

Michigan Curriculum Matrix Summary

English Language Arts

The Michigan English Language Arts program is a composite of the *Michigan English Language Arts Curriculum Framework Standards and Benchmarks* (1996), the *Career and Employability Skills Content Standards and Benchmarks* (2001), the *Michigan K-8 English Language Arts Grade Level Content Expectations* (2004), the *Michigan English Language Arts Grade Level Content Expectations* (12/05), and the *Michigan English Language Arts High School Content Expectations* (2006). The standards are assessed by the Michigan State Assessment program in grades 2-8 using the *Michigan Educational Assessment Program* (MEAP) and, in high school, using the *Michigan Merit Examination* (MME). The MME is administered to all students enrolled in Grade 11 in March of each year. The new MME consists of three major components: the ACT college entrance examination, the WorkKeys job skills assessments in reading and mathematics, and the Michigan assessments in mathematics, science, social studies, and persuasive writing; it will be in effect in 2009.

Testing Priority Designation

Information necessary to make priority designations relative to assessments was obtained from the *Test Construction Specifications, 2006 MEAP, Test Administration*. Item maps for each assessment were used to determine testing priority designations. Each item map reveals the number of test items for each GLCE (Grade Level Content Expectation) in each strand. The English Language Arts designations for the assessments were determined by calculating the average number of items per strand per grade (1.24). The standard deviation (1.01) was returned and subtracted from this mean to determine the cut-off point that separates the Medium (M) designations from the High (H) designations. Therefore, the GLCEs in each strand that had 1 or more assessment items were given a High (H) designation. The GLCEs in each strand that were not tested were given a Low (L) designation. There were no Medium (M) designations. The *Michigan Grade Level Content Expectations: Assessable Content Document, 12/05*, was used to determine testing priority designations for grades 4-7. The GLCEs in each strand that were tested were given a High (H) designation. The GLCEs that were not tested were given a Low (L) designation. There were no Medium (M) designations. Since the GLCEs are assessed in the fall in each grade, the Grade 8 GLCEs are not assessed when students are in high school, and therefore these testing columns were marked Low (L).

Information necessary to make priority designations for the English Language Arts MME can be found at http://www.michigan.gov/mde/0,1607,7-140-22709_35150---,00.html. The document, *Assessment Design MME 2008*, reveals the number of test items per testing category. These numbers were averaged (20) and the standard deviation (STD) of 4.12 was calculated. Then, the STD was subtracted from the average (16 rounded, one STD below the mean) to establish the cut-off point between High (H) priority designations and (M) priority designations. The GLCEs that were not tested were given a Low (L) priority designation. International Center researchers aligned the testing categories to the Michigan standards as the priority designations were assigned.

English Language Arts summary data are presented in Table 1 below.

Table 1. English Language Arts Michigan State Assessment Data Summary. Note: Since the GLCEs are assessed in the fall of each grade, teachers should refer to the previous grade’s test data. Since Grade 8 GLCEs are not assessed, these testing columns were marked Low (L).

English LA	# Strands	# GLCE or HSCE	MEAP & MME			NESS*		
			H	M	L No Q	H 1-19	M 20-38	L 39-50
Grade 2	4	69	29	5	35	49	16	4
Grade 3	4	55	35	12	8	36	15	4
Grade 4	4	54	22	0	32	35	15	4
Grade 5	4	54	26	0	28	36	14	4
Grade 6	4	51	26	0	25	35	12	4
Grade 7	4	51	26	0	25	36	12	3
Grade 8	4	51	0	0	51	36	12	3
High School	4	91	49	11	31	63	26	2

Mathematics

The Michigan Mathematics program is a composite of the *Michigan Mathematics Curriculum Framework Standards and Benchmarks* (1996), the *Career and Employability Skills Content Standards and Benchmarks* (2001), the *Michigan K-8 Mathematics Grade Level Content Expectations* (2004), the *Michigan Mathematics Grade Level Content Expectations* (12/05), and the *Michigan Mathematics High School Content Expectations* (2006). The standards are assessed by the Michigan State Assessment program in grades 2-8 using the *Michigan Educational Assessment Program* (MEAP) and, in high school, using the *Michigan Merit Examination* (MME). The MME is administered to all students enrolled in Grade 11 in March of each year. The new MME consists of three major components: the ACT college entrance examination, the WorkKeys job skills assessments in reading and mathematics, and the Michigan assessments in mathematics, science, social studies, and persuasive writing; it will be in effect in 2009.

Testing Priority Designation

Information necessary to make priority designations relative to assessments was obtained from the *Test Construction Specifications, 2006 MEAP, Test Administration*. Item maps for each assessment were used to determine testing priority designations. Each item map reveals the number of test items for each GLCE (Grade Level Content Expectation) in each strand. The Mathematics designations for these assessments, elementary grades, were determined by calculating the average number of items per strand per grade (2). The standard deviation (0.997) was returned and subtracted from this mean to determine the cut-off point that separates the Medium (M) designations from the High (H) designations. Therefore, the GLCEs in each strand that had 1 assessment item were given a Medium (M) designation. The GLCEs in each strand that had more than 1 assessment items were given a High (H) designation. A Low (L) designation was given to the GLCEs in each strand that were not tested. Since the GLCEs are assessed in the fall in each grade, the Grade 8 GLCEs are not assessed when students are in high school, and therefore these testing columns were marked Low (L).

Information necessary to make priority designations for the Mathematics MME can be found at http://www.michigan.gov/mde/0,1607,7-140-22709_35150---,00.html. The document, *Assessment Design MME 2008*, reveals the number of test items per testing category. These numbers were averaged (45) and the standard deviation (STD) of 9.7 was calculated. Then, the STD was subtracted from the average (35 rounded, one STD below the mean) to establish the cut-off point between High (H) priority designations and Medium (M) priority designations. The GLCEs that were not tested were given a Low (L) priority designation. International Center researchers aligned the testing categories to the Michigan standards as the priority designations were assigned.

Mathematics summary data are presented in Table 2 below.

Table 2. Mathematics Michigan State Assessment Data Summary. Note: Since the GLCEs are assessed in the fall of each grade, teachers should refer to the previous grade’s test data. Since Grade 8 GLCEs are not assessed, these testing columns were marked Low (L).

			MEAP & MME			NESS*		
Mathematics	# Strands	# GLCE or HSCE	H	M	L No Q	H 1-16	M 17-42	L 43-70
Grade 2	4	42	19	19	4	23	18	1
Grade 3	4	44	18	23	3	30	14	0
Grade 4	4	56	22	33	1	34	20	2
Grade 5	4	44	19	22	3	34	10	0
Grade 6	5	44	20	23	1	27	14	3
Grade 7	4	32	19	11	2	17	12	3
Grade 8	4	41	0	0	41	18	19	4
High School	4	179	139	23	17	65	77	37

Science

The Michigan Science program is a composite of the *Michigan Curriculum Framework Science Benchmarks* (2000), the *Michigan K-8 Science Grade Level Content Expectation??* (2004), the *Michigan English Language Arts Grade Level Content Expectations* (12/05), the *Michigan Science Grade Level Content Expectations* (to be released 12/07), and the *Michigan Science High School Content Expectations* (2006). The standards are assessed by the Michigan State Assessment program in grades 3-8 using the *Michigan Educational Assessment Program* (MEAP) and, in high school, using the *Michigan Merit Examination* (MME). The MME is administered to all students enrolled in Grade 11 in March of each year. The new MME consists of three major components: the ACT college entrance examination, the WorkKeys job skills assessments in reading and mathematics, and the Michigan assessments in mathematics, science, social studies, and persuasive writing; it will be in effect in 2009.

Testing Priority Designation

Information necessary to make priority designations relative to assessments will be obtained from the updated *Test Construction Specifications, Test Administration*. Item maps for each assessment will be used to determine testing priority designations. The current Science GLCEs and test data are included below. The new Science GLCEs were released in December 2007 and will be added to the Curriculum Matrix as soon as test data are available.

Information necessary to make priority designations for the Science MME can be found at http://www.michigan.gov/mde/0,1607,7-140-22709_35150---,00.html. The document, *Assessment Design MME 2008*, reveals the number of test items per testing category. This document revealed that there was only one testing category. Therefore, the STD procedure for determining priority designations was not used. All tested GLCEs were assigned a High (H) priority designation. GLCEs that were not tested were given a Low (L) priority designation. There were no Medium (M) designations assigned.

Science summary data are presented in Table 3 below.

Table 3. Science Michigan State Assessment Data Summary.

Science	# Strands/ Standards	# GLCE or HSCE	MEAP & MME			NESS*		
			H	M	L No Q	H 1-32	M 33-50	L 51-85
Grade 2	4	28	NA	NA	NA	24	3	1
Grade 3	4	50	NA	NA	NA	30	8	12
Grade 4	4	46	NA	NA	NA	32	6	8
Grade 5	4	44	NA	NA	NA	28	2	14
Grade 6	4	49	NA	NA	NA	32	2	15
Grade 7	4	58	NA	NA	NA	36	13	9
High School Earth Science	5	85	52	0	33	33	21	31
High School Biology	5	102	57	0	45	45	23	34
High School Chemistry	5	80	42	0	38	29	3	48
High School Physics	4	83	67	0	16	21	27	35

Note: For those needing the current, Fall 2007 Science benchmark data from the Science Curriculum Matrix, prior to the release of the new Science GLCEs in December 2007, they are provided below.

Science	# Standards	# Benchmarks	H	M	L No Q	H 1-35	M 36-70	L 71 +
Elementary Test 5 th Grade	15	53	32	19	2	34	13	6
Middle School Test 8 th Grade	15	65	33	30	2	45	14	6

Totals for English Language Arts, Mathematics, and Science

Table 4 below presents the number of State Assessment benchmarks (GLCEs and HSCEs) compared to the number of State Assessment benchmarks tested. Using these data, the percentage of State Assessment benchmarks tested was calculated.

Table 4. Totals and Percentages for English Language Arts, Mathematics, and Science.

	# Expectations	# Expectations Tested	% Expectations Tested
English LA	476	213	45%
Mathematics	482	256	53%
Science	350 (HSCE only)	218 (HSCE only)	62% (HSCE only)
TOTALS	1,308	687	53%

References

Michigan State Education Department

<http://www.michigan.gov/mde>

Michigan Curriculum Framework

<http://www.michigan.gov/mde/0,1607,7-140-28753---,00.html>

Michigan School Assessment and Accountability

<http://www.michigan.gov/mde/0,1607,7-140-22709---,00.html>

*NESS (National Essential Skills Study) in the preceding subject summary charts refers to the *International Center for Leadership in Education's* 2007 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.

