

APPENDIX C

INTERRATER CONSISTENCY TABLES

Appendix C

Standard MCAS Tests

Tables C-1 through C-23 show the percentages of interrater agreement on double-scored responses to constructed-response items for the 2009 MCAS standard operational tests.

I. English Language Arts	
i. Reading Comprehension.....	3
ii. Composition.....	4
II. Mathematics.....	5
III. Science and Technology/Engineering.....	7

Detailed information regarding scoring specifications is available in sections 4.1.2.2 through 4.1.2.7 of the *2007 MCAS Technical Report*. If there was a difference between reader 1 and reader 2 scores that was greater than 1, the response was considered discrepant and went into an arbitration queue. Scoring Leadership scored all responses sent to the arbitration queue without knowing which scores were given by the two previous readers. The MCAS Resolution chart, included in the *2007 MCAS Technical Report*, describes how adjacent and discrepant scores were handled.

Note: Only records with at least two scores were used. Responses sent to the arbitration queue as a result of one reader assigning a score and another reader assigning a no score designation, or blank, unreadable, etc., were resolved; however, they were not counted as a score point discrepancy in the Interrater Agreements.

Double-Blind Scoring Resolutions*			
Reader #1	Reader #2	QAC/SR Resolution	Final
4	4	-	4
4	3	-	4
3	4	-	4
4	2	3	3
4	1	2	2
3	1	1	1
* If reader scores are identical or adjacent, the highest score is used as the final score. If reader scores are neither identical nor adjacent, the resolution score is used as the final, reported score.			

Writing ENGLISH CONVENTIONS Double-Blind Scoring Resolutions *			
Reader #1	Reader #2	QAC/SR Resolution	Final
4	4	-	8
4	3	-	7
4	2	4	8
4	2	3	7
4	1	3	7
4	1	2	3
* Identical or adjacent reader scores are summed to obtain the final score. The resolution score, if needed, is summed with an identical reader score; or, if the resolution score is adjacent to reader #1 and/or #2 but not identical with either, then the two highest adjacent scores are summed for the final score.			

Writing TOPIC DEVELOPMENT Double-Blind Scoring Resolutions*				
Reader #1	Reader #2	QAC/SR Resolution	Chief Reader	Final
6	6	-	-	12
6	5	-	-	11
6	4	4	-	8
6	4	5	-	11
6	2	4	4	8
6	2	4	3	6
6	2	3	-	5
* Identical or adjacent reader scores are summed to obtain the final score. The resolution score, if needed, is summed with an identical reader score; or if the resolution score is adjacent to reader #1 and/or #2 but not identical with either, then the two highest adjacent scores are summed for the final score. If the resolution score is still discrepant, the Chief Reader assigns a 4 th score, which is doubled to obtain the final score.				

English Language Arts

Reading Comprehension

**Table C-1. 2009 MCAS: Open-Response
Interrater Agreement by Item—ELA Reading Comprehension Grade 3**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
3read 30	72.4	20.3	7.3
3read 43	68.5	23.1	8.4
TOTAL	70.5	21.7	7.9

**Table C-2. 2009 MCAS: Open-Response
Interrater Agreement by Item—ELA Reading Comprehension Grade 4**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
4read 09	69.5	26.5	4.1
4read 19	67.6	28.7	3.7
4read 27	65.7	29.2	5.1
4read 45	67	28.2	4.7
TOTAL	67.5	28.2	4.4

**Table C-3. 2009 MCAS: Open-Response
Interrater Agreement by Item—ELA Reading Comprehension Grade 5**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
5read 09	67.4	30.2	2.4
5read 19	72.7	24.5	2.8
5read 27	62.3	33.8	3.9
5read 45	65.9	31.5	2.5
TOTAL	67.1	30.0	2.9

**Table C-4. 2009 MCAS: Open-Response
Interrater Agreement by Item—ELA Reading Comprehension Grade 6**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
6read 09	64.3	31.4	4.3
6read 18	67.2	30.8	2.0
6read 27	68.8	28.1	3.1
6read 45	67.9	28.9	3.2
TOTAL	67.1	29.8	3.2

**Table C-5. 2009 MCAS: Open-Response
Interrater Agreement by Item—ELA Reading Comprehension Grade 7**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
7read 08	72.1	24.6	3.3
7read 18	70	25.2	4.8
7read 27	69.2	22.7	8.1
7read 45	66.7	28.4	4.9
TOTAL	69.5	25.2	5.3

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**Table C-6. 2009 MCAS: Open-Response
Interrater Agreement by Item—ELA Reading Comprehension Grade 8**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
8read 08	64.8	31.5	3.7
8read 17	66.9	25.8	7.3
8read 26	65.2	29.3	5.6
8read 44	67.7	27.1	5.2
TOTAL	66.2	28.4	5.5

**Table C-7. 2009 MCAS: Open-Response
Interrater Agreement by Item—ELA Reading Comprehension Grade 10**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
10read 08	64.0	33.4	2.6
10read 18	70.0	28.7	1.2
10read 27	63.5	33.9	2.6
10read 44	68.3	30.4	1.3
TOTAL	66.5	31.6	1.9

Composition

**Table C-8. 2009 MCAS:
Interrater Agreement by Item—ELA Composition Grade 4**

	<i>Topic Development</i>			<i>Conventions</i>		
<i>Agreement</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Dis</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Dis</i>
<i>Percentage</i>	62.0	34.6	3.3	65.8	32.2	2.0

Dis = Discrepant

**Table C-9. 2009 MCAS:
Interrater Agreement by Item—ELA Composition Grade 7**

	<i>Topic Development</i>			<i>Conventions</i>		
<i>Agreement</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Dis</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Dis</i>
<i>Percentage</i>	61.0	35.9	3.1	62.7	34.6	2.7

Dis = Discrepant

**Table C-10. 2009 MCAS:
Interrater Agreement by Item—ELA Composition Grade 10**

	<i>Topic Development</i>			<i>Conventions</i>		
<i>Agreement</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Dis</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Dis</i>
<i>Percentage</i>	54.2	37.2	8.6	65.9	27.4	6.7

Dis = Discrepant

Mathematics

**Table C-11. 2009 MCAS: Open-Response
Interrater Agreement by Item—Mathematics Grade 3**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
3math 07	83.7	15.8	0.5
3math 21	88.0	11.8	0.2
3math 28	94.2	5.1	0.7
3math 35	91.5	7.9	0.7
3math 42	88.3	10.5	1.3
TOTAL	89.1	10.2	0.7

**Table C-12. 2009 MCAS: Open-Response
Interrater Agreement by Item—Mathematics Grade 4**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
4math 10	86.0	12.7	1.4
4math 14	78.6	19.1	2.3
4math 24	81.1	17.4	1.6
4math 34	82.3	15.9	1.9
4math 38	73.7	23.3	3.0
TOTAL	80.3	17.7	2.0

**Table C-13. 2009 MCAS: Open-Response
Interrater Agreement by Item—Mathematics Grade 5**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
5math 10	86.2	12.3	1.5
5math 14	87.3	11.4	1.3
5math 24	78.3	20.0	1.6
5math 34	85.9	12.2	1.8
5math 38	87.8	10.4	1.8
TOTAL	85.1	13.3	1.6

**Table C-14. 2009 MCAS: Open-Response
Interrater Agreement by Item—Mathematics Grade 6**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
6math 10	73.8	22.2	4.0
6math 14	88.0	10.7	1.4
6math 24	85.8	12.1	2.1
6math 34	89.8	9.8	0.4
6math 38	81.2	16.9	1.9
TOTAL	83.7	14.3	2.0

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**Table C-15. 2009 MCAS: Open-Response
Interrater Agreement by Item—Mathematics Grade 7**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
7math 13	85.2	13.4	1.4
7math 26	85.8	13.2	1.0
7math 37	87.3	11.8	0.9
7math 38	88.1	11.0	0.9
7math 48	88.3	10.8	0.8
TOTAL	86.9	12.0	1.0

**Table C-16. 2009 MCAS: Open-Response
Interrater Agreement by Item—Mathematics Grade 8**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
8math 13	84.6	13.3	2.1
8math 26	86.7	12.8	0.5
8math 37	81.6	15.6	2.8
8math 38	85.8	12.3	1.9
8math 48	89.7	9.4	1.0
TOTAL	85.7	12.7	1.7

**Table C-17. 2009 MCAS: Open-Response
Interrater Agreement by Item—Mathematics Grade 10**

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
10math 20	83.3	15.8	0.9
10math 24	82.0	15.7	2.3
10math 25	80.9	17.9	1.2
10math 38	86.0	13.2	0.9
10math 51	79.2	19.9	0.9
10math 52	91.8	7.6	0.6
TOTAL	83.9	15.0	1.1

Science and Technology/Engineering

Table C-18. 2009 MCAS: Open-Response Interrater Agreement by Item—Science and Technology/Engineering Grade 5

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
5sci 22	75.4	17.5	7.1
5sci 23	72.6	17.7	9.6
5sci 45	52.8	29.3	17.9
5sci 46	66.2	21.9	11.9
5sci 47	82.1	14.1	3.8
TOTAL	69.8	20.1	10.1

Table C-19. 2009 MCAS: Open-Response Interrater Agreement by Item—Science and Technology/Engineering Grade 8

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
8sci 22	67.4	19.0	13.5
8sci 23	80.7	11.2	8.1
8sci 45	63.2	22.3	14.5
8sci 46	76.8	13.0	10.2
8sci 47	71.1	16.2	12.7
TOTAL	71.8	16.3	11.8

Table C-20. 2009 MCAS: Open-Response Interrater Agreement by Item—High School Biology (Grades 9–11)

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
HSBio15	82.4	14.6	3.1
HSBio30	62.7	32.9	4.4
HSBio44	66.7	29.2	4.1
HSBio58	75.0	21.9	3.1
HSBio59	82.3	15.1	2.6
TOTAL	73.8	22.7	3.5

Table C-21. 2009 MCAS: Open-Response Interrater Agreement by Item—High School Chemistry (Grades 9–11)

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
HSCChem15	73.5	19.3	7.2
HSCChem30	74.7	19.3	6.1
HSCChem44	76.9	15.3	7.8
HSCChem58	80.8	14.2	5.0
HSCChem59	74.9	18.0	7.2
TOTAL	76.2	17.2	6.7

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Table C-22. 2009 MCAS: Open-Response Interrater Agreement by Item—High School Introductory Physics (Grades 9–11)

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
HSPHys15	86.9	11.8	1.3
HSPHys30	73.9	22.5	3.6
HSPHys44	68.2	27.6	4.2
HSPHys58	73.7	23.0	3.3
HSPHys59	75.9	21.4	2.8
TOTAL	75.7	21.3	3.0

Table C-23. 2009 MCAS: Open-Response Interrater Agreement by Item—High School Technology/Engineering (Grades 9–11)

<i>Item No.</i>	<i>Exact</i>	<i>Adjacent</i>	<i>Discrepant</i>
HSTech15	85.6	11.9	2.5
HSTech30	54.8	32.7	12.5
HSTech49	57.0	28.3	14.7
HSTech66	63.9	27.6	8.5
HSTech67	86.6	10.4	3.0
TOTAL	69.6	22.2	8.2

MCAS-Alt Interrater Consistency

Tables C-24 through C-27 show the number and percentage of exact agreements on two or more scores in every scoring dimension area for each content area strand for the 2009 MCAS-Alt.

Note: Only records with at least two scores for the content area/strand/scoring dimension were used.

Table C-24 displays interrater consistency data, for students at all grade levels combined (with the exception of STE), in each scoring dimension for each content area strand (reporting category) for the 2009 MCAS-Alt.

Table C-24. 2009 MCAS-Alt: Interrater Consistency by Strand and Scoring Dimension

<i>Strand</i>	<i>Dimension</i>	<i>Number of Portfolios With At Least Two Scores</i>	<i>Number of Exact Scores</i>	<i>Percentage of Exact Scores</i>
English Language Arts				
Language	Complexity	2,567	2,457	95.71
	Generalized Performance	2,491	2,265	90.93
	Independence	2,491	2,321	93.18
	Self-Evaluation	2,491	2,451	98.39
	Skills	2,491	2,340	93.94
Literature	Complexity	2,562	2,474	96.57
	Generalized Performance	2,529	2,259	89.32
	Independence	2,529	2,349	92.88
	Self-Evaluation	2,529	2,478	97.98
	Skills	2,529	2,371	93.75
Composition	Complexity	1,402	1,350	96.29
	Generalized Performance	1,390	1,256	90.36
	Independence	1,390	1,289	92.73
	Self-Evaluation	1,390	1,360	97.84
	Skills	1,390	1,302	93.67
Mathematics				
Number Sense and Operations	Complexity	2,498	2,418	96.80
	Generalized Performance	2,493	2,248	90.17
	Independence	2,493	2,306	92.50
	Self-Evaluation	2,493	2,442	97.95
	Skills	2,493	2,341	93.90
Patterns, Relations, and Algebra	Complexity	1,171	1,117	95.39
	Generalized Performance	1,155	1,051	91.00
	Independence	1,155	1,059	91.69
	Self-Evaluation	1,155	1,141	98.79
	Skills	1,155	1,071	92.73
Geometry	Complexity	768	730	95.05
	Generalized Performance	763	708	92.79
	Independence	763	704	92.27
	Self-Evaluation	763	745	97.64
	Skills	763	704	92.27
Measurement	Complexity	690	670	97.10
	Generalized Performance	685	616	89.93
	Independence	685	622	90.80
	Self-Evaluation	685	673	98.25
	Skills	685	623	90.95

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<i>Strand</i>	<i>Dimension</i>	<i>Number of Portfolios With At Least Two Scores</i>	<i>Number of Exact Scores</i>	<i>Percentage of Exact Scores</i>
Data Analysis, Statistics, and Probability	Complexity	1,025	995	97.07
	Generalized Performance	1,019	942	92.44
	Independence	1,019	929	91.17
	Self-Evaluation	1,019	1,002	98.33
	Skills	1,019	939	92.15
Science and Technology/Engineering				
Earth and Space Science (Grades 5 and 8)	Complexity	407	396	97.30
	Generalized Performance	406	386	95.07
	Independence	406	378	93.10
	Self-Evaluation	406	400	98.52
	Skills	406	382	94.09
Life Science (Grades 5 and 8)	Complexity	404	392	97.03
	Generalized Performance	400	383	95.75
	Independence	400	365	91.25
	Self-Evaluation	400	395	98.75
	Skills	400	371	92.75
Physical Sciences (Grades 5 and 8)	Complexity	327	319	97.55
	Generalized Performance	321	300	93.46
	Independence	321	287	89.41
	Self-Evaluation	321	315	98.13
	Skills	321	296	92.21
Technology/Engineering (Grades 5 and 8)	Complexity	169	159	94.08
	Generalized Performance	169	162	95.86
	Independence	169	156	92.31
	Self-Evaluation	169	166	98.22
	Skills	169	159	94.08
High School End-of-Course Science and Technology/Engineering (Grades 9–11)	Complexity	2,700	2,592	96.00
	Generalized Performance	2,615	2,463	94.19
	Independence	2,615	2,342	89.56
	Self-Evaluation	2,615	2,565	98.09
	Skills	2,615	2,369	90.59

Table C-25 shows 2009 MCAS-Alt interrater consistency data for each content area overall.

Table C-25. 2009 MCAS-Alt: Interrater Consistency by Content Area

<i>Content Area</i>	<i>Number of Portfolios With At Least Two Scores</i>	<i>Number of Exact Scores</i>	<i>Percentage of Exact Scores</i>
English Language Arts	32,171	30,322	94.25
Mathematics	30,612	28,796	94.07
Science and Technology/Engineering	19,651	18,498	94.13

Table C-26 displays 2009 MCAS-Alt interrater consistency data for each scoring rubric dimension across all strands. Exact agreement exceeded 92 percent for all rubric dimension scores except Generalized Performance, indicating that in at least 9 of 10 dimensions that were double scored, two scorers agreed. This rate of agreement has risen steadily since 2001 due to increased clarity in scoring dimension rubrics, improved training of scorers, and scoring rules that minimize errors.

Table C-26. 2009 MCAS-Alt: Interrater Consistency by Scoring Dimension

<i>Scoring Dimension</i>	<i>Number of Portfolios With At Least Two Scores</i>	<i>Number of Exact Scores</i>	<i>Percentage of Exact Scores</i>
Level of Complexity	16,690	16,069	96.28
Generalized Performance*	16,436	15,039	91.50
Independence	16,436	15,107	91.91
Self-Evaluation*	16,436	16,133	98.16
Demonstration of Skills and Concepts	16,436	15,268	92.89

*Note: Generalized Performance and Self-Evaluation are not calculated in the final performance level.

Table C-27 shows the overall rate of interrater consistency for the 2009 MCAS-Alt in all scoring dimensions combined.

Table C-27. 2009 MCAS-Alt: Aggregate Interrater Consistency in All Scoring Dimensions Combined

<i>Double Scores</i>	<i>Exact Agreement</i>	<i>Interrater Consistency</i>
82,434	77,616	94.16