

Minnesota Curriculum Matrix Summary

The Minnesota Comprehensive Assessments (MCAs) are the state tests that assist school districts in measuring student progress in the achievement of Minnesota’s academic standards. Furthermore, the MCAs are used to measure Adequate Yearly Progress (AYP) required for *No Child Left Behind*.

English Language Arts

The *Minnesota K-12 Academic Standards in Language Arts – 2005* represent the content that has been identified as essential for all students to know and will be included on the state assessment. English language arts students are assessed in grades 3-8 and high school on the MCA-II. The sub-strands tested are vocabulary expansion, comprehension, and literature.

Testing Priority Designation

Information necessary to make priority designations relative to assessments was obtained from the Minnesota Department of Education’s website. The English language arts priority designations for the assessments were determined by calculating the average number of assessment items per benchmark at each grade level. Standard deviations (STDs) were calculated for each grade level and subtracted from the mean. This number established the cut-off point between Medium (M) priority designations and High (H) priority designations. Student learning expectations that were not tested were assigned a Low (L) priority designation. The results for the calculated priority designations can be found in Table 1.

Table 1. English Language Arts Priority Designation Data

Grade	Mean	STD	Mean – STD	Designations		
				L = Low	M = Medium	H = High
3	4.50	3.08	1.42 = 2	0	1- 2	>2
4	4.29	2.77	1.52 = 2	0	1- 2	>2
5	5.13	2.46	2.67 = 3	0	1- 3	>3
6	6.55	2.46	4.00	0	1- 4	>4
7	7.88	2.60	5.30 = 6	0	1- 6	>6
8	7.67	3.58	4.00	0	1- 4	>4
10	6.18	3.24	2.9 = 3	0	1- 3	>3

English language arts summary data are presented in Table 2.

Table 2. English Language Arts Assessment Data Summary

Grade	Standards	Benchmarks	MCA-II			NESS*		
			H	M	L	H 1-19	M 20-38	L 39-50
3	11	47	7	6	34	34	9	4
4	11	50	10	5	35	35	11	4
5	11	53	9	6	38	37	12	4
6	11	56	11	2	43	37	14	5
7	11	60	7	4	49	41	14	5
8	10	64	10	1	53	43	17	4
9-12	9	74	10	4	60	51	21	2
Totals	74	404	64	28	312	278	98	28

Mathematics

The *Minnesota K-12 Academic Standards in Mathematics – 2007 Revision* represent the content that has been identified as essential for all students to know and will be included on the state assessment. The *Minnesota Comprehensive Assessment Series III (MCA-III)* are used for grades 3-8 and the *Minnesota Comprehensive Assessment Series II (MCA-II)* are used for grades 9-11.

Testing Priority Designation

Information necessary to make priority designations relative to assessments was obtained from the Minnesota Department of Education website. The mathematics priority designations for the assessments were determined by calculating the average number of assessment items per benchmark at each grade level (sub-standards were used for grade 11). Standard deviations (STDs) were calculated for each grade level and subtracted from the mean. This number established the cut-off point between Medium (M) priority designations and High (H) priority designations. Because all the mathematics standards are eligible for assessment, there were no Low (L) designations assigned. The results for the calculated priority designations can be found in Table 3.

Table 3. Mathematics Priority Designation Data

Grade	Mean	STD	Mean – STD	Designations		
				L = Low	M = Medium	H = High
3	4.72	1.96	2.76	0	1- 2.76	>2.76
4	5.18	1.26	3.98	0	1- 3.98	>3.98
5	4.56	1.5	3.10	0	1- 3.10	>3.10
6	4.45	1.76	2.70	0	1- 2.70	>2.70
7	3.75	1.34	2.40	0	1- 2.40	>2.40
8	5.13	1.97	3.20	0	1- 3.20	>3.20
9-11	8.50	3.94	4.56	0	1-4.56	>4.56

Mathematics summary data are presented in Table 4.

Table 4. Mathematics Assessment Data Summary

Grade	Standards	Benchmarks	MCA-III (Gr. 3-8) MCA-II (Gr. 9-11)			NESS*		
			H	M	L	H 1-16	M 17-42	L 43-70
3	9	26	21	5	0	17	9	0
4	9	30	23	7	0	15	11	4
5	9	28	27	1	0	17	10	1
6	10	33	30	3	0	26	7	0
7	11	34	31	3	0	25	8	1
8	8	35	29	6	0	12	20	3
9-11	11	71	59	12	0	30	29	12
Totals	67	257	220	37	0	142	94	21

Science

The *K-12 Minnesota Academic Standards in Science, 4/24/07* represent the standards and benchmarks that have been identified as essential for all students to know and will be included on the state assessment, the *Minnesota Comprehensive Assessment Series II (MCA-II)* for grades K-12.

Testing Priority Designation

Information necessary to make priority designations relative to assessments was obtained from the Minnesota Department of Education website. Science priority designations for the assessments were determined by calculating the average number of items per benchmark at each grade. Standard deviations (STDs) were calculated for each grade level and subtracted from the mean. This number established the cut-off point between Medium (M) priority designations and High (H) priority designations. Standards that were not tested or were listed with an “NA” were given a Low (L). The results for the calculated priority designations can be found in Table 5.

Table 5. Science Priority Designation Data

Grade	Mean	STD	Mean – STD	Designations		
				L = Low	M = Medium	H = High
3-5	2.31	.50	1.81 = 2	0	1-2	>2
6-8	2.24	.42	1.80 = 2	0	1-2	>2
9-12	2.31	.90	1.41 = 2	0	1-2	>2

Note: Strands 2 and 3 of the high school science standards are not assessed in the current MCA-II program.

Science summary data are presented in Table 6.

Table 6. Science Assessment Data Summary.

Grade	Standards	Benchmarks	MCA-II			NESS*		
			H	M	L	H 1-32	M 33-50	L 51-85
Grade 3	8	18	6	11	1	9	5	4
Grade 4	11	27	10	13	4	17	5	5
Grade 5	7	19	3	13	3	11	3	5
Grade 6	8	31	8	22	1	22	4	5
Grade 7	11	43	5	34	4	26	10	7
Grade 8	10	29	10	16	3	14	7	8
Grades 9-12	21	97	16	26	55	65	15	17
Totals	76	264	58	135	71	164	49	51

Totals for English Language Arts, Mathematics, and Science

Table 7 presents the number of benchmarks compared to the number of benchmarks tested. Using this data, the percentage of benchmarks tested was calculated.

Table 7. Totals and Percentages for English Language Arts, Mathematics, and Science

	Benchmarks	Benchmarks Tested	% Benchmarks Tested
English Language Arts	404	92	23
Mathematics	257	257	100
Science	264	193	73
TOTAL	925	542	59

References

Minnesota Department of Education

http://education.state.mn.us/html/mde_home.htm

Academic Standards

http://www.education.state.mn.us/mde/Academic_Excellence/Academic_Standards/index.html

Assessment

http://www.education.state.mn.us/mde/Accountability_Programs/Assessment_and_Testing/index.html

***NESS (National Essential Skills Study)** in the preceding subject summary charts refers to the *International Center for Leadership in Education's* 2007-08 national survey, a forced-ranking by approximately 13,000 adults of the proficiencies deemed most important for high school graduates in each of English Language Arts, Math, and Science.

- English Language Arts proficiencies ranked 1-19 were assigned a High (H) rating; items ranked 20-38 were assigned a Medium (M) rating; and items ranked 39-50 were assigned a Low (L) rating.
- Math proficiencies ranked 1-16 were assigned a High (H) rating; items ranked 17-42 were assigned a Medium (M) rating; and items ranked 43-70 were assigned a Low (L) rating.
- Science proficiencies ranked 1-32 were assigned a High (H) rating; items marked 33-50 were assigned a Medium (M) rating; and items ranked 51-85 were assigned a Low (L) rating.

Where English Language Arts, Math, and Science proficiencies overlapped across indicators in other subjects (for example an English Language Arts proficiency within a Science indicator), the rating of H, M, or L was designated to the proficiency in the subject of focus. A complete description of the *National Essential Skills Study* is provided elsewhere in this resource kit.



