

## DOCUMENT RESUME

ED 454 292

TM 033 036

TITLE Guide to Interpreting the Spring 2000 Reports for Schools and Districts. Massachusetts Comprehensive Assessment System.

INSTITUTION Massachusetts State Dept. of Education, Boston.

PUB DATE 2000-00-00

NOTE 54p.

PUB TYPE Guides - Non-Classroom (055)

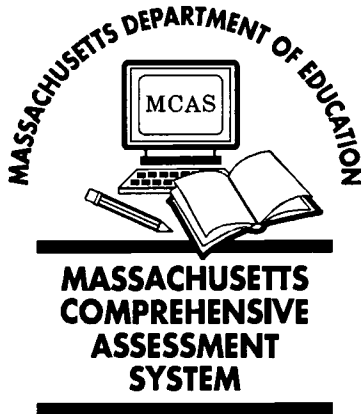
EDRS PRICE MF01/PC03 Plus Postage.

DESCRIPTORS Academic Achievement; \*Achievement Tests; Elementary Secondary Education; Guides; School Districts; \*Scores; \*Scoring; State Programs; Test Interpretation; \*Test Results; \*Testing Programs

IDENTIFIERS \*Massachusetts Comprehensive Assessment System

## ABSTRACT

This guide explains results and other information in the "Test Item Analysis Report," the "School Report," and the "District Report" for the Massachusetts Comprehensive Assessment System (MCAS) tests for spring 2000. It is designed to help superintendents, principals, and other administrators as they review the results for their schools and districts. The guide contains these sections: (1) "Document Purpose"; (2) "General Guidelines for the Interpretation and Use of MCAS Reports"; (3) "Understanding the 'Test Item Analysis Report'"; (4) "Understanding the 'School' and 'District Reports'." Appendixes contain information on converting raw scores to scale scores, the MCAS 2000 reporting categories, content-specific performance level definitions, and MCAS-related references. (Contains 13 tables, 17 figures, and 11 references.) (SLD)



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*Guide to Interpreting  
the Spring 2000 Reports  
for Schools and Districts*



**Massachusetts Department of Education**





## Massachusetts Department of Education

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This document was prepared by the Massachusetts Department of Education  
Dr. David P. Driscoll, Commissioner of Education

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# Commissioner's Foreword

Dear Superintendents, Principals, Charter School Leaders, Directors of Collaboratives and Chapter 766 Private Schools, and Other Interested Parties:

This guide is intended to further explain results and other information contained within the *Test Item Analysis Report*, the *School Report*, and the *District Report* for the Massachusetts Comprehensive Assessment System (MCAS) tests of spring 2000. We hope that you will find it useful as you review the results for your school and/or district.

The MCAS tests are an important part of our state's effort to improve teaching and learning across the Commonwealth. It is vital that all teachers, administrators, and parents understand the MCAS testing program, as all have essential roles to play in helping students to succeed. The state is committed to working in partnership with schools and communities to improve the academic achievement of all public school students in Massachusetts.

If you have questions after reviewing this guide, the *Test Item Analysis Report*, the *School Report*, or the *District Report*, please contact MCAS Support Services at 1-800-737-5103.

Sincerely,



David P. Driscoll  
Commissioner of Education

# Table of Contents

Commissioner's Foreword	
I. Document Purpose	1
II. General Guidelines for the Interpretation and Use of MCAS Reports	3
III. Understanding the <i>Test Item Analysis Report</i>	5
Overview	5
A. English Language Arts <i>Test Item Analysis Report</i>	6
• Individual Student Results	7
• Results Aggregated at the School, District, and State Levels	10
B. Mathematics, Science & Technology, and History and Social Science <i>Test Item Analysis Reports</i>	13
• Individual Student Results	14
• Results Aggregated at the School, District, and State Levels	16
IV. Understanding the <i>School and District Reports</i>	19
Overview	19
A. Students Tested	21
B. Performance Level Results	24
C. Distribution of Results by Scaled Score Interval	24
D. Results by Student Status	25
E. Subject Area Subscores	26
F. Three-Year Comparison of School Results	27
Appendices	
A. Raw Score to Scaled Score Conversions	29
B. MCAS 2000 Reporting Categories	36
C. Content-Specific Performance Level Definitions	41
D. MCAS-Related References	45

# I. Document Purpose

The primary purpose of this document is to support local educators' use of reports of results from the spring 2000 administration of the Massachusetts Comprehensive Assessment System (MCAS). This document describes and explains how to interpret information provided in the following MCAS reports:

- *MCAS Tests of Spring 2000: Test Item Analysis Report*<sup>1</sup>
- *MCAS Tests of Spring 2000: School Report*
- *MCAS Tests of Spring 2000: District Report*

These reports contain information that will be valuable to schools and districts in their efforts to better serve the academic needs of individual students and to evaluate and improve curriculum and instruction. In addition, this document can help school and district personnel communicate with their communities about the MCAS test results.

<sup>1</sup> The MCAS *Test Item Analysis Report* contains confidential test results for individual students. Therefore, the *Test Item Analysis Report* is a nonpublic document subject to access restrictions dictated by state and federal law. See page 3 for additional details.

## *II. General Guidelines for the Interpretation and Use of MCAS Reports*

### **ALIGNMENT OF CURRICULUM AND INSTRUCTION**

Test results contained in the 2000 reports should be interpreted with respect to alignment of curriculum and instruction to the standards defined in the Massachusetts *Curriculum Frameworks*. School- and district-level results will help teachers and administrators evaluate how well their curriculum and instruction are aligned with the *Frameworks*. As students and teachers have more experience with the standards in the classroom, test results should show student progress.

### **USE OF MCAS STUDENT-LEVEL RESULTS**

MCAS results are intended to evaluate how well students and schools are achieving the learning standards contained in the *Curriculum Frameworks*. Individual student results and school-level results will help teachers and parents focus on areas in which students need assistance in order to improve performance.

### **MULTIPLE DATA POINTS NEEDED FOR TREND ANALYSIS**

Results from the 2000 MCAS tests should be evaluated in conjunction with test results from 1998 and 1999. As with any evaluation, school and district test results are most meaningful when compared with other indicators and when examined over *several* years for long-term trends in student performance.

### **STATE REGULATIONS REGARDING CONFIDENTIALITY OF STUDENT RECORDS**

The Massachusetts Student Record Regulations (603 CMR 23.00) and the Family Educational Rights and Privacy Act (FERPA) require that access to individual student results, including those provided in the *MCAS Test Item Analysis Report* and the *MCAS Parent/Guardian Report*, be restricted to the student, the student's parents/guardians, and authorized school personnel. Superintendents and principals are responsible for maintaining the privacy and security of all student records. In accordance with these state and federal regulations, authorized school personnel shall have access to the student records of students to whom they are providing services, only when such access is required in the performance of their official duties.

### **MAKING COMPARISONS AMONG STUDENTS, SCHOOLS, AND DISTRICTS**

Scaled scores are the most appropriate statistic to use when making comparisons of MCAS results among students, schools, and districts. When interpreting the meaning of these comparisons, however, it is important that decision makers—teachers, administrators, and policy makers—recognize that some apparent differences in scaled scores may not be statistically or educationally significant. Some guidelines for comparing results are explained on the next page.

### *Comparisons of Student-Level Scores*

When comparing the scores within a subject area and grade level test of two or more students, or comparing the scores within a subject area and grade level test of a student to that of the school, district, or state, it is critical to examine the probable range of the student's scores displayed in the *MCAS Parent/Guardian Report*. If there is an overlap in the probable ranges of the scores being compared, there is little statistically or educationally significant difference between the two scores. This is true even if the two scores fall on the opposite sides of a performance level threshold.

### *Comparisons of School- and District-Level Scores*

The statistical significance of these comparisons is based on the number of students tested. Whether making comparisons within a single year or across years, the table below will assist in comparing the scores of two or more schools or districts, the scores of a school to the district and/or state, or the scores of a district to the state. The table shows the smallest differences in scores that represent a statistically significant difference in performance, based on the number of students tested in the school and/or district.

It is not appropriate or possible to compare a school's or district's scaled scores across two subject areas, because the scaled scores in each subject area were determined by separate standard-setting processes.

TABLE 1. NUMBER OF SCALED SCORE POINTS DENOTING MINIMALLY STATISTICALLY SIGNIFICANT DIFFERENCES FOR SCHOOL/DISTRICT RESULTS

Grade	Subject	<i>Number of Students Tested in School/District</i>				
		10	25	50	100	200
4	English Language Arts	3	2	2	1	1
	Mathematics	6	4	2	2	1
	Science & Technology	5	3	2	1	1
8	English Language Arts	5	3	2	1	1
	Mathematics	7	4	3	2	2
	Science & Technology	6	4	3	2	1
10	History and Social Science	5	3	2	1	1
	English Language Arts	4	3	2	1	1
	Mathematics	7	4	3	2	1
	Science & Technology	5	3	2	2	1



# III. Understanding the Test Item Analysis Report

## OVERVIEW

The *Test Item Analysis Report* provides results from the MCAS tests of spring 2000 for students tested in grades 4, 8, and 10. This MCAS report shows how each student tested in a school

- answered every common multiple-choice question
- performed on each common open-response and short-answer question
- performed on the English Language Arts Composition (writing prompt)

The report also summarizes overall performance at the school, district, and state levels for each of these items. Each school receives a separate *Test Item Analysis Report* for each subject area and grade tested in the school. Reports for English Language Arts differ slightly in structure from those for Mathematics, Science & Technology, and History and Social Science.

This detailed information at the student, school, and district levels can be used for

- identifying strengths and weaknesses exhibited by students
- curriculum evaluation and planning in the classroom, school, and district
- summary reporting to parents and the public. (See caution regarding confidentiality of student records below.)

As noted above, the *Test Item Analysis Report* shows results for MCAS common items, the basis for all student-level MCAS scores. The report is designed to be used in conjunction with the publication, *The Massachusetts Comprehensive Assessment System: Release of Spring 2000 Test Items*, which shows all the questions upon which the *Test Item Analysis Report* is based. When the report and the publication are used together, educators are provided with a detailed picture of student performance. This picture should be used in combination with other information from the classroom to develop a broad-based overview of students' academic achievement.

**CAUTION: Confidentiality of Student Records.** The Massachusetts Student Record Regulations (603 CMR 23.00) and the federal Family Educational Rights and Privacy Act (FERPA) require that access to individual student results, including those provided in the *MCAS Test Item Analysis Report*, be restricted to the student, his/her parents/guardians, and authorized school personnel. Because the *Test Item Analysis Report* provides individual student level results for all students tested in a particular school, schools must not provide parents/guardians with direct access to the school's report. To facilitate the sharing of individual student results contained in the *Test Item Analysis Report* with parents/guardians, a *Test Item Analysis: Student Report* is provided for each student. Each *Test Item Analysis: Student Report* contains all of their student-level results included on the *Test Item Analysis Report*.

Superintendents and principals are responsible for maintaining the privacy and security of all student records. In accordance with these state and federal regulations, authorized school personnel shall have access to the student records of students to whom they are providing services, **only** when such access is required in the performance of their official duties.





## 2. Item Information

Item Number	1	1	1	1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Item Type	WP	WP	WP	WP	WP	WP	MC	MC	MC	MC	MC	MC	MC	MC	OR	MC	MC	MC	MC	MC	MC	MC	MC	OR	MC	MC	MC	MC	MC	MC	MC	OR	MC	MC	MC	MC
Correct MC Answer							G	B	B	D	C	A	D	B		A	B	C	A	D	B	D	C		A	C	D	B	A	B	C	A		C	D	A
Reporting Category	CT	CC	SC	SC	SC	SC	LT	LT	LA	LT	LA	LA	LT	LT	LT	LT	LA	LT	LA	LT	LA	LT	LT	LT	LA	LT	LA	LT	LT	LA	LT	LT	LA	LT	LT	LA
	7	6	TJ	MS	DJ		+	A	D	+	B	+	+	+	Z	+	A	B	+	C	+	C	+	Z	+	+	+	D	C	+	+	+	I	A	A	D

The graphic above (Section 2) shows columns that contain four types of information—item number, item type, correct multiple-choice answer, and reporting category—for each MCAS English Language Arts common item.

Item Number corresponds to the number of the question as it appears in the *Release of Spring 2000 Test Items* publication. Note that item number 1 on all 2000 *Test Items Analysis Reports* (grade 4, grade 8, and grade 10) is repeated across six columns. These columns show the scores and comments for the Composition: a numeric score for topic development (CT); a numeric score for writing conventions (CC); and up to four scorer comments about the student's writing performance (SC). See below (Body of the Report) for further explanation about the data in these columns and their interpretation.

Item Type indicates whether the item was a multiple-choice (MC) or open-response (OR) question, or a writing prompt (WP).

Correct MC Answer provides the letter option (A, B, C, D) for the correct answer for multiple-choice questions.

Reporting Category indicates the sub-area in English Language Arts in which each question is reported in the *School and District Reports*. Reporting category codes are explained in the Legend (details on this section are provided on page 12 of this document) on the *Test Item Analysis Report* summaries. (A complete list of all MCAS reporting categories is provided in Appendix B of this document.) Columns containing scorer comments are indicated under the reporting category code SC.

## 3. Body of the Report

Names	Reporting Category	CT	CC	SC	SC	SC	SC	LT	LT	LA	LT	LA	LA	LT	LT	LT	LT	LT	LA	LT	LA	LT	LT	LA	LT	LT	LA	LT	LT	LA	LT	LT	LA			
1. STUDENT 1		7	6	TJ	MS	DJ		+	A	D	+	B	+	+	+	Z	+	A	B	+	C	+	C	+	+	+	+	+	+	+	+	+	+	+	+	
2. STUDENT 2		8	6	OY	GQ			D	+	+	+	+	B	+	A	2	+	+	+	+	+	+	+	D	C	B	1	+	+	+	+	+	+	+	+	
3. STUDENT 3		9	7	OY	GP	SP		+	A	+	A	+	+	+	+	1	+	A	+	C	+	+	+	C	+	+	+	+	+	+	+	+	+	+	+	
4. STUDENT 4																																				
5. STUDENT 5																																				
6. STUDENT 6		7	6	TY	OY	HR	MS	D	+	+	A	+	+	+	A	2	+	+	+	+	+	+	+	A	D	+	B	Z	+	A	+	+	+	+		

### Individual Student Results

Section 3 lists all students in the tested grade alphabetically by last name. This section contains a row for each student enrolled in the school on the first day of testing. For students who are not included in the computation of aggregate school- and district-level results (see page 21 of this document), individual item results are provided, but no scaled score or performance level is reported. Where the performance level would be reported, there will be a two- or three-letter code used to identify the reason why this student was not included in the aggregate results. These codes appear in the Legend on the *Test Item Analysis Report* summaries. A small number of students may receive a code of

“INC” signifying that there was incomplete data (e.g., the student’s answer booklet and composition could not be matched, or the student responded in more than one answer booklet), and, therefore, no results could be calculated.

For multiple-choice questions,

- a + sign in any MC column indicates that the student answered the question correctly;
- a letter indicates the incorrect option (A, B, C or D) that was selected;
- a blank indicates that the student did not answer the question.

Open-response questions were scored on a 0 through 4 scale; the student’s scores for open-response questions are shown in the OR columns.

Writing scores and scorer comments for students’ compositions are indicated by numbers or codes in the six writing prompt (WP) columns (section 1). Each student’s composition was scored independently by two trained scorers. Each scorer gave the composition two separate scores:

- a score from 1-6 in topic development (CT), e.g., writing development, organization, use of detail, variety in sentence structure and language; and
- a score from 1–4 for the student’s use of standard English writing conventions (CC), e.g., grammar, punctuation, mechanics of writing.

The student’s score as shown in each of these two columns (CT and CC) represents the total of the points awarded in each area by both scorers. Any student who wrote a totally illegible composition, wrote an off-topic response, or who wrote in a language other than English was given a notation of NS (not scorable), which is shown as NS in this report. Zero points were awarded in such cases.

Each scorer was required to note two comments about the student’s writing: one in the area of topic development and one in the area of conventions. If both scorers selected the same comment, it is listed only once on the report.

These scorer comment codes are shown in the SC columns and defined on page 7 of this document.

### *Summary Scores*

The final three columns of each row contain summary information about the student’s performance. The student’s Total Score is shown in the column following the final item, reported in terms of “raw” score points attained in English Language Arts. The student’s Total Score was calculated by adding one point for each correct multiple-choice (MC) question to the student’s scores for each open-response (OR) question and the Composition (CT and CC).


The Total Possible Points shown in the column following the final item indicates the total possible “raw” score points attainable on the MCAS English Language Arts test.

The student’s scaled score is shown in the next column to the right, reported on a scale ranging from 200 to 280. This scaled score translates to one of the four MCAS performance levels, which is indicated in the final column.



RESULTS AGGREGATED AT THE SCHOOL, DISTRICT, AND STATE LEVELS

The English Language Arts *Test Item Analysis Report* summaries (sample below) show the performance of students on common test items aggregated at school, district, and state levels, as appropriate.



**Massachusetts Department of Education**  
**MCAS TESTS OF SPRING 2000**  
**School Test Item Analysis Report Summary**  
**English Language Arts**

**GRADE:**

**SCHOOL/ID #: SAMPLE SCHOOL/  
DISTRICT/ID #: SAMPLE DISTRICT/**

Number of Students Included: 300

PERCENTAGE OF CORRECT RESPONSES (MC) AVERAGE SCORE (OR and WP)						PERCENTAGE OF SCHOOL'S TOTAL STUDENT RESPONSES (for each MC answer or OR score point)						Correct MC Answer
Item Number	Item Type	Reporting Category	School	District	State	Blank /0	A/1	B/2	C/3	D/4		
1	WP	CT	7.29	7.29	7.18	NA	NA	NA	NA	NA		
1	WP	CC	6.04	6.04	5.97	NA	NA	NA	NA	NA		
2	MC	LT	0.50	0.50	0.53	0	25	18	50	7	C	
3	MC	LT	0.68	0.68	0.71	1	6	68	10	15	B	
4	MC	LA	0.59	0.59	0.61	1	8	59	15	18	B	
5	MC	LT	0.73	0.73	0.78	0	18	1	7	73	D	
6	MC	LA	0.63	0.63	0.71	0	3	23	68	6	C	
7	MC	LA	0.72	0.72	0.67	0	72	13	10	5	A	
8	MC	LT	0.33	0.33	0.47	0	26	12	24	38		
9	MC	LT	0.51	0.51	0.59	0	41	51	4			
10	OR	LT	1.69	1.69	1.75	7	22	65	6	0		
11	MC	LT	0.81	0.81	0.77	1	84	9			A	
12	MC	LT	0.56	0.56	0.56	0	35		4		B	
13	MC	LT	0.60	0.60	0.57	1		2			C	
14	MC	LT	0.74	0.74	0.69	1	7		18	3	A	
15	MC	LA	0.53	0.53	0.54	1	6	5	11	5	D	
16	MC	LT	0.50	0.50	0.56	1		50		33		
17	MC	LA	0.31	0.31	0.35	0	16			1	D	
18	MC	LT	0.55	0.55	0.50	1	7	26	55	15	C	
19	OR	LT	1.89	1.89	1.83	5	2	54	20	0		
20	MC	LT	0.87	0.88	0.87	88			5	1	A	
21	MC	LA	0.67	0.67	0.67	1		21	67	1	C	
22	MC	LT	0.54	0.54	0.55	0	10	17	19	54	D	
23	MC	LT	0.56	0.56	0.50	0	9	56	16	19	B	
24	MC	LT	0.44	0.44	0.53	1	44	7	31	15	A	
25	MC	LT	0.81	0.81	0.81	0	4	86	7	3	B	
26	MC	LA	0.64	0.64	0.65	0	22	8	64	6	C	
27	MC	LT	0.57	0.57	0.72	0	67	2	11	20	A	
28	OR	LT	1.52	1.52	1.59	20	24	43	11	2		
29	MC	LT	0.38	0.38	0.39	1	27	35	32	5	C	
30	MC	LT	0.76	0.76	0.70	1	9	10	4	76	D	
31	MC	LT	0.53	0.53	0.53	1	53	12	8	26	A	
32	MC	LA	0.65	0.65	0.63	1	3	68	13	15	B	
33	MC	LT	0.69	0.69	0.59	1	18	15	8	60	D	
34	MC	LT	0.62	0.62	0.56	1	5	7	62	26	C	
35	MC	LT	0.61	0.61	0.56	2	7	10	21	61	D	
36	MC	LT	0.72	0.72	0.77	1	78	5	6	10	A	
37	OR	LT	1.74	1.74	1.64	10	24	52	13	1		
38	MC	LT	0.75	0.75	0.65	1	4	18	1	75	D	
39	MC	LT	0.82	0.82	0.73	1	4	82	8	6	B	
40	MC	LT	0.57	0.57	0.63	1	15	13	57	14	C	
41	MC	LA	0.65	0.65	0.70	1	1	65	14	18	B	

**LEGEND**

Item Numbers can be directly cross-referenced to item numbers in the MCAS document, *Release of Spring 2000 Test Items*.

**ITEM TYPE**  
MC = Multiple-choice item  
OR = Open-response item  
WP = Writing prompt

**REPORTING CATEGORY**  
LA = Language  
LT = Literature  
CT = Composition, Topic/Idea Development Score  
CC = Composition, Conventions Score  
SC = Scorer Comments (Scorer comments are provided here although they are not a reporting category.)

**PERFORMANCE LEVEL CODES**  
A = Advanced  
B = Proficient  
C = Needs Improvement  
D = Failing  
NA = Incomplete data  
MRD = medically-documented absence  
ALT = alternate assessment  
LEP = Limited English Proficient and in school in the U.S. three years or less

**KEY TO SCORE CODES**  
*Multiple-choice items:*  
+ = correct answer (1 point earned)  
A, B, C, or D = incorrect answer choice (0 points earned)  
blank space = no answer chosen (0 points earned)  
*Open-response questions:*  
0, 1, 2, 3, or 4 = number of points earned by response  
blank space = no answer provided (0 points earned)  
*Writing Prompts:*  
**Topic/Idea Development (CT):**  
2 through 12 = number of points earned for topic/idea development  
NS = non-scorable composition (0 points earned)  
blank space = no composition written (0 points earned)  
**Conventions (CC):**  
2 through 8 = number of points earned for conventions  
NS = non-scorable composition (0 points earned)  
blank space = no composition written (0 points earned)

**Scaled Score Codes:**  
200-280 = scaled scores  
blank space = student not included in summary

Process No.: 189900-000000-000-10050-0

1.
2.
3.

## 1. Percentage of Correct Responses (MC)/Average Score (OR and WP)

PERCENTAGE OF CORRECT RESPONSES (MC) AVERAGE SCORE (OR and WP)					
Item Number	Item Type	Reporting Category	School	District	State
1	WP	CT	7.29	7.29	7.29
1	WP	CC	6.04	6.04	6.04
2	MC	LT	0.50	0.50	0.50
3	MC	LT	0.68	0.68	0.68
4	MC	LA	0.59	0.59	0.59

This section shows aggregated data for the school, district, and state, as appropriate. Items are listed by item number, type, and reporting category, as explained earlier in this chapter. The table shows, for the school, district, and state, the percentage of correct responses for each multiple-choice question and the average score for each open-response question and writing prompt. These statistics will help educators compare the performance of students in the school to students in the district and across Massachusetts, and identify strengths and weaknesses in local curriculum and instruction.

## 2. Percentage of School's Total Student Responses

Item Number	PERCENTAGE OF SCHOOL'S TOTAL STUDENT RESPONSES (for each MC answer or OR score point)						Correct MC Answer	Item Reference
	Blank/0	A/1	B/2	C/3	D/4			
18	NA	NA	NA	NA	NA			MC
17	NA	NA	NA	NA	NA			OR
13	0	25	18	50	7	C		WP
11	1	6	68	10	15	B		RE
11	1	8	59	15	18	B		LA
						D		LT
								CT

This section shows two kinds of aggregated data:

- For each multiple-choice question, this section shows the percentage of students in the school who chose each answer option (blank, A, B, C, or D). The correct answer is provided in the far right column. This information will be most useful to educators in analyzing students' mistakes and possible misconceptions held by students in the school.
- For open-response questions, the section shows the percentage of students in the school at each score point (blank/0, 1, 2, 3, or 4).

### 3. Legend

This section is provided as a quick reference for anyone reviewing the *Test Item Analysis Report: English Language Arts*. It explains and gives additional information on how to interpret codes that appear throughout the report pages.

The information on Item Numbers and Item Type applies to both *Test Item Analysis Report* and summaries.

Reporting Category information given here refers to the two- and three-letter codes that appear in columns (above the horizontal line) within the first section of the *Test Item Analysis Report: English Language Arts*. (A complete list of MCAS reporting categories is provided in Appendix B of this document.)

The information given in the Key to Score Codes section explains the symbols, letters, and numbers (also in the first section of the *Test Item Analysis Report: English Language Arts*) which appear in the columns across from each student's name.

**LEGEND**

Item Numbers can be directly cross-referenced to item numbers in the MCAS document, *Release of Spring 2000 Test Items*.

**ITEM TYPE**  
MC = Multiple-choice item  
OR = Open-response item  
WP = Writing prompt

**REPORTING CATEGORY**  
LA = Language  
LT = Literature  
CT = Composition, Topic/Idea Development Score  
CC = Composition, Conventions Score  
SC = Scorer Comments (Scorer comments are provided here although they are not a reporting category.)

**PERFORMANCE LEVEL CODES**  
A = Advanced  
P = Proficient  
NI = Needs Improvement  
F = Failing  
INC = Incomplete data  
MED = medically-documented absence  
ALT = alternate assessment  
LEP = Limited English Proficient and in school in the U.S. three years or less

**KEY TO SCORE CODES**

*Multiple-choice items:*  
+ = correct answer (1 point earned)  
A, B, C, or D = incorrect answer choice (0 points earned)  
blank space = no answer chosen (0 points earned)

*Open-response questions:*  
0, 1, 2, 3, or 4 = number of points earned by response  
blank space = no answer provided (0 points earned)

*Writing Prompts:*

**Topic/Idea Development (CT):**  
2 through 12 = number of points earned for topic/idea development  
NS = non-scorable composition (0 points earned)  
blank space = no composition written (0 points earned)

**Conventions (CC):**  
2 through 8 = number of points earned for conventions  
NS = non-scorable composition (0 points earned)  
blank space = no composition written (0 points earned)

**Scaled Score Codes:**  
200-280 = scaled scores  
blank space = student not included in summary


Process No.: 1899900-000000-0000-10050-0





# INDIVIDUAL STUDENT RESULTS

Individual student results for all common Mathematics, Science & Technology, and History and Social Science test items are provided in the first section of the *Test Item Analysis Report*. The number of pages included in this section will depend upon the total number of students at the tested grade.

 Massachusetts Department of Education <b>MCAS TESTS OF SPRING 2000</b> Test Item Analysis Report Mathematics		SCHOOL: FICTITIOUS SCHOOL SCHOOL ID #: DISTRICT: FICTITIOUS DISTRICT GRADE: PAGE: 1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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## 2. Body of the Report

Names	Reporting Category	SP	NS	NS	PR	PR	NS	GM	SP	NS	PR	PR	PR	PR	PR	SP	PR	NS	GM	T	
1. STUDENT 1		A	+	A	+	A	1	1	4	1	1	1	4	A	A	+	A	+	A	+	A
2. STUDENT 2		+	D	D	D	D	0	1	2	0	1	1	3	D	+	D	+	D	D	D	+
3. STUDENT 3		+	D	+	+	D	1	1	3	1	1	1	2	D	+	D	B	C	D	+	C
4. STUDENT 4		B	C	C	D	B	1	1	2	0	1	0	2	D	+	D	B	+	B	D	D
5. STUDENT 5		A	B	C	D	+	0	1	3	0	1	0	2	+	+	C	B	A	B	C	

### Individual Student Results

The body of the report lists all students in the tested grade alphabetically by last name. This section contains a row for each student enrolled in the school on the first day of testing. For students who are not included in the computation of aggregate school- and district-level results (see page 21 of this document), individual item results are provided, but no scaled score or performance level is reported. Where the scaled score would be reported, there is a two- or three-letter code used to identify the reason why this student was not included in the aggregate results. These codes appear in the Legend. A small number of students may receive a code of “INC” signifying that there was incomplete data (e.g., the student responded in more than one answer booklet).

For multiple-choice questions,

- a + sign in any MC column indicates that the student answered the question correctly;
- a letter indicates that an incorrect option (A, B, C or D) was selected;
- a blank indicates that the student did not answer the question.

Open-response questions were scored on a 0 through 4 scale; the student’s scores for open-response questions are shown in the OR columns.

Short-answer questions were used in Mathematics only and were scored on a 0 through 1 scale; the student’s scores for short-answer questions are shown in the SA columns only on the *Mathematics Test Item Analysis Report*.

### Summary Scores

The final three columns of each row contain summary information about the student’s performance. The student’s Total Score is shown in the column following the final item, reported in terms of “raw” score points attained in Mathematics, Science & Technology, or History and Social Science. The student’s Total Score was calculated by adding one point for each correct multiple-choice (MC) question to the student’s total scores for each open-response (OR) question and, in Mathematics, each short-answer (SA) question.

The Total Possible Points shown in the column following the final item indicated the total possible “raw” score points attainable on each subject area test.

The student’s scaled score is shown in the next column to the right, reported on a scale ranging from 200 to 280. This scaled score translates to one of the performance levels indicated in the final column. *Note:* In 2000, no scaled score or performance level is reported on the Grade 10 History and Social Science test.

# RESULTS AGGREGATED AT THE SCHOOL, DISTRICT, AND STATE LEVELS

The *Test Item Analysis Report* summaries (sample of Mathematics version shown below) show the performance of students on common test items aggregated by school, district, and state, as appropriate. In 2000, Grade 10 History and Social Science results are reported only at the student level. No aggregate school, district, and state results are reported.

PERCENTAGE OF CORRECT RESPONSES (MC) AVERAGE SCORE (SA AND OR)			PERCENTAGE OF SCHOOL'S TOTAL STUDENT RESPONSES (for each MC answer or SA/OR score point)					LEGEND			
Item Number	Item Type	Reporting Category	School	District	State	Blank /0	A/1	B/2	C/3	D/4	Correct MC Answer
1	MC	NS	0.50	0.50	0.53	0	25	18	50	7	D
2	MC	NS	0.68	0.68	0.71	1	4	68	10	15	C
3	MC	NS	0.59	0.59	0.61	1	8	59	15	18	A
4	MC	GM	0.73	0.73	0.78	0	18	1	7	73	A
5	MC	NS	0.69	0.69	0.71	0	3	25	48	6	B
6	SA	PR	0.72	0.72	0.87	0	72	13	10	5	A
7	SA	GM	0.38	0.38	0.47	0	26	12	24		
8	OR	NS	0.51	0.51	0.59	0	41	51			
9	SA	NS	1.69	1.69	1.75	7	22	65	6		
10	SA	PR	0.84	0.84	0.77	1	84			2	
11	SA	NS	0.56	0.56	0.56	0				6	
12	OR	PR	0.60	0.60	0.57				40	3	
13	MC	PR	0.74	0.74	0.69	1	4	18	3		
14	MC	GM	0.58	0.58	0.56	0	23	5			
15	MC	SP	0.50	0.50	0.50	0	6	50	1	3	C
16	MC	PR	0.33	0.33	0.34	0	16	4	49	31	B
17	MC	NS	0.56	0.56	0.58	1	15	55	15		A
18	MC	SP	1.89	1.89	1.89	0	21	20			B
19	MC	NS	0.88	0.88	0.87	0	4	5	1		A
20	MC	SP	0.67	0.67	0.67	1	11	21	67	1	B
21	MC	PR	0.54	0.54	0.56	0	10	17	19	54	D
22	MC	GM	0.56	0.56	0.50	0	9	56	16	19	D
23	OR	PR	0.48	0.48	0.66	1	48	7	31	15	
24	MC	GM	0.53	0.53	0.81	0	4	86	7	3	D
25	MC	SP	0.64	0.64	0.65	0	22	8	64	6	B
26	MC	PR	0.67	0.67	0.72	0	67	2	11	20	C
27	MC	GM	1.52	1.52	1.59	20	24	43	11	2	C
28	MC	SP	0.32	0.32	0.39	1	27	35	32	5	A
29	MC	PR	0.76	0.76	0.70	1	9	10	4	74	D
30	MC	NS	0.63	0.63	0.53	1	33	12	8	26	C
31	MC	GM	0.66	0.66	0.53	1	3	68	13	15	B
32	MC	GM	0.60	0.60	0.59	1	18	13	8	60	D
33	MC	GM	0.62	0.62	0.56	1	5	7	62	26	A
34	MC	SP	0.61	0.61	0.56	2	7	10	21	61	A
35	MC	PR	0.74	0.74	0.77	1	78	5	6	10	A
36	MC	NS	1.74	1.74	1.64	10	24	52	13	1	D
37	MC	SP	0.75	0.75	0.65	1	4	18	1	75	C
38	OR	GM	0.82	0.82	0.73	1	4	82	8	6	
39	OR	SP	0.57	0.57	0.63	1	15	13	57	14	

1.

2.

3.

**1. Percentage of Correct Responses (MC)/Average Score (SA and OR in Mathematics; OR in Science & Technology, History and Social Science)**

PERCENTAGE OF CORRECT RESPONSES (MC) AVERAGE SCORE (SA and OR)					
Item Number	Item Type	Reporting Category	School	District	State
1	MC	NS	0.50	0.50	0.
2	MC	NS	0.68	0.68	0.
3	MC	NS	0.59	0.59	0.6
4	MC	GM	0.73	0.73	0.
5	MC	NS		0.69	0.

This section shows aggregated data for the school, district, and state, as appropriate. Items are listed by number, type, and reporting category, as explained earlier in this chapter. This section shows, for the school, district, and state, as appropriate, the percentage of correct responses for each multiple-choice question and the average score for each open-response question and, for Mathematics, each short-answer question. These statistics allow educators to compare the performance of students in the school to students in the district and across Massachusetts, and identify strengths and weaknesses in curriculum and instruction.

**2. Percentage of School's Total Student Responses**

PERCENTAGE OF SCHOOL'S TOTAL STUDENT RESPONSES (for each MC answer or SA/OR score point)						
Blank /0	A/1	B/2	C/3	D/4	Correct MC Answer	Item Reference
0	25	18	50	7	D	M 7
1	6	68	10	15	C	S 1
1	8	59	15	18	A	O 1
0	18	1	7	73	A	R 1
0	3	23	68	6	B	N 1

This section shows two kinds of aggregated data:

- For each multiple-choice question, this section shows the percentage of students in the school who chose each answer option (blank, A, B, C, or D); the correct answer is provided in the far right column. This information allows educators to analyze students' mistakes to identify possible misconceptions held by students in the school.
- For open-response and short-answer (in Mathematics only) questions, the section shows the percentage of students in the school at each score point (blank/0, 1, 2, 3, or 4 for open-response questions; blank/0 or 1 for short-answer questions).



### 3. Legend

This section explains how to interpret codes that appear throughout the *Test Item Analysis Report* pages.

The information on Item Numbers and Item Type applies to the *Test Item Analysis Report* and summaries.

Reporting Category information given here refers to the two-letter codes that appear in columns (above the horizontal line) within the *Test Item Analysis Report*. (A complete list of MCAS reporting categories is provided in Appendix B of this document.)

The information given in the Key to Score Codes section explains the symbols, letters, and numbers used to report student's performance.

**LEGEND**

Item Numbers can be directly cross-referenced to item numbers in the MCAS document, *Release of Spring 2000 Test Items*.

**ITEM TYPE**  
MC = Multiple-choice item  
SA = Short-answer item  
OR = Open-response item

**REPORTING CATEGORY**  
NS = Number Sense  
PR = Patterns, Relations, and Functions  
GM = Geometry and Measurement  
SP = Statistics and Probability

**PERFORMANCE LEVEL CODES**  
A = Advanced  
P = Proficient  
NI = Needs Improvement  
F = Failing  
INC = Incomplete data  
MED = medically-documented absence  
ALT = alternate assessment  
LEP = Limited English Proficient and in school in the U.S. three years or less

**KEY TO SCORE CODES**

*Multiple-choice items:*  
+ = correct answer (1 point earned)  
A, B, C, or D = incorrect answer choice (0 points earned)  
blank space = no answer chosen (0 points earned)

*Short-answer items:*  
0 or 1 = number of points earned by response  
blank space = no answer provided (0 points earned)

*Open-response questions:*  
0, 1, 2, 3, or 4 = number of points earned by response  
blank space = no answer provided (0 points earned)

**Scaled Score Codes:**  
200-280 = scaled scores  
blank space = student not included in summary

## IV. Understanding the School and District Reports

### OVERVIEW

The *School Report* and the *District Report* each provide MCAS results for schools/districts based on the testing of local students in grades 4, 8, or 10. A separate *School Report* and *District Report* has been produced for each grade level—4, 8, or 10—tested in spring 2000.

Text in this chapter refers only to the *MCAS School Report*. The data which are reported, the report format, and guidelines for interpreting the reported data are identical for the *School Report* and the *District Report*. The only difference between the *School Report* and the *District Report* is that the *District Report* includes no individual school data. Educators and others who are reviewing the *District Report* should refer to this chapter for applicable information.

### IDENTIFICATION

SCHOOL:	FICTITIOUS SCHOOL
SCHOOL ID #:	
DISTRICT:	FICTITIOUS DISTRICT
GRADE:	
	PAGE: 1

The box in the upper right corner of each page shows the school name, its six-digit identification number, the district name, and the grade level for which the report has been generated.

### BASIS FOR RESULTS

With the exception of subject area subscores, all results in the *MCAS School Report* are based solely on common items (the set of items answered by all students), and represent the aggregate of individual student scores (performance level results and scaled scores). See page 26 of this chapter for information on interpreting subject area subscores.

### MINIMUM NUMBER OF STUDENTS NEEDED TO GENERATE REPORTS

In order to ensure confidentiality of individual student results and discourage generalizations about school performance based on very small populations, the Department of Education has established minimum numbers of students tested for reporting results for

- overall school averages
- school averages disaggregated by student status
- subject area subscores

Consequently, schools with a very small number of students enrolled in a grade tested may not show results in some sections of their *School Report*. No *School Report* is generated for any school that tested fewer than ten students at a particular grade; results for students in these schools are included in district- and state-level results. The minimum number of tested students required for each reporting section is presented in the table below.

TABLE 2. MINIMUM NUMBER OF STUDENTS TESTED (AT EACH GRADE)  
TO GENERATE SCHOOL RESULTS

<i>Reporting Section</i>	<i>Minimum Number of Students</i>
Percentages of Students by Performance Level and Scaled Scores	10
Performance Level and Scaled Score Results Disaggregated by Student Status	10
Subject Area Subscores	12

All forms of a subject area test must have been administered in a school for accurate computation of subject area subscores. If all forms of the test were not administered in a school, subject area subscores were not produced for that school.

## ORGANIZATION OF SCHOOL REPORT

Each *School Report* includes the following categories of results from the spring 2000 MCAS tests:

- A. Students Tested
- B. Performance Level Results
- C. Distribution of Results by Scaled Score Interval
- D. Results by Student Status
- E. Subject Area Subscores
- F. Three-Year Comparison of School Results



## A. STUDENTS TESTED

(Report pages 3–5 for grades 4 & 10; pages 3–6 for grade 8)

The pages titled **Students Tested** show, for the school, district, and state, the number and percentage of students in each of three student status groups included/not included in scores in the spring 2000 MCAS tests.

Data for students included/not included in scores at the school level are reported according to the following student status groups (these definitions are also found on page 2 of the *Report*):

- **Regular:** Students who did not meet the definitions below for Students with Disabilities or Limited English Proficient (LEP) students as of spring 2000.
- **Students with Disabilities:** Students who had an Individualized Education Plan (IEP) or were provided with a plan of instructional accommodations under Section 504 of the Rehabilitation Act of 1973 as of spring 2000.
- **Limited English Proficient:** Students whose first language was a language other than English who were unable to perform ordinary classroom work in English, as of spring 2000. LEP students may have received instruction in a range of programs and settings that include
  - Transitional Bilingual Education (TBE) programs
  - two-way bilingual programs
  - English as a Second Language (ESL) programs
  - “sheltered” English language program
  - other language support or tutoring

The table below is an example of those included on pages 3 through 6 of the *School* and *District Reports*.

TABLE 3: SAMPLE TABLE SHOWING STUDENTS INCLUDED IN SCORES AND NOT INCLUDED IN SCORES

STATE									
STUDENT STATUS	NUMBER OF STUDENTS ENROLLED	INCLUDED IN SCORES				NOT INCLUDED IN SCORES			
		Tested		Absent		Medically Documented		Other Not Tested	
		#	%	#	%	#	%	#	%
REGULAR	51531	49563	96	560	1	267	0	1141	2
STUDENTS WITH DISABILITIES	10071	8842	88	193	2	138	1	898	9
LIMITED ENGLISH PROFICIENT	2130	629	30	18	1	3	0	1480	69
<b>TOTAL</b>	<b>63732</b>	<b>59034</b>	<b>93</b>	<b>771</b>	<b>1</b>	<b>368</b>	<b>1</b>	<b>3519</b>	<b>6</b>

### ***Number of Students Enrolled***

Column 2 of each table shows the number of students Enrolled in the tested grade on the first day of testing. The total number of students Enrolled is comprised of the number of students Tested or Absent plus the number of students that were Medically Documented Absent and Other Not Tested. The number of students reported as enrolled may differ across subject areas because of changes in student enrollment during the MCAS test administration period.

### ***Students Included in Scores***

Columns 3 through 6 of each table show the number and percentage of students who were included in the 2000 MCAS school results.

#### ***Tested Students***

The numbers and percentages of Regular students include students who do not meet the definition of Students with Disabilities or Limited English Proficient (LEP) students and who participated under standard conditions.

The numbers and percentages of Students with Disabilities include students who participated under standard conditions, as well as students who participated with approved accommodations in accordance with Department of Education guidelines.

The numbers and percentages of Limited English Proficient (LEP) students include LEP students who took the English version of MCAS (primarily, LEP students who had been enrolled in school in the United States for more than three years), as well as eligible LEP students who took the Spanish-language version of MCAS. The Spanish-language version of MCAS included tests in Mathematics, Science & Technology, and History and Science only; English Language Arts tests were not included. Therefore, limited English proficient students who took the Spanish-language version of MCAS are shown as Other Not Tested on the English Language Arts page (page 3) of the *School Report*.

#### ***Absent Students***

Columns 5 and 6 show the number and percentage of Absent students who were reported absent during the testing period in spring 2000 (indicated by designated school personnel on *Student Answer Booklets*).

***What is the impact of students who were Absent?*** Students from any student status group who were absent during the testing period, and whose absence was not medically documented, received a minimum score of 200, and by default, a performance level of *Failing*. Absent students are included in the determination of the scaled scores and performance level results for schools. This reporting decision was made to support the legal requirement that all students participate in the MCAS testing program.

Some students reported as Absent on the *Student Answer Booklet* participated in one or more portions of a subject area test. In some instances, schools inadvertently marked Absent on the booklets of these students. In other cases, these students may have been present for some, but not all, portions of the test. Given that these students would receive the minimum score of 200 by default, these students were designated as Tested and received their actual score (equal to or greater than 200) based on the portions of the subject area test in which they participated.

### *Students Not Included in Scores*

Columns 7–10 of each table on pages 3–6 show the number and percentage of students who did not participate in the spring 2000 MCAS tests, and were reported as either **Medically Documented Absent** or **Other Not Tested**.

#### *Medically Documented Absent Students*

Students who obtained a written statement from a licensed medical doctor, stating both the medical reason that prevented them from taking the test and the dates for which they were absent due to the medical condition.

*What is the impact of students who were Medically Documented Absent?* Medically Documented Absent students were not included in the determination of scaled score or performance level results.

#### *Other Not Tested*

Four categories of students are reported as **Other Not Tested**:

- (1) students with disabilities for whom the standard test was not appropriate even with accommodations and who participated in MCAS through an alternate assessment
- (2) limited English proficient (LEP) students who had been in school in the United States for three or fewer years and for whom the Spanish-language version of MCAS was not required in accordance with Department guidelines (designated as **Other Not Tested** for all subject area tests)
- (3) limited English proficient (LEP) students who had been in school in the United States for three or fewer years who participated in the Spanish-language version of MCAS and who, consequently, were designated as **Other Not Tested** for English Language Arts tests only since there is no Spanish version of the English Language Arts test. The Spanish-language version included tests for Mathematics, Science & Technology, and History and Social Science only; there was no English Language Arts section in the Spanish-language version of MCAS.
- (4) Additionally, there are a small number of cases where *Student Answer Booklets* or *Composition Booklets* could not be matched or students responded in more than one test booklet. For 2000 reports, these cases are also reported as **Other Not Tested**.

*What is the impact of students who were Other Not Tested?* Since students who were **Other Not Tested** could not participate in the standard version of MCAS, average school scores are not affected by **Other Not Tested** students. Unlike students reported as absent, these students were not assigned minimum scores and were not included in computation of school and district averages.

## B. PERFORMANCE LEVEL RESULTS

(REPORT PAGE 6 FOR GRADES 4 & 10; PAGE 7 FOR GRADE 8)

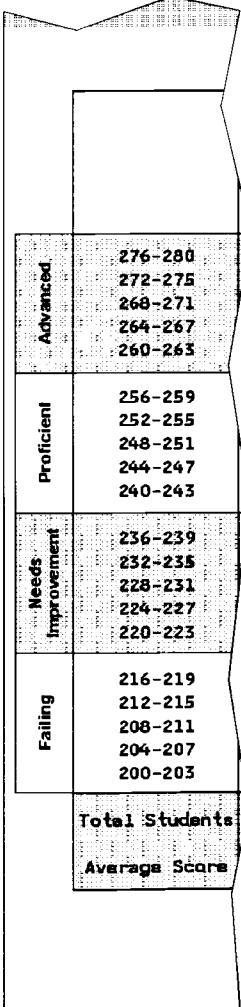
Performance level results indicate, for each of the subject areas tested, the percentage of students performing at each of the four MCAS performance levels: *Advanced*, *Proficient*, *Needs Improvement*, and *Failing*. These percentages are based on the results of all tested students, including regular education students; students with disabilities (who participated with or without accommodations); and limited English proficient students (who participated in either the English or the Spanish-language version of MCAS). These results also include **Absent** students who received the minimum score (200/Failing), but do not include **Medically Documented Absent** or **Other Not Tested** students (defined above), for whom results were not generated.

## C. DISTRIBUTION OF RESULTS BY SCALED SCORE INTERVAL

(REPORT PAGE 7 FOR GRADES 4 & 10; PAGE 8 FOR GRADE 8)

These results show the distribution of student performance across the four MCAS performance levels—*Advanced*, *Proficient*, *Needs Improvement*, and *Failing*—for each of the subject areas tested. The distribution within each performance level is also shown across five score intervals. The percentage and number of students (at the school, district, and state levels) performing at each of these intervals are displayed.

This table is designed to help schools see how students are clustered within each performance level and to measure movement within levels over time. It can also be used to illustrate how two or more schools with similar percentages of students at each performance level may have very different average scaled scores, resulting from different distributions of individual scores within performance levels.



Advanced	276-280
	272-275
	268-271
	264-267
	260-263
Proficient	256-259
	252-255
	248-251
	244-247
	240-243
Needs Improvement	236-239
	232-235
	228-231
	224-227
	220-223
Failing	216-219
	212-215
	208-211
	204-207
	200-203
Total Students	
Average Score	

## D. RESULTS BY STUDENT STATUS

(REPORT PAGES 8–10 FOR GRADES 4 & 10; PAGES 9–12 FOR GRADE 8)

The information on these report pages serves two primary purposes: to see how effectively school programs serve various student populations, and to promote fair comparisons between schools and between districts by allowing them to compare the performances of similar student groups.

Each page shows subject-specific results for the following student status groups:

- All students (Total)
- Regular education students (Regular)
- Students with Disabilities
- Limited English Proficient students

Within each of these student status sections, the performance level results are displayed (percentage of students performing at each level) for the school, district, and state. These tables also show the number and percentage of students at each performance level and the average scaled score for the school, district, and state, respectively.

## E. SUBJECT AREA SUBSCORES

(REPORT PAGES 11–12 FOR GRADES 4 & 10; PAGES 13–14 FOR GRADE 8)

The purpose of these report sections is to help schools determine the extent to which their curriculum and instruction are effective in helping students achieve the standards contained in particular strands and substrands of the *Curriculum Frameworks*.

Subject area subscores are the only reported MCAS scores based on both common and matrix-sampled items. Unlike common items, matrix-sampled items differ across test forms and are used to report performance on a broader range of specific curriculum goals than is possible by using common items only.

Subject area subscores provide specific information on performance in various subdomains (“Reporting Categories”) of the tested subject areas, for example, Geometry and Measurement is a subdomain of grade 4 Mathematics.<sup>2</sup> In some subject areas, many fewer categories are included on the reports in 1999 and 2000 than in 1998. In 1999 and 2000, results have been collapsed into broader subdomains to minimize misinterpretation of the small differences in performance in reporting categories that are based on small numbers of items. For a complete listing of the 2000 MCAS reporting categories, see Appendix B.

Information about each reporting category within each subject area tested includes

- the number of possible points for that category on the common items, the matrix items, and the total number of possible points.
- the average total number of points attained and the percentage of the total possible number of points attained at the school, district, and state levels.<sup>3</sup>

**CAUTION: Raw Scores versus Scaled Scores.** The total number of possible points for a particular subject area reporting category is based on raw score points, which are not the same as scaled scores used elsewhere throughout the *Report*. Raw scores are the total number of points earned for all items administered in a particular subject area. Raw scores are converted to scaled scores through a data analysis process known as scaling. Scaling converts raw data points from one scale to another in a process that is analogous to the conversion of temperature in degrees Fahrenheit to degrees Celsius. See Appendix A for tables of the Raw Score to Scaled Score Conversions.

<sup>2</sup> All forms of subject area test must have been administered in a school for accurate computation of subject area subscores. If all forms of the test were not administered in a school, subject area subscores were not reported for that school.

<sup>3</sup> Because schools may have had different numbers of students taking each of the test forms, average points were determined in a two-step process. First, the average raw score was determined for each unique item. Second, the sum of the average raw scores computed in step 1 was calculated. Further information about MCAS scaling methods can be found in the 1998 *MCAS Technical Report*.

**CAUTION: Longitudinal Comparisons.** Comparisons of performance on subject area subscores across years must be made with caution because the number of items contributing to **each** subscore is relatively small and the difficulty of the items may vary somewhat from year to year. This caution applies only to subject area subscores, not to performance level results and scaled scores. This is because performance level results and scaled scores are based solely on common items; scores based on common items will be statistically equated from year to year. The pool of matrix-sampled items will vary from year to year as items move from the matrix-sampled sections to the common sections of the tests to replace publicly released common items. New items will be developed annually to supplement the matrix-sampled item pool.

## **F. THREE-YEAR COMPARISON OF SCHOOL RESULTS**

(REPORT PAGES 13–15 FOR GRADES 4 & 10; PAGES 15–18 FOR GRADE 8)

Because 2000 was the third administration of the MCAS tests, schools are able to make longitudinal comparisons of performance level results and scaled scores. These pages of the *2000 School Report* reflect the results of the 1998, 1999 and 2000 MCAS tests. These data can be used to conduct longitudinal (three years of data) comparisons of results for English Language Arts (page 13), Mathematics (page 14), Science & Technology (page 15), and History and Social Science (page 16). *Note:* For History and Social Science, there were no scores in 1998 and there were results for grade 8 only in 1999 and 2000.

# Appendix A

## RAW SCORE TO SCALED SCORE CONVERSIONS

2000 MCAS GRADE 4 RAW SCORE TO SCALED SCORE CONVERSIONS

Total Score	English Language Arts Scaled Score	Mathematics Scaled Score	Science & Technology Scaled Score
72	280	-	-
71	270	-	-
70	268	-	-
69	268	-	-
68	264	-	-
67	264	-	-
66	262	-	-
65	258	-	-
64	256	-	-
63	254	-	-
62	252	-	-
61	250	-	-
60	248	-	-
59	246	-	-
58	244	-	-
57	242	-	-
56	240	-	-
55	238	-	-
54	238	280	280
53	236	278	280
52	236	276	278
51	236	274	276
50	234	272	272
49	234	270	270
48	232	266	268
47	230	264	266
46	230	262	264
45	230	260	262
44	228	256	262
43	228	254	260
42	228	254	258
41	226	252	256
40	226	250	254
39	224	248	252



2000 MCAS GRADE 4 RAW SCORE TO SCALED SCORE CONVERSIONS (CONTINUED)

<i>Total Score</i>	<i>English Language Arts Scaled Score</i>	<i>Mathematics Scaled Score</i>	<i>Science &amp; Technology Scaled Score</i>
38	224	244	252
37	224	242	250
36	222	240	248
35	222	240	246
34	220	238	244
33	220	236	242
32	220	236	242
31	218	234	240
30	218	232	240
29	216	230	238
28	216	230	236
27	214	230	234
26	214	228	232
25	214	226	232
24	214	224	230
23	212	222	230
22	212	222	228
21	210	220	226
20	210	220	224
19	208	218	222
18	208	218	220
17	206	216	220
16	206	214	218
15	204	212	216
14	204	212	214
13	200	210	212
12	200	206	210
11	200	206	208
10	200	204	206
9	200	200	206
8	200	200	204
7	200	200	202
6	200	200	200
5	200	200	200
4	200	200	200
3	200	200	200
2	200	200	200
1	200	200	200
0	200	200	200

2000 MCAS GRADE 8 RAW SCORE TO SCALED SCORE CONVERSIONS

Total Score	English Language Arts Scaled Score	Mathematics Scaled Score	Science & Technology Scaled Score	History and Social Science Scaled Score
72	280	-	-	-
71	268	-	-	-
70	268	-	-	-
69	268	-	-	-
68	266	-	-	-
67	264	-	-	-
66	264	-	-	-
65	262	-	-	-
64	262	-	-	-
63	260	-	-	-
62	260	-	-	-
61	258	-	-	-
60	256	-	-	-
59	256	-	-	-
58	254	-	-	-
57	254	-	-	-
56	252	-	-	-
55	250	-	-	-
54	250	280	280	280
53	248	274	276	276
52	248	274	274	274
51	248	272	274	272
50	246	272	272	268
49	244	270	268	266
48	244	270	266	264
47	242	268	264	264
46	242	266	264	260
45	240	266	262	258
44	240	264	260	256
43	238	262	256	252
42	236	260	254	250
41	236	258	252	248
40	234	256	250	244
39	234	254	248	242
38	232	252	246	240
37	230	252	242	238
36	228	250	240	236
35	228	246	238	234
34	226	244	234	232
33	224	242	232	232
32	224	242	230	230

2000 MCAS GRADE 8 RAW SCORE TO SCALED SCORE CONVERSIONS (CONTINUED)

<i>Total Score</i>	<i>English Language Arts Scaled Score</i>	<i>Mathematics Scaled Score</i>	<i>Science &amp; Technology Scaled Score</i>	<i>History and Social Science Scaled Score</i>
31	222	238	226	228
30	220	236	224	226
29	218	234	222	224
28	218	232	218	224
27	218	230	216	222
26	214	226	214	220
25	212	224	210	218
24	212	222	208	216
23	210	220	206	214
22	208	218	206	212
21	206	216	202	210
20	204	212	200	210
19	202	210	200	208
18	200	208	200	206
17	200	204	200	202
16	200	202	200	202
15	200	200	200	200
14	200	200	200	200
13	200	200	200	200
12	200	200	200	200
11	200	200	200	200
10	200	200	200	200
9	200	200	200	200
8	200	200	200	200
7	200	200	200	200
6	200	200	200	200
5	200	200	200	200
4	200	200	200	200
3	200	200	200	200
2	200	200	200	200
1	200	200	200	200
0	200	200	200	200

2000 MCAS GRADE 10 RAW SCORE TO SCALED SCORE CONVERSIONS

<i>Total Score</i>	<i>English Language Arts Scaled Score</i>	<i>Mathematics Scaled Score</i>	<i>Science &amp; Technology Scaled Score</i>
72	280	-	-
71	278	-	-
70	278	-	-
69	278	-	-
68	274	-	-
67	270	-	-
66	268	-	-
65	266	-	-
64	264	-	-
63	262	-	-
62	260	-	-
61	258	-	-
60	256	280	280
59	256	280	280
58	252	280	280
57	250	280	278
56	248	280	276
55	246	280	274
54	244	280	272
53	244	280	270
52	240	278	268
51	238	276	266
50	236	274	264
49	236	272	262
48	232	268	262
47	232	266	258
46	228	264	256
45	226	264	254
44	224	260	252
43	224	260	252
42	222	258	252
41	220	256	250
40	218	254	248
39	216	250	244
38	214	248	242
37	212	248	242
36	210	248	240
35	208	246	238
34	206	244	236
33	204	242	234
32	202	240	234
31	202	236	232

2000 MCAS GRADE 10 RAW SCORE TO SCALED SCORE CONVERSIONS (CONTINUED)

<i>Total Score</i>	<i>English Language Arts Scaled Score</i>	<i>Mathematics Scaled Score</i>	<i>Science &amp; Technology Scaled Score</i>
30	200	234	230
29	200	232	228
28	200	232	228
27	200	230	226
26	200	228	224
25	200	226	220
24	200	226	220
23	200	224	218
22	200	222	216
21	200	220	214
20	200	218	214
19	200	216	212
18	200	214	210
17	200	212	208
16	200	210	208
15	200	208	204
14	200	206	202
13	200	202	200
12	200	200	200
11	200	200	200
10	200	200	200
9	200	200	200
8	200	200	200
7	200	200	200
6	200	200	200
5	200	200	200
4	200	200	200
3	200	200	200
2	200	200	200
1	200	200	200
0	200	200	200



## CALCULATING THRESHOLD SCORES

In 1998, in order to determine the threshold score (the minimum total test score for each performance level) on each English Language Arts, Mathematics, and Science & Technology test, panelists examined sets of student work in a standard-setting process. The standards established for these subject areas in 1998 remain unchanged for the 1999 and 2000 MCAS tests. However, because the common test items on the 2000 MCAS tests are different from the common items on the 1998 test, the threshold scores representing those standards may change. In part, a change in threshold scores may be due to differences in difficulty between the 1998 and 2000 MCAS test items. To some extent, however, the change in threshold scores is simply due to the changes in the number of multiple-choice and open-response items, and the change in the maximum possible score on most tests. Using the matrix-sampled items which remained unchanged from 1998 to 1999, and from 1999 to 2000, the 1998, 1999 and 2000 MCAS tests are linked through a process called equating. Based on the equating process, the adjustments in the threshold scores needed to maintain the 1998 standards on the 2000 MCAS tests are determined.

The eighth grade History and Social Science test was administered for the first time in 1999. In August 1999, threshold scores for each performance level on the History and Social Science test were established at a standard-setting meeting. The procedures used to establish the threshold scores for this test were consistent with the standard-setting procedures used to establish threshold scores for the 1998 MCAS tests.

### THRESHOLD SCORES, MCAS TESTS OF SPRING 2000

<i>Threshold Score Between Levels</i>					
Grade	Subject Area	Maximum Score*	Advanced/ Proficient	Proficient/ Needs Improvement	Needs Improvement/ Failing
4	English Language Arts	72	66	56	32
	Mathematics	54	45	35	20
	Science & Technology	54	43	30	17
8	English Language Arts	72	62	44	30
	Mathematics	54	42	32	23
	Science & Technology	54	44	36	29
10	History and Social Science	54	46	38	26
	English Language Arts	72	62	52	41
	Mathematics	60	43	32	21
	Science & Technology	60	48	36	24

\* The Maximum Score is the total number of points that a student could earn in the subject area if he/she answered all of the multiple-choice questions correctly (one point per question) and received the highest possible scores for all open-response questions, short-answer questions, and writing compositions.

# Appendix B

## MCAS 2000 REPORTING CATEGORIES

MCAS reporting categories used in 1998 were collapsed in 1999 and 2000 to discourage the misinterpretation of results based on the small numbers of questions upon which some 1998 reporting categories were based. When interpreting test results, however, it is important to have a clear understanding of the content covered by the test questions. The tables in this Appendix show the number and the percentage of points on the entire test (common and matrix items) within each of the 2000 reporting categories. A check mark (✓) signifies that this subdomain is included within each reporting category.

### ENGLISH LANGUAGE ARTS

#### Grade 4, 8 and 10:

Language

Literature

Composition: Topic Development

Composition: Writing Conventions

### MATHEMATICS

#### Grade 4, 8 and 10:

Number Sense

Patterns, Relations, and Functions

Geometry and Measurement

Statistics and Probability

### SCIENCE & TECHNOLOGY

#### Grade 4, 8 and 10:

Inquiry

Physical Sciences

Life Sciences

Earth and Space Sciences

Technology

### HISTORY AND SOCIAL SCIENCE

#### Grade 8 and 10:

U.S. History (Grade 8 only)

World History

Geography

Economics

Civics and Government

## ENGLISH LANGUAGE ARTS

	Grade 4		Grade 8		Grade 10	
	Points	Percent	Points	Percent	Points	Percent
LANGUAGE	16	7.84%	24	10.17%	27	11.25%
LITERATURE	168	82.35%	192	81.36%	193	80.42%
COMPOSITION *	20	9.8%	20	8.47%	20	8.33%
Topic Development	✓		✓		✓	
Conventions	✓		✓		✓	
<b>TOTAL</b>	<b>204</b>	<b>100%</b>	<b>236</b>	<b>100%</b>	<b>240</b>	<b>100%</b>

\*There was one unique common prompt for Composition at each grade level in 2000. Students could earn up to 6 points for Topic Development, and up to 4 points for Use of Standard English Conventions (a total of 10 points). Each composition was scored twice (once by each of two different scorers) and the scores were combined. Therefore, a student could earn up to a maximum of 20 points on the Composition section of the MCAS.



## MATHEMATICS

Reporting Category	Grade 4		Grade 8		Grade 10	
	Points	Percent	Points	Percent	Points	Percent
<b>NUMBER SENSE</b>	71	38.59%	44	24.58%	30	18.18%
Number Sense and Numeration	✓					
Concepts of Whole Numbers	✓					
Fractions and Decimals	✓					
Estimation	✓					
Whole Number Computation	✓					
Number and Number Relationships			✓			
Number Systems, Number Theory			✓			
Computation, Estimation			✓			
Ratio, Proportion, Percent			✓			
Discrete Mathematics					✓	
Mathematical Structure					✓	
Estimation					✓	
<b>PATTERNS, RELATIONS, AND FUNCTIONS</b>	38	20.65%	54	30.17%	54	32.73%
Patterns and Relations	✓					
Algebra and Mathematical Structure	✓					
Patterns and Functions			✓			
Algebra			✓		✓	
Functions and Relationships					✓	
Trigonometry					✓	
<b>GEOMETRY AND MEASUREMENT</b>	44	23.91%	44	24.58%	52	31.52%
Geometry and Spatial Sense	✓				✓	
Measurement	✓		✓		✓	
Geometry			✓			
Geometric Measurement			✓			
Geometry from an Algebraic Perspective					✓	
<b>STATISTICS AND PROBABILITY</b>	31	16.85%	37	20.67%	29	17.58%
Statistics			✓		✓	
Probability			✓		✓	
<b>TOTAL</b>	<b>184</b>	<b>100%</b>	<b>179</b>	<b>100%</b>	<b>165</b>	<b>100%</b>

## SCIENCE & TECHNOLOGY

	Grade 4		Grade 8		Grade 10	
	Points	Percent	Points	Percent	Points	Percent
<b>INQUIRY</b>	21	18.75%	23	16.2%	22	14.7%
Classification	✓					
Designing an Investigation	✓		✓		✓	
Data Collection, Measurement, and Display	✓		✓			
Analysis and Interpretation of Data	✓		✓		✓	
<b>PHYSICAL SCIENCES</b>	22	19.64%	26	18.31%	33	22.15%
Properties of Matter	✓		✓			
Structure of Matter					✓	
Interactions of Substances					✓	
Position and Motion of Objects	✓				✓	
Motion			✓			
Energy	✓		✓		✓	
<b>LIFE SCIENCES</b>	26	23.21%	33	23.24%	41	27.52%
Characteristics of Organisms	✓		✓		✓	
Adaptations, Diversity, and Heredity	✓					
Diversity, Adaptation, and Reproduction			✓			
Heredity and Evolution					✓	
Organisms and Environments	✓					
Ecosystems and Organisms			✓			
Ecosystems					✓	
<b>EARTH AND SPACE SCIENCES</b>	22	19.64%	29	20.42%	31	20.81%
Properties of Earth's Materials	✓					
Interactions/Cycles in the Earth System			✓			
Earth's Processes					✓	
Objects in the Sky	✓					
Earth and Space			✓			
Solar System and the Universe					✓	
<b>TECHNOLOGY</b>	21	18.75%	31	21.83%	22	14.77%
The Design Process	✓		✓		✓	
Understanding and Using Technology	✓		✓		✓	
Science, Technology, and Human Affairs	✓		✓		✓	
<b>TOTALS</b>	<b>112</b>	<b>100%</b>	<b>142</b>	<b>100%</b>	<b>149</b>	<b>100%</b>

## HISTORY AND SOCIAL SCIENCE

	Grade 8		Grade 10	
	Points	Percent	Points	Percent
<b>HISTORY:</b>				
<b>WORLD</b>	24	20.51%	70	56.45%
<b>UNITED STATES</b>	41	35.04%		
Chronology and Cause	✓		✓	
Historical Understanding	✓		✓	
Research, Evidence and Point of View	✓		✓	
Society, Diversity, Commonality and the Individual	✓		✓	
Interdisciplinary Learning: Religion, Ethics, Philosophy and Literature	✓		✓	
Interdisciplinary Learning: Natural Science, Math and Technology	✓		✓	
<b>GEOGRAPHY</b>	20	17.09%	15	12.10%
Physical Spaces of the Earth	✓		✓	
Places and Regions of the World	✓		✓	
Effects of Geography	✓		✓	
Human Alteration of the Environment	✓		✓	
<b>ECONOMICS</b>	19	16.24%	17	13.71%
Fundamental Economic Concepts	✓		✓	
Economic Reasoning	✓		✓	
American and Massachusetts Economic History	✓		✓	
Today's Economy	✓		✓	
Theories of Economy	✓		✓	
<b>CIVICS AND GOVERNMENT</b>	13	11.11%	22	17.74%
Authority, Responsibility and Power	✓		✓	
Founding Documents	✓		✓	
Principles and Practices	✓		✓	
Citizenship	✓		✓	
Forms of Government	✓		✓	
<b>TOTAL</b>	<b>117</b>	<b>100%</b>	<b>124</b>	<b>100%</b>

# Appendix C

## CONTENT-SPECIFIC PERFORMANCE LEVEL DEFINITIONS

English Language Arts General Performance Level Definitions	
	Advanced 260-280 On the MCAS test, a student at this level:
	<p><b>Proficient</b> 240-259 On the MCAS test, a student at this level:</p> <ul style="list-style-type: none"> <li>demonstrates a solid reading vocabulary and a general understanding of word parts and word relationships</li> <li>demonstrates an understanding of many concrete ideas, and most abstract and implied ideas, in grade-appropriate texts</li> <li>connects ideas within texts and provides supporting evidence</li> <li>shows clear understanding of structure and genre and how they support the author's purpose or theme</li> <li>identifies more subtle examples of techniques authors use in a variety of texts</li> <li>writes well-organized compositions with logically developed ideas, adequate detail, and clear focus</li> <li>engages reader's interest through a variety of language choices and sentence structures</li> <li>writes compositions with solid control of standard English conventions of grammar, spelling, and punctuation</li> </ul>
	<p><b>Needs Improvement</b> 220-239 On the MCAS test, a student at this level:</p> <ul style="list-style-type: none"> <li>demonstrates a modest reading vocabulary and partial understanding of word parts and word relationships</li> <li>demonstrates an understanding of concrete ideas, and partial understanding of abstract or implied ideas, in grade-appropriate texts</li> <li>connects some ideas within texts</li> <li>shows partial understanding of how structure and genre enhance the author's purpose or theme</li> <li>identifies obvious examples of some techniques authors use</li> <li>writes partially organized compositions with modestly developed ideas, some supporting detail, and some demonstration of focus</li> <li>uses simplistic language and sentence structure</li> <li>writes compositions with partial control of standard English conventions of grammar, spelling, and punctuation</li> </ul>
<b>Language/Vocabulary</b>	<ul style="list-style-type: none"> <li>demonstrates a comprehensive reading vocabulary and an in-depth understanding of word parts and word relationships</li> </ul>
<b>Comprehension</b>	<ul style="list-style-type: none"> <li>demonstrates an in-depth understanding of concrete ideas, abstract ideas, and complex meanings in grade-appropriate texts</li> <li>connects complex ideas within texts</li> <li>provides well-reasoned and well-supported arguments</li> </ul>
<b>Text Elements and Techniques</b>	<ul style="list-style-type: none"> <li>critically evaluates how structure and genre support the author's purpose or theme</li> <li>identifies and critically evaluates techniques authors use in a wide variety of texts</li> </ul>
<b>Composition</b>	<ul style="list-style-type: none"> <li>writes well-organized, richly developed compositions with ideas clearly expressed and supported by extensive detail</li> <li>provokes and sustains the reader's interest through effective and precise language, sentence structure, and vocabulary</li> </ul>
<b>Writing Conventions</b>	<ul style="list-style-type: none"> <li>writes compositions with sophisticated control of standard English conventions of grammar, spelling, and punctuation</li> </ul>

*Student work at the Failing level (200-219) does not meet the criteria of the Needs Improvement level.*

<b>Mathematics General Performance Level Definitions</b>			
	<b>Needs Improvement</b> <i>On the MCAS test, a student at this level:</i>	<b>Proficient</b> <i>On the MCAS test, a student at this level:</i>	<b>Advanced</b> <i>On the MCAS test, a student at this level:</i>
	<b>220-239</b>	<b>240-259</b>	<b>260-280</b>
<b>Conceptual Understanding and Procedural Knowledge</b>	<ul style="list-style-type: none"> <li>demonstrates partial understanding of our numeration system</li> <li>performs some calculations and estimations</li> <li>identifies examples of basic math concepts</li> <li>reads and constructs graphs, tables, and charts</li> </ul>	<ul style="list-style-type: none"> <li>demonstrates solid understanding of our numeration system</li> <li>performs most calculations and estimations</li> <li>defines concepts and generates examples and counterexamples of concepts</li> <li>represents data and mathematical relationships in multiple forms (e.g., equations, graphs)</li> </ul>	<ul style="list-style-type: none"> <li>connects concepts from various areas of mathematics, and uses concepts to develop generalizations</li> <li>performs complex calculations and estimations</li> <li>selects the best representation for a given set of data and purpose</li> </ul>
<b>Problem Solving</b>	<ul style="list-style-type: none"> <li>applies learned procedures to solve routine problems</li> </ul>	<ul style="list-style-type: none"> <li>applies learned procedures and mathematical concepts to solve a variety of problems, including multi-step problems</li> </ul>	<ul style="list-style-type: none"> <li>generates unique strategies and procedures to solve non-routine problems</li> </ul>
<b>Mathematical Reasoning</b>	<ul style="list-style-type: none"> <li>applies some reasoning methods to solve problems</li> </ul>	<ul style="list-style-type: none"> <li>uses a variety of reasoning methods to solve problems</li> <li>explains steps and procedures</li> </ul>	<ul style="list-style-type: none"> <li>uses multiple reasoning methods to solve complex problems</li> <li>justifies strategies and solutions</li> </ul>
<b>Mathematical Communication</b>	<ul style="list-style-type: none"> <li>identifies and uses basic mathematical terms</li> </ul>	<ul style="list-style-type: none"> <li>uses various forms of representation (e.g., text, graphs, symbols) to illustrate steps to solution</li> </ul>	<ul style="list-style-type: none"> <li>uses various forms of representation (e.g., text, graphs, symbols) to justify solutions and solution strategies</li> </ul>

*Student work at the Failing level (200-219) does not meet the criteria of the Needs Improvement level.*

<b>Science &amp; Technology General Performance Level Definitions</b>			
	<b>Needs Improvement</b> 220-239 <i>On the MCAS test, a student at this level:</i>	<b>Proficient</b> 240-259 <i>On the MCAS test, a student at this level:</i>	<b>Advanced</b> 260-280 <i>On the MCAS test, a student at this level:</i>
<b>Concepts</b>	<ul style="list-style-type: none"> <li>understands some basic concepts and principles and shows partial understanding of others</li> </ul>	<ul style="list-style-type: none"> <li>demonstrates solid understanding of many concepts, principles, and theories</li> </ul>	<ul style="list-style-type: none"> <li>demonstrates in-depth understanding of concepts, principles, and theories</li> </ul>
<b>Applications</b>	<ul style="list-style-type: none"> <li>offers partial solutions to problems involving scientific or technological ideas</li> </ul>	<ul style="list-style-type: none"> <li>applies scientific or technological knowledge to solve some problems</li> </ul>	<ul style="list-style-type: none"> <li>applies scientific or technological knowledge to solve complex problems</li> </ul>
<b>Communication</b>	<ul style="list-style-type: none"> <li>uses some basic scientific or technological terminology in limited explanations of phenomena</li> </ul>	<ul style="list-style-type: none"> <li>usually uses correct scientific or technological terminology in explanations of phenomena</li> </ul>	<ul style="list-style-type: none"> <li>uses correct scientific or technological terminology in detailed explanations of phenomena</li> </ul>
<b>Process</b>	<ul style="list-style-type: none"> <li>shows some understanding of and can perform some steps of an investigation or design process</li> <li>records data and identifies simple patterns</li> </ul>	<ul style="list-style-type: none"> <li>provides descriptions of workable designs or solutions for investigations</li> <li>makes reasonable interpretations and conclusions based on data</li> </ul>	<ul style="list-style-type: none"> <li>provides detailed descriptions of effective designs or solutions for investigations</li> <li>uses a variety of means to analyze data and draw defensible conclusions</li> </ul>

*Student work at the Failing level (200-219) does not meet the criteria of the Needs Improvement level.*

<b>History and Social Science General Performance Level Definitions</b>			
	<b>Needs Improvement</b> 220-239 <i>On the MCAS test, a student at this level:</i>	<b>Proficient</b> 240-259 <i>On the MCAS test, a student at this level:</i>	<b>Advanced</b> 260-280 <i>On the MCAS test, a student at this level:</i>
<b>Knowledge</b> Facts and Skills	<ul style="list-style-type: none"> <li>demonstrates some understanding of basic factual knowledge</li> <li>shows partial understanding of the chronology of historical events</li> <li>uses limited history and social science terminology and skills</li> </ul>	<ul style="list-style-type: none"> <li>demonstrates a general command of factual knowledge</li> <li>shows understanding of the chronology of historical events and relationships among them</li> <li>uses history and social science terminology and skills</li> </ul>	<ul style="list-style-type: none"> <li>demonstrates a comprehensive understanding of factual knowledge</li> <li>shows comprehensive and in-depth understanding of the chronology of historical events and relationships among them</li> <li>uses sophisticated history and social science terminology and skills</li> </ul>
<b>Abstract Ideas</b> Concepts, Principles, and Theories	<ul style="list-style-type: none"> <li>demonstrates some understanding of simple concepts, principles, and theories</li> </ul>	<ul style="list-style-type: none"> <li>demonstrates solid understanding of simple concepts, principles, and theories, and some understanding of complex concepts, principles, and theories</li> </ul>	<ul style="list-style-type: none"> <li>demonstrates comprehensive and in-depth understanding of complex concepts, principles, and theories</li> </ul>
<b>Reasoning</b> Analyzing, Connecting, Interpreting, Applying, and Evaluating	<ul style="list-style-type: none"> <li>provides simple explanations of events or concepts with limited support</li> <li>makes simple and/or partial connections</li> <li>makes limited interpretations of evidence</li> </ul>	<ul style="list-style-type: none"> <li>provides clear and accurate explanations of events or concepts supported by evidence</li> <li>makes some abstract connections</li> <li>makes clear and logical interpretations of evidence</li> <li>substantiates some judgments using evidence</li> </ul>	<ul style="list-style-type: none"> <li>provides comprehensive and in-depth explanations of events or concepts supported by detailed evidence</li> <li>makes complex and subtle connections</li> <li>makes sophisticated interpretations of evidence</li> <li>makes well-substantiated judgments presenting convincing evidence</li> </ul>

*Student work at the Failing level (200-219) does not meet the criteria of the Needs Improvement level.*



# Appendix D

## MCAS-RELATED REFERENCES

### MASSACHUSETTS CURRICULUM FRAMEWORKS

*Curriculum Frameworks in English Language Arts* (1997); *Mathematics* (1996); *Science & Technology* (1996); and *History and Social Science* (1997) describe what students should know and be able to do at various grade spans.

### MCAS GUIDES

*Guide to the Massachusetts Comprehensive Assessment System: English Language Arts* (1998); *Guide to the Massachusetts Comprehensive Assessment System: Mathematics* (1998); *Guide to the Massachusetts Comprehensive Assessment System: Science & Technology* (1998); *Guide to the Massachusetts Comprehensive Assessment System: History and Social Science* (1999) describe how the *Curriculum Framework* learning standards are tested by MCAS.

### OTHER MCAS DOCUMENTS

*The Massachusetts Comprehensive Assessment System: Release of Spring 2000 Test Items* (2000) contains all of the test questions from the 2000 MCAS tests that were used as the basis for student results.

*The Massachusetts Comprehensive Assessment System: Spring 2000 UPDATE-Requirements for the Participation of Students with Disabilities: A Guide for Educators and Parents* (2000) outlines the requirements for participation and allowable accommodations for students with disabilities.

*The Massachusetts School and District Accountability System: Preparing All Students to Meet Higher Standards* (2000) provides an overview of the state's accountability system.



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