INV – Invalid: Student was present but the individual test was invalidated.
- Score Code NA - Not Attempted – but only if all the following conditions are met:
 1. Document Characteristic = NTC (New To Country)
 2. The student is LEP (Limited English Proficient)
 3. Subject = R (Reading)
 4. The student had an opportunity to take the TEAE Reading test. (The student was found to be enrolled in Minnesota on or before the end of the second week of the TEAE testing window - on or before **March 20, 2011**)
 5. The TEAE Reading assessment is found for the student
 6. The TEAE Reading assessment has a score code of VS/NC/INV

Denominator

Count of all students enrolled applicable to the measurement (refer to the ‘student record selection’ section above). Generally, this is all qualifying enrollments as reported on MARSS during the first two weeks of the MCA-II **reading** testing window.

Adjustments to measurement

For any cell that earns an AYP Mark of B – below target, multiyear averaging can occur using up to three years of data to arrive at the final AYP Mark.

1. Combine two years of data together (participation totals and enrollment totals) and calculate new proportion to determine if the current participation target is met.
2. If AYP Mark remains a B, combine three years of data together (participation totals and enrollment totals) and calculate new proportion to determine if the current participation target is met.

2.1.18 AYP Calculation: Proficiency Measurement

Proficiency is measured on all disaggregated groups and is based on AYP Index Points.

Records in the Participation measurement numerator with a score code of VS are used in the Proficiency measurement. Proficiency is measured by summing the *allowable* AYP Index Points generated and dividing by the number of students enrolled with valid assessment record. Students must be enrolled for the full academic year to be included in the Proficiency measurement. The demographics referred to as the October 1 Flags serve as a proxy for ‘full academic year’. The October 1 Flags are generated from the MARSS enrollment records. The *October 1 School Flag* indicates the student was enrolled in the same school on October 1 as well as during the testing window. The *October 1 District Flag* indicates the student was enrolled in the same district on October 1 as well as during the testing window. Schools must have their proficiency proportion at or above the statewide target. If the measurement is below the statewide target, an alternate target (Safe Harbor) may be used.

If there are no students participating in a group for a subject, there will not be a proficiency measurement. If there are students participating in a group for a subject, there may or may not be a proficiency measure and it might include fewer or more students than those participating. This is due to limiting the group to students enrolled for the full academic year while expanding the LEP and Special Education groups to students who have exited these programs.

Target

Statewide ‘Proportion Proficient’ targets for each grade and subject are set based on a formula that gradually increases to 100% by 2014. Targets are shown in the table in the previous section ‘Statewide Targets for Proportion Proficient’. Targets have a statistical adjustment (the Confidence Interval) applied as described in a previous section.

Minimum Cell Size for Measurement

20

Subgroup Measurements

The Expanded LEP and Expanded Special Education designators *are* used when measuring subgroups.

Student record selection

- Include only those enrollment records where an associated assessment record indicated the student was ‘Participating’ (refer to participation numerator criteria)
- Include only those students with a Valid Score (score code = ‘VS’).

There are additional selection criteria when measuring all schools, districts and the State for proficiency. For the remaining enrollment records and associated documents, the indicators for October 1, Foreign Exchange, New to Country, and Significant Gap must be set to the following values to be included in the proportion proficient.

- The MARSS October 1 School indicator must equal ‘Y’ when measuring school entities

- The MARSS October 1 District indicator must equal ‘Y’ when measuring district entities
- The MARSS October 1 State indicator must equal ‘Y’ when measuring State entities
- New to Country indicator must not equal ‘Y’
- Significant Gap indicator must not equal ‘Y’
- Foreign Exchange indicator must not equal ‘Y’

One final selection criteria in determining *allowable* index points is to ensure the points contributed by Special Education students with MTAS or MCA-Modified contributions do not exceed a certain percentages (refer to sections 2.1.10 – 2.1.12 above). Records are evaluated and if the district total exceeds the allowable limit, certain records are marked to have their index points excluded from the AYP calculation. These index points are then also excluded when calculating proficiency at the school and state level.

General Formula

Proportion proficient is computed by summing the *allowable* index points generated from the selected documents and dividing by the total number of students. A statistical adjustment (called the confidence interval) is calculated based on the number included in the proficiency measure and applied to the target.

Numerator

Sum of the Index Points generated from the following records:

- Assessment records with Score Code = VS using the *allowable* index points (only limited by the cap on MTAS and MCA-Modified contributions).

Denominator

Count of all enrollment records with associated assessment records applicable to the measurement (refer to the ‘student record selection’ section).

Adjustments to measurement

There are potentially six adjustments to the Proficiency measurement that may be used for any entity that did not meet or exceed the target. These are described in the following section. Since many of these adjustments may occur on the same Proficiency cell, the adjustments should be done in the following order where applicable.

1. Safe Harbor
 2. Small Cell Size Adjustment
 3. For AYP Entities not reaching the target, data from two years is combined to determine if target has been met. For those still not reaching the target, data from three years is combined to determine if target has been met.
 4. Expanded LEP reduction
 5. Expanded SPE reduction
 6. AYP Growth Score Adjustment
-

2.1.19 AYP Calculation: Adjustments to Proficiency Measurement

1. Safe Harbor:

A secondary target is computed for entities not meeting the initial target and is computed by comparing AYP Proficiency results from the prior year. The secondary target computation is described in the previous section ‘Safe Harbor Calculation’. If Safe Harbor is met and the required secondary indicator is met, the Proficiency AYP Mark is set to S - Met Safe Harbor Target.

2. Small Cell Size Adjustment:

All AYP entities earn at least one AYP Academic mark if test results were reported. Up to four adjustments are attempted to arrive at the final AYP Mark for entities where:

- Category A (All Group) and
- AYP Mark equals Z (cell size under minimum)

The adjustment sequence is:

1. Set the AYP Mark using the existing result for the 1-19 students included in the measure.
2. If the AYP Mark is now a B, evaluate the result using the Safe Harbor target based in the prior year data.
3. Multiple year adjustments are made in the Rolling Averages Proficiency Adjustment.

3. Rolling Averages Proficiency Adjustment:

For any cell that earns an AYP Mark of B – Below Target, multiyear averaging can occur using up to three years of data. Up to four adjustments are attempted to arrive at the final AYP Mark for entities where:

- AYP Mark equals B

The adjustment sequence is:

1. Combine two years of data together (index point totals and enrollment totals). Calculate new index and new target to determine if the current year proficiency targets (see previous table) for each grade and subject are met. The new computed target uses the current year cells above threshold to determine CI.
2. If AYP Mark remains a B, evaluate the result using the Safe Harbor target based on prior year data.
3. If AYP Mark remains a B, combine three years of data together (index point totals and document totals) excluding grades not tested statewide in both years. (In 2005, grades 4, 6 and 8 were not tested). Calculate new index and new target to determine if the current year proficiency targets (see previous table) for each grade and subject are met. The new computed target should use the current year cells above threshold to determine CI.
4. If AYP Mark remains a B, evaluate the result using the Safe Harbor target based on prior year data.

4. Expanded LEP Group Adjustment:

The Limited English Proficient subgroup has an additional adjustment. There is a single adjustment for entities where:

- Category = G (LEP) and
- AYP Mark equals B

Adjustment:

1. Evaluate the number of students included in the measurement.
2. Subtract from this number those that had the LEP Prior Two Year indicator set to Y and current year LEP flag = N.
3. If the resulting number is 0, set the AYP Mark to X.
4. If the resulting number is greater than 0, but less than the cell size minimum, set the AYP Mark to Z.

5. Expanded Special Education Group Adjustment:

The Special Education subgroup has an additional adjustment. There is a single adjustment for entities where:

- Category = H (Special Ed)
- AYP Mark equals B

Adjustment:

1. Evaluate the number of students included in the measurement.
2. Subtract from this number those that had the SPE Prior Two Year indicator set to Y and current year SPE flag = N.
3. If the resulting number is 0, set the AYP Mark to X.
4. If the resulting number is greater than 0 but less than the cell size minimum, set the AYP Mark to Z.

6. AYP Growth Score Adjustment:

For any cell that still has an AYP Mark of B – Below Target, an adjustment is attempted to determine if the school or district met the AYP Growth Target. If the AYP Growth Score (representing a proportion of students designated as achieving high growth) is equal to or greater than the AYP Growth Target (without confidence interval applied), set the Proficiency AYP Mark to ‘A’ – Making AYP. The methods and formulas used to determine the AYP Growth Score is described in Appendix 10 – AYP Growth Score Computation.

2.1.20 AYP Calculation: Feeder school adjustments for Participation and Proficiency

A feeder school is a school that does not serve students in the assessed grades but promotes the majority of students into another school in the same district the following year that does serve students in the assessed grades.

Primary elementary schools exclusively serving students in those grades that are not assessed in reading and math (grades 1 and/or 2) will have AYP determinations based on the reading and math AYP status of the intermediate elementary school into which the majority of their students enroll. The primary elementary schools will continue to generate and be measured with their own attendance data.

Schools exclusively serving grade nine students will have AYP determinations based on the reading and math AYP status of the high school into which the majority of their students enroll. Schools exclusively serving grade nine students will continue to generate and be measured with their own attendance data.

Determining which schools are feeder schools is based on MARSS Fall Enrollment data. Schools that only serve grades 1, 2, or 9 over October 1 of the current school year are evaluated. (Schools that only serve kindergarten students are not considered AYP entities). There must be at least 20 students enrolled over October 1 of the current school year.

The programming seeks out the highest grade served in the feeder school for these students in the current year. It then scans the prior year MARSS data for students who had previously attended that school in that grade in the prior year. Once found, the programming determines where these prior year students are now being served (the destination school) over October 1 in the current year. The programming calculates a percentage of students promoted into the new school in the current year from the old school in the prior year. If the percentage exceeds 50%, the school is designated as a feeder school linked to the destination school.

The AYP calculation assigns the destination school's Participation and Proficiency results to the feeder school. In cases where a school was initially designated as a feeder school, but subsequently serves students in a tested grade during the first two weeks of the testing window, this adjustment will not occur.

A listing of feeder schools with their destination school and percentages for the current year is found in Appendix 9 – *Current Feeder Schools*.

2.1.21 AYP Calculation: Attendance Measurement

The Attendance measurement is a Secondary Indicator. The Attendance computation is based on MARSS End of Year attendance figures reported from the previous two years. The attendance measure is computed for all disaggregated groups, but is only used as an AYP Secondary Indicator measure for the ‘All’ group where required. The disaggregated group AYP marks are only used when determining Safe Harbor status.

Target

90% (0.9000) or 0.1% (0.0010) improvement over the prior year.

Minimum Cell Size for Measurement

40

Subgroup Measurements

The Expanded LEP and Expanded Special Education designators are not used when measuring subgroups.

Student Record Selection

Only schools designated as AYP Entities are evaluated. Generally, all students within a school are included in the attendance measurement using MARSS End of Year data (MARSS Submission Code equals E). Records with the following MARSS characteristics are excluded from the Attendance measurement:

- MARSS Status equals 1 (records with errors are excluded)
- Grades other than 1-12. Grades EC or HK or KA-KZ or PS (Early Childhood, Preschool Screening, and all Kindergarten grades excluded)
- School Classification equals to 45 (Targeted Services excluded)

Additionally, students with the following State Aid Categories are excluded from the Attendance measurement:

- 14 – Attending in Another State
- 16 – Shared Time
- 17 – Shared Time
- 18 – Shared Time/Tuition
- 24 – Early Graduate
- 25 – Adult Student
- 28 – Resident Attending Non-Public School
- 98 – Summer Graduate or Dropout
- 46 – Extended School Year
- 52 – South Dakota Reciprocity

Average Daily Attendance (ADA) and Average Daily Membership (ADM)

The calculation computes the ADA and ADM on each record included in the measurement. ADA is the portion of the year that a student actually attended school. ADM is the portion of the year that a student was enrolled in school. To compute the individual ADA and ADM for selected records, the computation uses the following MARSS elements:

From the student table:

- Membership Days
- Attendance Days
- Percent Enrolled
- School Program Classification
- Grade
- Homebound Indicator
- Independent Study Indicator

From the school table linked by fiscal year, submission cycle, school and grade

- Instructional Days
- Length of School Day

The Percent Enrolled field on certain records may contain special figures (999 or 998) which indicate that the Membership and Attendance figures are reported in terms of hours instead of days.

To compute the individual record ADA and ADM, the following set of formulas are used:

1. Traditional schools with attendance and membership expressed in days where:

- Percent Enrolled ≤ 100 AND
- School Program Classification $\in \{41, 42, 43, 44, 45\}$ AND
- Instructional Days > 0

Then

- $ADA = ((\text{attendance} * (\text{percent enrolled} / 100)) / \text{instructional days})$
- $ADM = ((\text{membership} * (\text{percent enrolled} / 100)) / \text{instructional days})$

2. Traditional schools with attendance and membership expressed in hours where:

- Percent Enrolled = 999 AND
- School Program Classification $\in \{41, 42, 43, 44, 45\}$

Then

- $ADA = (\text{attendance} / (\text{instructional days} * (\text{length of day} / 60)))$
- $ADM = (\text{membership} / (\text{instructional days} * (\text{length of day} / 60)))$

3. Alternative programs *with* calendar information where:

- Percent Enrolled > 997 AND
- Instructional Days > 0 AND
- Length of Day > 0 AND
- School Program Classification = 41, 42, 43, 44, 45

Then

- $ADA = (\text{attendance} / (\text{instructional days} * (\text{length of day} / 60)))$
- $ADM = (\text{membership} / (\text{instructional days} * (\text{length of day} / 60)))$

4. Alternative programs *without* calendar information (Grades 1-6) where:

- Grade = 01, 02, 03, 04, 05, 06 AND
- Percent Enrolled > 997 AND
- Instructional Days = 0 OR Length of Day = 0 AND
- School Program Classification = 41, 42, 43, 44, 45

Then

- $ADA = (\text{attendance} / 935)$
- $ADM = (\text{membership} / 935)$

5. Alternative programs *without* calendar information (Grades 7-12) where:

- Grade = 07, 08, 09, 10, 11, 12 AND
- Percent Enrolled > 997 AND
- Instructional Days = 0 OR Length of Day = 0 AND
- School Program Classification = 41, 42, 43, 44, 45

Then

- $ADA = (\text{attendance} / 1020)$
- $ADM = (\text{membership} / 1020)$

Once all records have the respective ADA and ADM computed above, the following adjustments are made.

6. Homebound Adjustment:

- Set the ADA to be equal to the ADM where Homebound Indicator = Y

7. Independent Study Adjustment where:

- Set the ADA to be equal to the ADM where Independent Study Indicator = Y AND School Program classification = 41, 42, 43

General Formula

To compute the entity's attendance rate, sum the ADA for all records and then divide by the sum of the ADM for all records. Multiply this by 100 to provide the percentage where applicable. (Entity ADA / Entity ADM)*100

Numerator

Sum of ADA for records included in measurement.

Denominator

Sum of ADM for records included in measurement.

Adjustments to Measurement

None

2.1.22 AYP Calculation: Graduation Measurement

The Graduation measurement is a Secondary Indicator. The Graduation computation is based on MARSS enrollment data reported over a five-year period; End of Year data from the previous four years and Fall data from the current year. The graduation measure is computed for all disaggregated groups, but is only used as an AYP Secondary Indicator measure for the 'All' group where required. The disaggregated group AYP marks are only used when determining Safe Harbor status.

Target

85% (0.8500) or 2.0% (0.0200) improvement over the prior year.

Minimum Cell Size for Measurement

40

Subgroup Measurements

The Expanded LEP and Expanded Special Education designators are not used when measuring subgroups.

Student Records Selection

Students in grades 8-12 within a school are evaluated to compute the Graduation measurement.

Records with the following MARSS characteristics are excluded from the Graduation measurement:

- MARSS Status equals 1 (MARSS records in error)
- Grade not equal to 08, 09, 10, 11, 12

Additionally, students with the following State Aid Categories are excluded from the Graduation measurement:

- 14 – Attending in another State
- 15 – Attending in Minnesota but tuition paid by another State
- 16 – Shared Time
- 17 – Shared Time
- 18 – Shared Time/Tuition
- 25 – Adult Student
- 28 – Resident Attending Non-Public School
- 46 – Extended School Year
- 52 – South Dakota Reciprocity

Determining the Unduplicated Count (using the last reported student record in the MARSS system)

An unduplicated count of student records over multiple years is required. To do so, only the last record reported for any particular MARSS Number is selected. All other records are ignored in the Graduation measurement.

To find the last reported record for an individual MARSS Number, the selected records are evaluated in order by Fiscal Year and then the Status End Date. If two records for the same

MARSS Number end on the same date, the lower Status End code is used. If both have the same status end code, the record with the higher record number (SQL StudentID) is used. Only that final record is included in the computation with its corresponding demographics and status end code (graduate or dropout code). The computation uses the following MARSS elements when selecting records:

From the student table:

- Submission Code
- Fiscal Year
- Status End Date
- MARSS Number
- Grade
- Status End Code

Once the last record is determined, the status end codes are then evaluated. Only those records with a graduation or dropout code are retained. All other records are ignored.

Graduate Status End Codes

- 08, 09

Dropout Status End Codes

- 06, 07, 14, 15, 16, 17, 18, 19, 31, 32, 33, 34, 35, 37

Definitions:

08	Graduated - not IEP
09	Graduated - IEP
06	Compulsory Age/Drop
07	Written Election/Drop
14	Fifteen Day Rule/Drop
15	Student Married/Drop
16	Expelled - No Inst/Drop
17	Student Pregnant/Drop
18	Student withdrew no transcript issued/Drop
19	Enlisted-Armed Services/Drop
31	Due to Social Reasons/Drop
32	Due to Finance Reasons/Drop
33	Due to Family Reasons/Drop
34	No Reason Specified/Drop
35	Reached Max Age/Drop
37	To Pursue a GED/Drop

General Formula

To compute the entity's Graduation rate for a particular year, the count of graduates in that year is divided by the count of graduates plus selected dropouts from that year and previous three years.

Multiply this by 100 to provide the percentage where applicable. The most recent fiscal year is referred to as Year 4 while the previous fiscal years are referred to as Years 3, 2 and 1.

Numerator

The count of students graduating in Year 4.

The computation uses the Fiscal Year in each selected MARSS record to determine if it should be included in the count. If computing the Graduation Rate for 2007, the count of graduates reported in 2007 is used as the numerator. Graduates from any other year are not included.

Denominator

- Count of grade 9 students dropping out in Year 1
- + Count of grade 10 students dropping out in Year 2
- + Count of grade 11 students dropping out in Year 3
- + Count of grade 12 students dropping out in Year 4
- + Count of students graduating in Year 4

Only those dropouts reported in certain grades in certain years are included in the denominator with the graduates. Dropouts or graduates from any other year are not included.

Formula Example

This example illustrates how the Graduation rate for 2007 is computed.

- MARSS EOY data 2004 through 2007 is evaluated with MARSS Fall data from 2008.
- Only grade 8 – 12 records are evaluated eliminating certain conditions and state aid categories described above.
- The last record for a MARSS number is found by using Fiscal Year and Status End Date – all other records for that MARSS number are removed.
- Only records where the Status End Code is either a graduate code or a dropout code are used – all other records are removed.
- The remaining records are evaluated counting the graduates and dropouts within each entity.

Count of Students Graduating in 2007

- Count of grade 9 students dropping out in 2004
- + Count of grade 10 students dropping out in 2005
- + Count of grade 11 students dropping out in 2006
- + Count of grade 12 students dropping out in 2007
- + Count of students graduating in 2007

Adjustments to measurement

None

2.1.23 AYP Calculation: AYP Schools and Districts ‘In Need of Improvement’ Status

The AYP Components and AYP Status are used over multiple years to determine the AYP ‘In Need of Improvement’ status for Title I entities. The ‘In Need of Improvement’ status is *designated* based on results from the current year, but is only *implemented* during the following year for those entities scheduled to receive Title I funds in the following year.

Assignment of the AYP ‘In Need of Improvement’ Status

Being ‘In Need of Improvement’ initially begins when a Title I entity is identified as Not Making AYP for two consecutive years caused by a single AYP Component. In other words, at least one of the AYP Components has been assigned two consecutive marks of B and the entity was designated as Title I both years.

Schools and districts (regardless of their subsequent Title I Status) remain ‘In Need of Improvement’ until the AYP Component causing the identification has met the target for two consecutive years. In other words, schools and districts are no longer identified when the AYP component causing the initial identification has two consecutive marks of A (and no other component is causing identification).

Advancement of the AYP ‘In Need of Improvement’ Status

Once a school or district is identified as ‘In Need of Improvement’, the following year’s ‘In Need of Improvement’ status is dependent on:

1. The AYP Component marks earned in the following year and
2. The Title I Status of the school or district in the following year.

The ‘In Need of Improvement’ status advances and accumulates over time for Title I entities if the same AYP Component does not meet the target in the following year. In other words, an AYP Component with consecutive Bs will advance as each B is added over time as long as the entity continues to receive Title I funding. The ‘In Need of Improvement’ status is applied in the following order:

Phase	Number of qualifying AYP Component Marks = B	Status for Schools ‘In Need of Improvement’	Status for Districts ‘In Need of Improvement’
1	2	School Choice	Needs Improvement
2	3	Supplemental Educational Service	Needs Improvement
3	4	Corrective Action	Corrective Action
4	5	Prepare For Restructuring	Corrective Action
5	6	Restructuring	Corrective Action

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‘In Need of Improvement’ Status Examples:

AYP Components can be viewed historically as a string of AYP Component Marks – either A (above target) or B (below target). For example, the string BBAAA for Academic Math represents a five-year period where the first two years the Math component fell below the target followed by three years where the Math component met the target.

The Title I Status of a school is represented in this string as upper case letters. Lower case letters indicate the years when the school was not receiving Title I funding. For example, the string BbbAA represents a five-year period where the school was not receiving Title 1 funds in the second and third years.

Example A

School continuously receiving Title 1 funding

<i>Example A</i>									
<i>8 years of AYP Components for a school continuously receiving Title I funding</i>									
AYP Year	Phase	# of Q Bs	AYP Status	Academic Math Component	Academic Reading Component	Secondary Indicator Component	‘In Need of Improvement’ Status	Next Year	
								Title I	Implement Status
2001	--	--	Not Making AYP	B	B	A	<i>Not identified</i>	Yes	
2002	1	2	Not Making AYP	BB	BA	AA	School Choice	Yes	Yes
2003	2	3	Not Making AYP	BBB	BAB	AAA	Supplemental Service	Yes	Yes
2004	2	3	Not Making AYP	BBBA	BABB	AAAA	Supplemental Service	Yes	Yes
2005	3	4	Not Making AYP	BBBAB	BABBA	AAAAA	Corrective Action	Yes	Yes
2006	3	4	Making AYP	BBBABA	BABBAA	AAAAAA	Corrective Action	Yes	Yes
2007	--	--	Not Making AYP	BBBABAA	BABB AAB	AAAAAAA	<i>No longer identified</i>	Yes	
2008	--	--	Not Making AYP	BBBAB AAB	BABB AABA	AAAAAAA	<i>Not identified</i>	Yes	

of Q Bs:

- Indicates the maximum number of Qualifying AYP Component Marks equal to B in any component string without an intervening string of AA.

Phase:

- Indicates the sequence of different statuses once an entity has been initially identified as ‘In Need of Improvement’.

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Title I History

Once a school or district is identified, the ‘In Need of Improvement’ status is not dependent on the entity’s Title 1 Status in subsequent years. Schools and districts that no longer receive Title 1 funding will still remain ‘In Need of Improvement’ status, although may not be implementing the status the following year. A school or district must have the AYP Component causing identification meeting the target for two consecutive years before the ‘In Need of Improvement’ designation is removed.

Example B

School with Title 1 Status changing over time

<i>Example B</i>									
<i>AYP Components for a school receiving Title I funding 6 out of 8 years</i>									
AYP Year	Phase	# of Q Bs	AYP Status	Academic Math Component	Academic Reading Component	Secondary Indicator Component	‘In Need of Improvement’ Status	Next Year	
								Title I	Implement Status
2001	--	--	Not Making AYP	B	B	A	<i>Not identified</i>	Yes	
2002	1	2	Not Making AYP	BB	BA	AA	School Choice	Yes	Yes
2003	2	3	Not Making AYP	BBB	BAB	AAA	Supplemental Service	No	No
2004	2	3	Not Making AYP	BBBb	BABa	AAAa	Supplemental Service	No	No
2005	2	3	Not Making AYP	BBBbb	BABaa	AAAaa	Supplemental Service	Yes	Yes
2006	3	4	Not Making AYP	BBBbbB	BABaaA	AAAaaA	Corrective Action	Yes	Yes
2007	3	4	Making AYP	BBBbbBA	BABaaAA	AAAaaAA	Corrective Action	Yes	Yes
2008	--	--	Not Making AYP	BBBbbBAA	BABaaAAB	AAAaaAAA	<i>Not identified</i>	Yes	

of Q Bs:

- Indicates the maximum number of Qualifying AYP Component Marks equal to B in any component string without an intervening string of AA.

Phase:

- Indicates the sequence of different statuses once an entity has been initially identified as ‘In Need of Improvement’.

2.1.24 AYP Calculation: AYP Schools and Districts ‘In Need of Improvement’ Implementation

AYP measurements and designations of ‘In Need of Improvement’ status are made in the summer of each year after assessment results are made available. If identified as ‘In Need of Improvement’, schools and districts begin implementing the ‘In Need of Improvement’ status when school year begins in September.

However, schools and districts only need to implement if they plan on receiving Title I funding for the new school year. Schools and districts that will not receive Title I funding the following year retain their ‘In Need of Improvement’ status, even though not implementing.

2.1.25 AYP Calculation: History of Changes to the Calculation

The AYP Calculation has evolved over time. The following is a brief description of major changes made to the calculation from the prior year’s calculation.

AYP Year 2011

The MCA-III, MOD-II, MOD-III, and MTAS-III assessments were added.

The MCA-Modified series cannot contribute more than 2% of the proficiency index points unless the MTAS series contributes less than the allowable 1% of the proficiency index points.

The MCA-Modified series and the MTAS series combined cannot contribute more than 3% of the proficiency points.

The MTELL assessment was not offered in 2011.

The starting points for grades 3-8 for Math were recomputed using the new MCA-III, MOD-III, and MTAS-III assessments.

AYP Year 2010

Student attending school in South Dakota (but reported in MARSS for financial reimbursement) are not included in the AYP Calculation (MARSS State Aid Category 52).

The graduation rate target was increased from 80% to 85%. The rate of improvement over the prior year was increased from 0.1% to 2.0%.

The Two Percent Proxy Adjustment for the proficiency calculation was removed.

AYP Year 2009

Additional School Measurements:

Reference: <http://education.state.mn.us/super/K-2SpecEdAYPMemo10-22-08.doc>

AYP Feeder schools:

School that do not serve students in the assessed grades have the academic components (participation and proficiency) assigned from the school in which the majority of students attend the following year.

Schools designated as Special Programs or Care/Treatment/Correctional facilities:

50 – Special Education Program	72 – Neglected/Delinquent School
55 – Special Education / Secondary Vocational Combination	73 – Homeless School/Program
70 – Correctional School	77 – Provides Oversight – Public Residential Care/Treatment
71 – Miscellaneous Program or Center	79 - Provides Oversight – Public Day Treatment

AYP Growth Component Adjustment:

For cells that fall below the proficiency target, a computation is made to determine if individual students in the cell showed growth from one year to the next. An AYP Growth Score is assigned to each cell and compared to an AYP Growth Target (based on the same statewide starting points for proficiency). The AYP Growth Target does not include an adjustment for a confidence interval. If the AYP Growth Score meets or exceeds the AYP Growth Target, the AYP Mark for the cell is set to ‘A’ – above target.

AYP Year 2008

AYP General Use:

- MARSS enrollment records submitted up through June 18, 2008, are used as the basis for the Participation denominator. Districts may refresh this data through the MARSS WES submission system and verify the data through the Test WES system through June 18 and review results through June 20.
- Matching criteria to link MARSS with ASSESSMENTS changed from the 6 exact criteria (MARSS Number, last name, first name, birth date, grade and gender) to MARSS Number, grade and the Student Linking System (SLS) identification number (AliasGroupID).
- Student demographics are derived solely from MARSS enrollments during the testing window. LEP, Special Ed and FRP demographics are derived from the enrolling district if at anytime during the testing window the student was LEP, Special Ed or FRP.
- Document characteristics (such as New to Country Indicator) are verified through the Test WES system linked to MARSS system.

Participation

- LEP students with New to Country indicated on the MCA-II test document are now included in the participation calculation with checks against enrollment and TEAE participation.
- The Expanded Special Ed and LEP designations are not used in the subgroup measurements.
- Full-time PSEO students (as reported on MARSS) are now excluded from the participation calculation unless they have a valid score on the assessment.

- Foreign Exchange students (as reported on MARSS) are now excluded from the participation calculation unless they have a valid score on the assessment.

Proficiency

- Computation of the state-wide measurement now only includes students enrolled over October 1.
- State-wide measurements now also exclude records marked as New To Country, Significant Gap and Foreign Exchange Students.

Attendance

- The Expanded Special Ed and LEP designations are not used in the subgroup measurements.
- State Aid Category 46 (Extended School Year) records are excluded.

Graduation

- The Expanded Special Ed and LEP designations are not used in the subgroup measurements.
- State Aid Category 46 (Extended School Year) records are excluded.

In Need of Improvement Status

- The AYP Consequence was renamed ‘In Need of Improvement’ Status
- Entities initially identified as ‘In Need of Improvement’ retain their status in the subsequent year, even if no longer receiving Title 1 funding. Entities must have their AYP Component (which caused the identification) to be above the target for two consecutive years before the ‘In Need of Improvement’ designation is removed (as long as no other component is causing identification).

AYP Year 2007

AYP General Use:

- MARSS enrollment records from the July submission are to be used as the Participation denominator. Students who are not reported on MARSS (or reported with errors) are not included in the calculation. Students for whom a test record cannot be matched are included as ‘not participating’. Matching algorithm is based on six criteria described earlier in the functional.
- Student demographics will come from the assessment record, but in cases where the demographic is missing, the associated MARSS demographic will be used.
- Changes in the calculation for 2007 will not be applied to prior years to determine ‘Improvement’ or ‘Rolling Averages’. Prior year figures for AYP Entities will be contained in historical files.
- The calculation will use three types of tests (MCA-II, MTAS and MTELL) to determine results.
- An MCA-II record will not be created for each student, but instead, other test records will be supplied and used in lieu of the MCA-II records.
- School classification 74 is removed as an AYP entity and school classification 78 and 79 are now added as AYP Entities.

Participation:

- Assessment records with score code of NA (not attempted) are no longer considered ‘Participating’.

Proficiency:

- Proficiency measure only uses records considered as participating and only those records with valid scores.
- A 2% Proxy adjustment has been added as the final Proficiency adjustment for the Special Education grouping.
- LEP and Special Education subgroup size reduced from 40 to 20 to meet USDOE uniform cell size requirement.

Graduation:

- New Dropout code was added in 2006 (Code 07).

In Need of Improvement Phase:

- Districts stay in “Needs Improvement” for a second year and do not advance to Corrective Action until the third year.

Appeals:

- When appeals are granted, AYP results are recalculated and changes applied only when underlying numbers warrant a change.

AYP Year 2006

Student Subgroups:

- LEP - The minimum cell size for the proficiency measurement is now 20 for all subgroups. Different cell sizes for LEP and Special Education have been eliminated.
- SPE - Special Education subgroup was expanded to include students who had been identified at any time during the past two years as Special Education.

Participation and Proficiency:

- Students who take the TEAE test in lieu of the MCA-II may have their participation and proficiency based on the results of the TEAE test.
- Index Points (current year and prior year) are based on score instead of level.
- Starting points are recomputed using the results from the 2006 MCA-II.
- 1% Cap on the number of index points contributing to proficiency rating is based on the count of students participating rather than the count of tests used to calculate proficiency.

BIA Schools and Districts (District Type 34) are now included in the statewide calculation. Results by district and school are prepared for internal use.

Non-merged records (NM as the score code) are no longer created by the testing vendor and are no longer referenced in the documentation.

AYP Year 2005

In Need of Improvement Phase

- Schools have the history of Title I status used in determining the current In Need of Improvement Phase

Student Subgroups

- LEP - The minimum cell size for the LEP subgroup in proficiency is changed from 20 to 40 students.

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- LEP - In the case where the LEP subgroup does not make AYP and the subgroup is larger than the minimum cell size an appeal is no longer necessary to remove test scores provided by students who qualify for as expanded LEP. This will be automatically included in the computation.

Proficiency Ratings

- If sites do not meet index target requirements on the current year data, data will be averaged for up to three years to determine AYP status.
- Schools that have no data of any kind will be given a status of “Insufficient Data.”

AYP Year 2004

Schools

- School Classification 50, 55 Special Education Cooperatives will be excluded from the AYP system, however, students must test and the results will be reported at the state level
- School Classifications 70, 72, 73, 74, 76,77 are to be excluded from the AYP system as they provide care and treatment to medically fragile, neglected and homeless students. Student results will be reported at the state level.
- A new NCLB ID stem will track school and district AYP status over time.

Student Subgroups

- LEP - LEP subgroup was expanded to include students who had been identified at any time during the past two years as LEP.
- LEP - LEP students who are new to the country may be removed from the reading proficiency calculation.
- Mobility - Students with significant gaps, 15 consecutive days, in enrollment may be removed from the proficiency calculation.
- Special Education - There is a percent cap at the district and state level on the number of alternate assessments that can be used to contribute towards a proficiency rating. If the state or districts exceed the cap, the students’ index point will also be removed at the school level.
- Medical Excuses – students with valid medical excuses may be removed from both participation and proficiency calculations.
- Decision rules were delineated for students who are Dual Enrolled, Open Enrolled, PSEO, Shared Time, Expelled or Suspended.

Participation Rate

- If sites do not meet 95% requirements on the current year data, data will be averaged for up to three years to determine AYP status.

Proficiency Ratings

- Proficiency was modified in two areas: small cell size limitation was removed at the all group level and those students not tested were removed from the denominator.

Incorporation of Changes in to Current Year Calculations

- Changes will always be incorporated into the rules for the current year calculations and previous year calculations when needed to establish growth indices.
- Changes will not be applied retroactively to change AYP status determined under previous rules.

3 Interface Requirements

The AYP calculation “engines” have no user interfaces. They are either invoked manually or via a scheduling process.

Their only operational interfaces are to SQL Server data bases and tables.

4 Limitations

4.1 Dependencies

Assessment data (in the published format) and MARSS data must be available for the current year in order for the calculations to take place.

Consistent ORGUNIT and NCLBID data must also be available.

Title I application information for the following school year (the EMAP system) must be available.

4.2 Critical Assumptions

4.3 Constraints

None identified.

4.4 Dimensional Limitations

MARSS Records

Each year the MARSS submission cycle has about one million records. The calculation requires five sets of data for the Graduation measurement for a total of approximately five million records. Five sets of data for the 2010 graduation rate: 2011F, 2010E, 2009E, 2008E, 2007E.

The 2010 attendance rate calculation requires only one set of MARSS data: 2010E.

MCA Records

Approximately 70,000 students in each grade contribute about one million assessment records per year. Grades 3, 4, 5, 6, 7, and 8 take Math and Reading assessments (70,000 x 2 subjects x 6 grades = 840,000 records)

Grade 10 takes a Reading assessment and Grade 11 takes a Math assessment (70,000 x 1 subject x 2 grades = 140,000 records)

TEAE/SOLOM Records

Approximately 50,000 LEP students taking the TEAE and SOLOM contribute about 150,000 records per year. Grades 3 - 12 take the TEAE Reading and Writing \ (45,000 x 2 subjects = 90,000 records). Grades K-12 take the SOLOM Listening/Speaking (50,000 records).

MTAS / MCA-Modified Records

No more than 50,000 Special Education students will substitute the Reading and/or Math MTAS / MCA-Modified for the MCA series.

4.5 Performance Characteristics

The SQL programming steps through a series of procedures computing various totals and percentages for all applicable years. Previous years results will not be re-computed, but simply referenced in look-up tables from the previous AYP calculations.

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5 Appendix – Example AYP Verification Report

2009 Preliminary AYP Results

District/Nclbid: 0031-01/137 PUBLIC SCHOOL DISTRICT 000 All Schools											Special Ed Alternate Assessment cap increased to 1.50 percent									
PARTICIPATION				PROFICIENCY							ATTENDANCE				GRADUATION					
Number of Tests Matched to Enrollment	Test Window Marss Enrollment	% of Students Participating	AYP Status	Total Index Points	Number of Oct. 1 Valid Scores	2009 Index Rate	Blended Index Target	SH Index Target	AYP Status	# of Students	Att. Rate	Att. Targ	AYP Status	Drops	Grads	Total	Grad Rate	Grad Target	AYP Status	
A All Students																				
Math	2,477	2,500	99.08	A	1657.6	2,326	71.26	69.99	A	5,073	93.00	90.00	A	37	360	397	90.68	80.00	A	
Reading	2,464	2,478	99.44	A	1905.0	2,329	81.79	75.84	A											
B American Indian/Alaskan Native																				
Math	450	496	90.57	A	200.5	383	52.35	66.82	57.42	A-SH2	1,026	89.09	88.24	A-IMP	11	31	42	73.81	57.24	A-IMP
Reading	453	482	98.05	A	243.0	383	63.45	73.54	70.44	B										
C Asian/Pacific Islander																				
Math	26	26	100.00	Z	20.0	25	80.00	50.12	A	45	94.59	90.00	A	0	6	6	100.00	80.00	Z	
Reading	22	22	100.00	Z	20.0	21	95.24	59.86	A											
D Hispanic																				
Math	25	25	100.00	Z	15.0	23	66.22	49.25	A	60	93.07	90.00	A	0	7	7	100.00	80.00	Z	
Reading	29	29	98.55	Z	19.0	24	79.17	59.39	A											
E Black, not of Hispanic origin																				
Math	45	45	100.00	A	17.5	32	54.69	56.83	53.27	A-SH1	74	93.71	90.00	A	0	6	6	100.00	80.00	Z
Reading	42	42	100.00	A	18.5	29	56.90	62.38	65.88	B										
F White, not of Hispanic origin																				
Math	1,931	1,938	99.64	A	1404.6	1,863	75.39	69.76	A	3,868	93.75	90.00	A	26	310	336	92.26	80.00	A	
Reading	1,919	1,923	99.79	A	1606.5	1,872	85.82	75.65	A											
G Limited English Proficient																				
										11	94.02	90.00	Z							
H Special Education																				
Math	379	385	98.44	A	195.0	386	47.93	67.64	52.68	A-SH2	875	90.83	90.00	A	6	57	63	90.48	80.00	A
Reading	371	374	99.20	A	228.0	388	58.25	73.70	56.67	A-SH2										
I Free/Reduced Priced Lunch																				
Math	454	456	99.13	A	243.0	384	63.29	66.84	65.97	A-SH2	2,397	91.26	90.00	A	22	80	102	78.43	77.42	A-IMP
Reading	457	461	99.13	A	292.0	389	75.06	73.56	A											

6 Appendix – Computation of Statewide Starting Points for AYP

The statewide targets were set by rank ordering the school results and finding the school representing the 20th percentile of the statewide population.

The following method was used to compute the 2011 grade 3-8 statewide starting points for Math.

1. MCA-III, MTAS-III and MOD-III assessments from 2011 were evaluated. Only records with valid scores were included. Assessments from nonpublic schools and those not normally summarized were excluded (such as home school students or foreign exchange students).
2. An **index point value** was assigned to each record based on the achievement level for each record: D=0.0, P=0.5, M and E = 1.0.
3. Records were then summarized by grade and subject within each school summing the index points to determine the **index point total** for the school and counting the document records as the **enrollment total** for the school.
4. The **proportion proficient** was then computed for each grade and subject by dividing the index point total by the enrollment total.
5. The total number of document records for each grade and subject within the state was computed resulting in a **statewide enrollment total**.
6. The statewide enrollment total for each grade and subject is multiplied by 0.20 to determine the 20th percentile number.
7. For each grade and subject, the schools were ranked based on the proportion proficient from low (proportion proficient = 0.0000) to high (proportion proficient = 1.0000).
8. Based on this ranking, a **cumulative enrollment total** is written to each school record in order from 0.0 to 1.00. For example, the first school (at 0.0000 proportion proficient) has an ‘enrollment total’ of 40. The cumulative enrollment total is set to 40. The second school (at 0.0100 proportion proficient) has an enrollment total of 55. The cumulative enrollment total is set to 95 (40 + 55). The third school (at 0.0200 proportion proficient) has an enrollment total of 73. The cumulative enrollment total is set to 168 (40 + 55 + 73).
9. The first school having a cumulative enrollment total equal to or exceeding 0.20 of the state enrollment total has their proportion proficient set as the statewide starting point for that subject and grade.

The previous method used in 2006 for reading and math is described below:

1. Public school MCA-II scores are evaluated excluding records with score codes of NE. (Nonpublic schools and the control districts are removed as well as home schooled students).
2. Index points (0.0, 0.5 or 1.0) are assigned to each record based on the levels assigned to each record: D=0.0, P=0.5, M and E = 1.0.
3. Records are then summarized by grade and subject within each school summing the index points to determine the 'index point total' and counting the document records as the 'enrollment total'.
4. 'Proportion Proficient' is then computed for each grade and subject by dividing the 'index point total' by the 'enrollment total'.
5. The total number of document records for each grade and subject within the state is computed resulting in a 'statewide enrollment total'.
6. The 'statewide enrollment total' for each grade and subject is multiplied by 0.20 to determine the 20th percentile number.
7. For each grade and subject, the schools are ranked based on the Proportion Proficient from low (0 proportion proficient) to high (100 proportion proficient).
8. Based on this ranking, a 'cumulative enrollment total' is written to each school record in order from 0.0 to 1.00. For example, the first school (at 0 proportion proficient) has an 'enrollment total' of 40. The 'cumulative enrollment total' is set to 40. The second school (at 0.01 proportion proficient) has an 'enrollment total' of 55. The 'cumulative enrollment total' is set to $40 + 55 = 95$. The third school (at .02 proportion proficient) has 'enrollment total' at 73. The 'cumulative enrollment total' is set to $40 + 55 + 73 = 168$.
9. The first school that has the 'cumulative enrollment total' equal or exceed the 0.20 of the 'state enrollment total' has the 'Proportion proficient' set as the statewide starting point for that subject and grade.

7 Appendix – MARSS Status End Code Definitions

Full definitions of the MARSS Status End Codes can be found on the Web at:

http://education.state.mn.us/MDE/Accountability_Programs/Program_Finance/MARSS_Student_Accounting/MARSS_Instruction_Manual/Data_Elements-Definitions/index.html

- 01 - Change in students' grade level.
 - 02 - Transferred to another public school in the same district.
 - 03 - Transferred to an approved nonpublic school.
 - 04 - Students moved outside of the district.
 - 05 - Students moved outside of the state or country.
 - *06 - Students left school after reaching compulsory attendance age without written election
 - *07 - Students left school after reaching compulsory attendance age with written election.
 - 08 - Students graduated.
 - 09 - Students graduated after meeting IEP/IFSP requirements.
 - 10 – Received a Certificate of Completion (no longer valid - last used in 1996/1997 school year)
 - 11 - Died.
 - 12 - Students excused from attending school for a physical or mental disability; does not include treatment centers if instruction is provided.
 - 13 - Students committed to a correctional facility.
 - *14 - Students withdrawn after 15 consecutive days absence - expected back.
 - *15 - Students left school because of marriage.
 - *16 - Students were expelled and did not return to school during the year.
 - *17 - Students leave school due to pregnancy.
 - *18 - Students withdrew, no transcript requested, or transferred to a non-approved nonpublic school.
 - * 19 Enlisted-Armed Services (no longer valid - last used in 2003/2004 school year)
 - 20 - Students transferred to another district or state but did not move.
 - 21 - Early Childhood withdrawal; IEP, IFSP or IIIP objectives were met.
 - 22 - Students withdrew to enter a care and/or treatment program; instruction is provided.
 - 23 - Kindergarten withdrawal, expected back next year.
 - 24 - Withdrew to Receive Homebound Services.
 - 25 – EC (early childhood) students evaluated only.
 - 26 – EC students withdrawn by parents.
 - 27 – EC students that transition at age three.
 - *31 - Students left school for social reasons.
 - *32 - Students left school for financial reasons.
 - *33 - Students left school for family environment reasons.
 - *34 - Students left school for reasons unknown.
 - *35 - Students left school after attaining age 21 and did not graduate.
 - 36 - Students enrolled in a postsecondary institution (baccalaureate credit) without receiving a high school diploma.
 - *37 - Students left school to attend a GED program or withdrew after taking the GED Exam.
 - 40 - End-of-year, students were enrolled the last day of school.
 - 41 - Students dropped out of school during the current school year but re-enrolled somewhere by the following Oct 1.
 - 42 - Students met the district's graduation requirements but did not pass one of the required basic standards tests.
 - 50 - Students special education data has changed
 - 99 - Students' enrollment status has changed necessitating the closing of one status record and the opening of a new one.
- *Dropout Codes*

8 Appendix – MARSS State Aid Category Definitions

Full definitions of the MARSS State Aid Categories can be found on the Web at:

http://education.state.mn.us/MDE/Accountability_Programs/Program_Finance/MARSS_Student_Accounting/MARSS_Instruction_Manual/Data_Elements-Definitions/index.html

- 00 - Regular; resident enrolled at the resident district
- 01 - Enrollment Options/Open
- 02 - Foreign Exchange
- 03 - Graduation Incentives
- 04 - Enrollment Choice for 11th and 12th Grade Students
- 05 - Inter-district Cooperative Agreement
- 06 - Cooperative Facilities
- 07 - Homeless ((No longer valid - last used in 2003/2004 school year)
- 08 - Charter School
- 10 - Joint Powers Cooperatives for Special Education and/or Secondary Vocational Programs
- 11 - Parent Initiated Agreements Between School Boards
- 12 - Grandfather Clause/40 Acre Law/Previous Enrollment
- 13 - State Board Approved (No longer valid - last used in 2003/2004 school year)
- 14 - Enrollment in another State
- 15 - Non-Minnesota resident, tuition paid by entity in another state or country
- 16 – Shared-Time Aid is paid to the resident district
- 17 – Shared-Time Aid paid to the serving district
- 18 – Shared-Time - Parent/guardian pays
- 19 - Tuition Agreement with Resident District
- 20 - Tuition Agreement with Parent/Guardian,
- 21 - Ineligible Nonresident Student.
- 22 - Residents
- 24 - Early Graduate
- 25 – Adult (No longer valid - last used in 2002/2003 school year)
- 26 - Contract Alternative School/Graduation Incentives,
- 27 - Temporary Placement for Non-handicapped Students for Care and Treatment
- 28 - Resident student attending a nonpublic school through either an IEP/IFSP/IIP or for care and treatment.
- 34 - TRIBAL CONTRACT/GRANT meeting criteria
- 35 - TRIBAL CONTRACT/GRANT not meeting criteria
- 41 – Early Childhood Screening - Screening by school district.
- 42 – Early Childhood Screening - Child & Teen Checkups/EPSTDT
- 43 – Early Childhood Screening – Head Start.
- 44 – Early Childhood Screening - Private Provider
- 45 – Early Childhood Screening - Conscientious Objector
- 46 – Extended School Year
- 51 – SD Reciprocity – attending Minnesota school
- 52 – SD Reciprocity – attending South Dakota school
- 97 –Students displaced due to natural disaster (Flood / Hurricane)
- 98 - Summer Graduate, Late Graduate or Dropout.

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9 Appendix – Current Feeder Schools

District Number	District Type	District Name	School Number	Feeder School / Destination School	Percent Promoted Last Year
0001	03	MINNEAPOLIS PUBLIC SCHOOL DIST.	104	LAKE HARRIET LOWER ELEMENTARY	84.62
			121	LAKE HARRIET UPPER SCHOOL	
0256	01	RED WING PUBLIC SCHOOL DISTRICT	541	SUNNYSIDE ELEMENTARY	97.09
			537	BURNSIDE ELEMENTARY.	
0278	01	ORONO PUBLIC SCHOOL DISTRICT	661	SCHUMANN ELEMENTARY	96.77
			662	ORONO INTERMEDIATE ELEMENTARY	
0332	01	MORA PUBLIC SCHOOL DISTRICT	020	FAIRVIEW ELEMENTARY	89.39
			030	TRAILVIEW ELEMENTARY	
0413	01	MARSHALL PUBLIC SCHOOL DISTRICT	002	PARK SIDE ELEMENTARY	91.56
			003	WEST SIDE ELEMENTARY	
0423	01	HUTCHINSON PUBLIC SCHOOL DISTRICT	060	HUTCHINSON WEST ELEMENTARY	90.45
			010	HUTCHINSON PARK ELEMENTARY	
0441	01	MARSHALL COUNTY CENTRAL SCHOOLS	030	VIKING ELEMENTARY	96.15
			010	NEWFOLDEN ELEMENTARY	
0477	01	PRINCETON PUBLIC SCHOOL DISTRICT	001	SOUTH ELEMENTARY	91.51
			010	NORTH ELEMENTARY	
0508	01	ST. PETER PUBLIC SCHOOL DISTRICT	050	SOUTH ELEMENTARY	93.2
			030	NORTH INTERMEDIATE ELEMENTARY	
0535	01	ROCHESTER PUBLIC SCHOOL DISTRICT	116	CHURCHILL ELEMENTARY	89.53
			134	HOOVER ELEMENTARY	
0544	01	FERGUS FALLS PUBLIC SCHOOL DISTRICT	130	ADAMS ELEMENTARY	91.08
			140	CLEVELAND ELEMENTARY	
0593	01	CROOKSTON PUBLIC SCHOOL DISTRICT	010	WASHINGTON ELEMENTARY	85.71
			080	HIGHLAND ELEMENTARY	
0595	01	EAST GRAND FORKS PUBLIC SCHOOL DIST	120	NEW HEIGHTS ELEMENTARY	87.07
			110	SOUTH POINT ELEMENTARY	
0690	01	WARROAD PUBLIC SCHOOL DISTRICT	010	WARROAD ELEMENTARY	97.33
			060	WARROAD UPPER ELEMENTARY (3-6)	
0701	01	HIBBING PUBLIC SCHOOL DISTRICT	140	GREENHAVEN ELEMENTARY	90.77
			310	LINCOLN ELEMENTARY	
0701	01	HIBBING PUBLIC SCHOOL DISTRICT	160	WASHINGTON ELEMENTARY	92.11
			310	LINCOLN ELEMENTARY	
0709	01	DULUTH PUBLIC SCHOOL DISTRICT	560	ROCKRIDGE ELEMENTARY	86.05
			510	LESTER PARK ELEMENTARY	
0716	01	BELLE PLAINE PUBLIC SCHOOL DISTRICT	010	CHATFIELD ELEMENTARY	88.39
			011	OAK CREST ELEMENTARY	
0726	01	BECKER PUBLIC SCHOOL DISTRICT	040	BECKER PRIMARY	95.98
			010	BECKER INTERMEDIATE ELEMENTARY	
0728	01	ELK RIVER PUBLIC SCHOOL DISTRICT	200	ZIMMERMAN ELEMENTARY	88.17
			210	WESTWOOD ELEMENTARY	

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District Number	District Type	District Name	School Number	Feeder School / Destination School	Percent Promoted Last Year
0832	01	MAHTOMEDI PUBLIC SCHOOL DISTRICT	020	WILDWOOD ELEMENTARY	96.06
			010	O.H. ANDERSON ELEMENTARY	
0911	01	CAMBRIDGE-ISANTI PUBLIC SCHOOL DIST	101	CAMBRIDGE PRIMARY SCHOOL	91.41
			201	CAMBRIDGE INTERMEDIATE SCHOOL	
0911	01	CAMBRIDGE-ISANTI PUBLIC SCHOOL DIST	102	ISANTI PRIMARY SCHOOL	87.23
			202	ISANTI INTERMEDIATE SCHOOL	
2689	01	PIPESTONE AREA SCHOOL DISTRICT	002	BROWN ELEMENTARY	94.05
			003	HILL ELEMENTARY	
2752	01	FAIRMONT AREA SCHOOL DISTRICT	020	BUDD ELEMENTARY	91.34
			050	FIVE LAKES ELELMENTARY	
2859	01	GLENCOE-SILVER LAKE SCHOOL DISTRICT	010	BAKER ELEMENTARY	95.61
			030	LAKESIDE ELEMENTARY	

10 Appendix – AYP Growth Score Computation

A more detailed explanation of the AYP Growth Score Computation and application for approval can be found at the ed.gov Website: Minnesota Growth Model Application and Information <http://www.ed.gov/admins/lead/account/growthmodel/mn/index.html>

Excerpt from application:

The growth model is a new AYP calculation using a value table approach where all students with at least two years of assessment data will be included in the denominator for the growth calculation for the school and each eligible subgroup. The numerator will include any student in the school and subgroup who is proficient or “on track to be proficient.” A school or district will meet AYP for that subgroup if the proportion of students meets or exceeds the current state annual measurable objective (AMO).

Student growth will be measured in grades 4-8, 10, and 11. For AYP calculations in 2009, the data from 2008-09, 2007-08, 2006-07 and 2005-06 will be used in determining each student’s growth. All third-grade students, who do not have a prior year score, will be included in the growth model and considered “on track to be proficient” if they are currently proficient in third grade. If the third grade student is not proficient and does not have prior year data, then the student will be included in the growth model as NOT “on track to be proficient.”

Minnesota will implement its growth model for reading and math grades 3-8 and high school. Growth model decisions are possible in third grade for retained students and students in third grade with no prior year data will be considered “on track to be proficient” if they are currently proficient on the third grade assessment.

Overview:

A student is assigned ‘AYP Growth Points’ based on the current assessment compared to the prior year assessment. Schools and districts generate an ‘AYP Growth Score’ based on the total points divided by the number of students included in the measure.

A. Assign AYP Growth Points to student records

1. Assign the previous year score and achievement level for each student included in the current year proficiency measurement for each subject. Linking prior year data uses any of the three prior year assessments (MCA-II, MTELL, or MTAS) that match the subject from the current year assessment. The MARSS Number and the Student Linking System (SLS) Alias Group ID must match for the linking to occur.
 - For grades 3-8, 10 and 11, the data from the previous year is assigned if available. For example, if the current year is 2009, the 2008 prior scores and achievement levels are assigned.
 - For students in grades 10 and 11, (who would normally not take an assessment in the matching subject in the prior year), data from two years ago is assigned if scores are not already found for the student. For example, if the current year is 2009, and the grade 10 or 11 student did not take an assessment in 2008, the 2007 data is scanned to find the student’s prior score and achievement level.
 - For students in grade 11, (who would normally not take an assessment in either of the prior two years in the matching subject), data from three years ago is assigned if scores are not already found for the student. For example, if the current year is 2009, and the

grade 11 student did not take an assessment in 2008 or 2007, the 2006 data is scanned to find the student's prior score and achievement level.

2. Assign a marker 'Include in Growth Measure' which indicates whether the student is eligible for a growth score and should be included in the AYP Growth Score computation.
 - For students in grades 3-8, 10 and 11, the marker is set to 'Y' if they have a valid score (VS) in the current year and a valid score (VS) in the prior year.
 - For students in grade 3 who have a valid score (VS) in the current year but who do not have a prior year record, set the marker to 'Y'.
3. Assign a Low score designation (L) or High score designation (H) for those records marked 'Include in Growth Measure'. Only assign the L/H designation on records where the student is not proficient or is partially proficient (Achievement Level = D or P). The L/H designations are assigned for both the current year score and the prior year score. The L/H designations are based on a previously determined range of scores for each year, subject and grade for each test. These ranges are updated each year and are held in a reference table – *Score Ranges for Achievement Levels*. For the 2011 AYP Computation, the range of scores for 2011 is dependent on the individual student's standard error of measurement. These values would not be stored in a reference table but would be computed individually on each assessment for the student. If the student's score plus standard error of measurement is greater than or equal to the next level cut score in table *AYPGrowthUpdate_CutScore* set the value to H else L.
4. Once the L/H designations have been determined, assign the AYP Growth Points to each record where the 'Include in Growth Measure' marker = Y. The assignment is based on the combination of proficiency level (D, P, M, or E) and L/H designations. These combinations and associated AYP Growth Points are held in a reference table – *AYP Growth Point Definitions*. All possible combinations of proficiency level and L/H designations are held in this table. AYP Growth Points range from 0 to 1000 depending on the combination.

Students in grade 3 who have a valid score (VS) in the current year but who do not have a prior year record have their AYP Growth Points assigned in the following manner:

Score Code E or M = 1000

Score Code P = 500

Score Code D = 0

B. Summarize AYP Growth Points and records included in AYP Growth Score

Just as the AYP Index Points for each student are summed by cell (for each grade and subject within each school and district), the AYP Growth Points are also summed in the same fashion. The same student population is used as in the AYP Proficiency calculation denominator, but only if the record was marked as 'Include in Growth Measure'. The AYP Growth Score denominator will always be less than or equal to the AYP Proficiency denominator since not all students have valid scores over two years.

C. Establishing AYP Growth Targets

The AYP Growth Target uses the same statewide starting points as the AYP Proficiency calculation and the targets are computed in the similar fashion. Since starting points are by grade, a weighted target is computed by the number of records per grade per subject included in the growth measure. However, the AYP Growth Target does *not* use a confidence interval.

D. Compute AYP Growth Score

The AYP Growth Points for a cell (the numerator) is divided by the number of records included in the growth measure for that cell (the denominator). It is then divided by 1000 to generate the AYP Growth Score. The AYP Growth Score represents the proportion of students showing growth. The AYP Growth Score is compared to the AYP Growth Target.