MontCAS, Phase 2

Guide to Interpreting
the 2007
Criterion-Referenced Test and
CRT-Alternate Assessment Reports

Important Phone Numbers

If you require assistance, it's readily available through the offices listed below.

- **For information about program policy issues or incorrect data, contact:**
  Judy Snow, State Assessment Director
  Phone: (406) 444-3656
  Email: jsnow@mt.gov

- **For information about CRT program administration or shipping issues, contact:**
  Dan Verdick, Montana CRT Program Manager
  Phone (800) 431-8901, Extension 2220
  Email: dverdick@measuredprogress.org

- **For information on CRT-Alternate policy issues, contact:**
  Bob Runkel
  PI Division of Special Education
  Phone: (406) 444-5661
  Email: brunkel@mt.gov

- **For information about CRT-Alternate program administration or shipping issues, contact:**
  Jake Goldsmith, Montana CRT-Alternate Program Manager
  Phone (800) 431-8901, Extension 2239
  Email: jgoldsmith@measuredprogress.org

- **For information about ELL/LEP, contact:**
  Lynn Hinch, OPI
  Phone: (406) 444-3482
  Email: lhinch@mt.gov

- **For information about Title I, contact:**
  B.J. Granbery, OPI
  Phone: (406) 444-4420
  Email: bgranbery@mt.gov

- **For information about students with Migrant status, contact:**
  Angela Branz-Spall, OPI
  Phone: (406) 444-2423
  Email: angelab@mt.gov

OPI
Linda McColloch, Superintendent
Montana Office of Public Instruction
PO Box 202501
Helena, Montana 59620-2501
www.opi.state.mt.us

The primary purpose of this guide is to support local educators' use of test data to better serve the academic needs of students and to evaluate and improve curriculum and instruction. We hope you find this guide useful as you review the results for your school or system.

If you have any suggestions about ways in which we can improve this guide in future years or if you have questions after reviewing this guide or its reports, please contact Judy Snow, State Assessment Director, Office of Public Instruction (OPI) at (406) 444-3656 or jsnow@mt.gov.

Additional information about the Criterion-Referenced Test (CRT) and the CRT-Alternate Assessment, including Montana's content standards, can be found in Appendix A of this manual and on OPI's Web site: http://www.opi.state.mt.gov/assessment.

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The Test

The Criterion-Referenced Test (CRT) and the CRT-Alternate Assessment are designed to measure student acquisition of the knowledge and skills in Montana's content standards for reading and mathematics. The assessments in reading and mathematics were developed to provide information at the student, class, school, and system level.

Basis for Results

CRT

In the CRT, the pool of test items in each grade and subject area was divided into two categories:

1. The first category of items is common items that appeared in all forms of the test and were completed by all students. Student, school, system, and state results are based only on these common items, 50% of which are released annually at the time the reports are shipped to system test coordinators and posted on the Office of Public Instruction (OPI) Web site (www.opi.state.mt.gov).*

2. The second category of items is matrix-sampled items. The remaining items in a grade/subject area were divided among 16 different forms of each test; each student completed one form. These items are called matrix-sampled items. A portion of the 2007 matrix-sampled items will become the set of common items in spring 2008.

*Science items will not be released for the 2007 test adminstraion.

CRT-Alternate Assessment

The CRT-Alternate Assessment is a point-in-time test that looked at how students performed in relation to performance indicators that were expanded from the Montana reading and mathematics standards and benchmarks. Students participated in an age-appropriate activity for which the teachers were given a script, written directions, and scaffolding levels. Students were encouraged to engage in the activity and showed performance on the indicators through appropriate prompting by the teacher administering the activity.

The teacher who administered the activity observed and scored the student on each indicator. The test activity required evidence to be collected based on the products that were created during the course of the assessment. Templates were provided for all evidence that was required.

Minimum Number of Students Needed to Generate Reports

To ensure confidentiality of individual student results and discourage generalizations about school performance based on very small populations, OPI has established 10 as the minimum number of students for which performance-level results are reported in any particular subgroup. Only the number of students ("N") in each subgroup are reported on the system and school reports.

Consequently, schools with a very small number of students enrolled in a grade that was tested may not show performance-level results in some sections of their school report. A school report was generated for any

school that tested fewer than 10 students in a particular grade, and results for these students are included in system- and/or state-level results.

Students Eligible for Exclusion from School, System, and State Reports

All students in accredited schools are required to participate in either the CRT or CRT-Alternate Assessment; however, the scores of the students in the following categories were excluded from the calculation of averages:

- LEP students enrolled for the first time in a U.S. school,
- foreign exchange students,
- students not enrolled (for example: home-schooled students),
- students enrolled part-time (less than 180 hours), and taking a reading or mathematic course,
- students enrolled in a private accredited school,
- students enrolled in a private nonaccredited school, and
- students enrolled in a private non-accredited Title 1 school.

The Scores

Two types of scores are used to report performance on the CRT and CRT-Alternate Assessments—scaled scores and percentages.

Scaled Scores

Results are reported according to levels that describe student performance in relation to Montana's established state standards: Advanced (A), Proficient (P), Nearing Proficiency (NP), and Novice (N). Scaled scores in each content area range from 200 to 300. Scaled scores supplement the performance-level results by providing information about the position of a student's results within a performance level.

School and system-level scaled scores are calculated by computing the average of student-level scaled scores. Students' total number of points on the test are translated into scaled scores using a data analysis process called scaling. Using scaled scores greatly simplifies the task of understanding how a student performed.

Percentages

Percentages are another way to report the results of the test."Percentage" refers to the percentage of questions answered correctly; the percent correct is simply the percentage of test questions that each student answered correctly. It is important to note that the "percentage" correct does not directly corrolate to the scale score. For more information, see Appendix A.

CRT and CRT-Alternate Reports

The following reports of student, school, and system results are each provided for the CRT and the CRT-Alternate.

Report	Description	Explanation and sample can be found in this interpretive guide on page(s):	Method of Delivery
Student Report	This parent-guardian report provides each student's scores for the reading and mathematics tests.	CRT: 4–5 CRT-ALT: 12–13	Hard copy shipped to school
Roster and Item-Level Report	This report provides information about class performance. Each student in the class is listed on the roster, which includes references to each item and the standard it measures.	CRT: 6 CRT-ALT: 14	iAnalyze*
School Summary Report	This three-part summary shows the distribution of scores in each Montana performance level by subgroup, school, system, and state for students enrolled in the school or system for the entire academic school year.	CRT: 7–9 CRT-ALT: 15–17	iAnalyze*
System Summary Report	This three-part summary shows the distribution of scores in each Montana performance level by subgroup, system, and state for students enrolled in the school or system for the entire academic school year.	CRT: 7 CRT-ALT: 15 Separate sample not included. See School Summary Report sample.	iAnalyze*

*iAnalyze is the online reporting system used for delivery CRT and CRT-ALT test results. If you need assistance accessing iAnalyze, contact the OPI assessment staff. (Contact information is provided on the inside of the cover page of this document.)

Part I: The CRT Reports

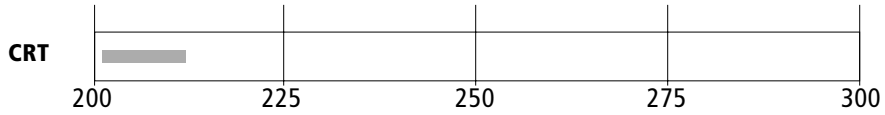
CRT Student Report

This parent/guardian report provides each student's scores for the reading and mathematics tests. The chart on page 2 of the Student Report, "Scaled Scores," reflects the student's performance level—A—and scaled score—B—for reading and mathematics. Please refer to the performance-level descriptors on the back cover of the Student Report or on page 10 in this guide for additional information and resources.

Scaled Scores

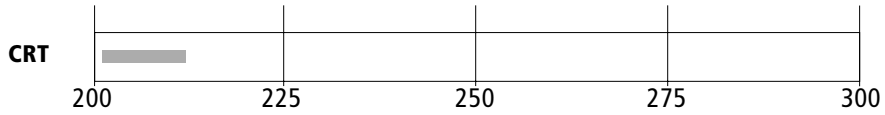
STUDENT RESULTS FOR READING

A → **Performance Level:** Novice
B → **Student Scaled Score:** 217



STUDENT RESULTS FOR MATHEMATICS

A → **Performance Level:** Novice
B → **Student Scaled Score:** 217



Contact your student's school for more information about the following symbols:
† Student did not complete the assessment.
§ Student took non-standard accommodation.

The chart on page 3 of the Student Report, "Scores on Montana Standards," shows the standard for each content area assessed—C; points possible for the number of items, or questions, given—D; the student percentage—E; and the state percentage—F. The percentage of points earned for each standard is depicted in the bar graph in the last column.

Scores on Montana Standards				Percentage of Points Earned
Reading Standards	Points Possible	Student Percentage	State Percentage	0 25 50 75 100
C 1. Students construct meaning as they comprehend, interpret, and respond to what they read.	24	71	63	
2. Students apply a range of skills and strategies to read.	16	94	68	
3. Students set goals, monitor, and evaluate their reading progress.	This standard is not measureable in a statewide assessment.			
4. Students select, read, and respond to print and nonprint material for a variety of purposes.	11	73	61	
5. Students gather, analyze, synthesize, and evaluate information from a variety of sources, and communicate their findings in ways appropriate for their purposes and audiences.	9	89	68	
Math Standards				
1. Problem Solving	7	57	57	
2. Numbers and Operations	14	57	60	
3. Algebra	6	83	68	
4. Geometry	11	45	64	
5. Measurement	7	29	57	
6. Data Analysis, Statistics, and Probability	13	62	71	
7. Patterns, Relations, and Functions	6	83	56	

Percentage of points earned by student — State percentage of points earned

CRT Roster & Item-Level Report

The Roster & Item-Level Report is presented by content area. It provides information about class performance. Each student in the class is listed on the roster. Each common item on the test—A; the Montana content standard each item is measuring—B; the correct answer, or response—C; and the total number of possible points—D—are presented along the top of the roster. Beside the name of the student is the response the student chose for the item if the item was answered incorrectly—E. If the item was answered correctly, a plus sign is printed. The two columns on the right present the scaled score for each student—F—and the performance level—G—the student attained. The end of the report lists the item average for students in the class—H, school—I, system—J, and state—K—who answered each item correctly. A legend, with performance-level descriptors, is located on page 10 in this guide.

READING/MATH
Roster & Item-Level Report
Confidential

Class: Ab
School: Ab
System: Ab

Name	A → Item Number	1	2									Scaled Score (F)	Perf. Level (G)
	B → Standard	2	3										
	C → Correct Response	A	B										
	D → Total Possible Points	1	1										
Jane Doe	E →	C	D									200	N
Mike Smith	→	+	+									210	N
H → Class Average*		50	61										
I → School Average*		53	58										
J → System Average*		48	56										
K → State Average*		51	58										

† Student did not complete the assessment.
§ Student took non-standard accommodation. ¥ Not in school and/or district for full academic year
* Some students were excluded from aggregations (averages) pursuant to Decision Rules.

CRT School and System Summary Reports

The School and System Summary Reports are presented by content area and provide information at the school and system level. The first chart, "Distribution of scores"—A, shows the distribution of scores in each performance level: Advanced (A), Proficient (P), Nearing Proficiency (NP), and Novice (N). The first column, "Scores"—B, represents the scaled score.

The "School," "System," and "State" columns are each divided into three columns that represent the number of students ("N") and the percentage of students receiving each scaled score point—C. The last column, "% of Students in Cat."—D, represents the total percentage of students within the designated performance level.

The second chart, "Subtest results"—E, reports the total points and average points earned for each content standard.

The third chart, "Results for Subgroups of Students"—F, disaggregates student data in several ways—by gender, ethnicity, school programs, etc. This data helps measure the effectiveness of instructional programs for different groups in a school. In addition, subgroup data identifies instructional practices and program characteristics that may be more effective. Finally, subgroup data enables educators to identify factors that appear to relate to performance, and to compare students statewide with respect to those factors.

Performance-level results were not reported if less than 10 students were assessed. Only the number of students ("N") in each category with less than 10 students assessed was reported.

MontCAS, Phase 2
CRT

School: X
System: X
Grade: 4

Reading

School Summary Report

A → **I. Distribution of scores**

Perf. Level	Scores	School N	School % of Students	School % of Students in Cat.	System N	System % of Students	System % of Students in Cat.	State N	State % of Students	State % of Students in Cat.
Advanced	297–300									
	294–296									
	290–293									
	287–289									
	283–286									
Proficient	276–282									
	270–275									
	263–269									
	257–262									
	250–256									
Nearing Proficiency	245–249									
	240–244									
	235–239									
	230–234									
	225–229									
Novice	220–224									
	215–219									
	210–214									
	205–209									
	200–204									
		B	C	D	C	D	C	D		

E → **II. Subtest results**

Reading		Points Possible	Average Points Earned: School	System	State
Total Points		60			
Standards	1. Students construct meaning as they comprehend, interpret, and respond to what they read.	24			
	2. Students apply a range of skills and strategies to read.	16			
	3. Students set goals, monitor, and evaluate their reading progress.	This standard is not measureable in a statewide assessment.			
	4. Students select, read, and respond to print and nonprint material for a variety of purposes.	11			
	5. Students gather, analyze, synthesize, and evaluate information from a variety of sources, and communicate their findings in ways appropriate for their purposes and audiences.	9			

CRT Performance-Level Descriptors

Advanced
This level denotes superior performance.

Proficient
This level denotes solid academic performance for each benchmark. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.

Nearing Proficiency
This level denotes that the student has partial mastery or prerequisite knowledge and skills fundamental for proficient work at each benchmark.

Novice
This level denotes that the student is beginning to attain the prerequisite knowledge and skills that are fundamental for work at each benchmark.

MontCAS, Phase 2 CRT

Confidential

Reading

School Summary Report

School: X
System: X
Grade: X
Spring 2007

III. Results for Subgroups of Students

Reporting Category	School					System					State				
	Number	% in N	% in NP	% in P	% in A	Number	% in N	% in NP	% in P	% in A	Number	% in N	% in NP	% in P	% in A
All Students															
Gender															
Male															
Female															
Ethnicity															
American Indian or Alaska Native															
Asian															
Hispanic															
Black or African American															
Native Hawaiian or Other Pacific Islander															
White															
Significant Cognitive Disability															
Special Education															
Students with a 504 Plan															
Title I (optional)															
Tested with Standard Accommodation															
Tested with Non-Standard Accommodation															
Alternate Assessment		If a student in your system or school took the CRT-Alternate, please refer to Table III on the CRT-Alternate System or School Summary Report													
Migrant															
Gifted/Talented															
LEP/ELL															
Former LEP Student															
LEP Student Enrolled for First Time in a U.S. School		Performance levels are not reported for 1st year LEP students													
Free/Reduced Lunch															
Special Education Disability(ies):															
Autism															
Cognitive Delay															
Deaf-Blindness Impairment															
Deafness															
Emotional Disturbance															
Hearing Impairment															
Learning Disability															
Other Health Impairment															
Orthopedic Impairment															
Speech/Language															
Traumatic Brain Injury															
Visual Impairment															

*Less than ten (10) students were assessed

CRT Performance-Level Descriptors

Advanced

This level denotes superior performance.

Proficient

This level denotes solid academic performance for each benchmark. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.

Nearing Proficiency

This level denotes that the student has partial mastery or prerequisite knowledge and skills fundamental for proficient work at each benchmark.

Novice

This level denotes that the student is beginning to attain the prerequisite knowledge and skills that are fundamental for work at each benchmark.

The above performance-level descriptors are general across all grades and content areas. Performance-level descriptors by grade and content area were reviewed and revised during standard setting in the summer of 2006. These were placed online with the released items in October 2006.

CRT Scaled Score Ranges for Performance Levels

Grade 3

Performance Level	Reading	Mathematics
Advanced	285–300	291–300
Proficient	250–284	250–290
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Grade 4

Performance Level	Reading	Mathematics
Advanced	288–300	287–300
Proficient	250–287	250–286
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Grade 5

Performance Level	Reading	Mathematics
Advanced	287–300	291–300
Proficient	250–286	250–290
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Grade 6

Performance Level	Reading	Mathematics
Advanced	289–300	291–300
Proficient	250–288	250–290
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Grade 7

Performance Level	Reading	Mathematics
Advanced	289–300	291–300
Proficient	250–288	250–290
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Grade 8

Performance Level	Reading	Mathematics
Advanced	291–300	283–300
Proficient	250–290	250–282
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Grade 10

Performance Level	Reading	Mathematics
Advanced	290–300	278–300
Proficient	250–289	250–277
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Part II: The CRT-Alternate Reports

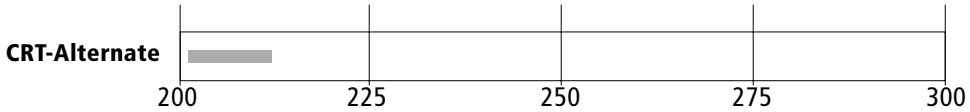
CRT-Alternate Student Report

This parent/guardian report provides each student's scores for the reading and mathematics tests. The chart on page 2 of the Student Report, "Scaled Scores," reflects the student's performance level—A—and scaled score—B—for reading and mathematics. Please refer to the perfomance-level descriptors on the back cover of the Student Report or on page 18 in this guide for additional information and resources.

Scaled Scores

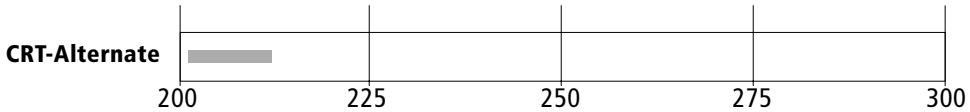
STUDENT RESULTS FOR READING

A → **Performance Level:** Novice
B → **Student Scaled Score:** 217



STUDENT RESULTS FOR MATHEMATICS

A → **Performance Level:** Novice
B → **Student Scaled Score:** 217



Contact your student's school for more information about the following symbols:
† Student did not complete the assessment.
§ Teacher halted the administration of the assessment after the student scored a 0 for three consecutive items on two different test administrations.

The chart on page 3 of the Student Report, "Scores on Montana Standards," shows the standard for each content area assessed—C; points possible for the number of items, or questions, given—D; the student percentage—E; and the state percentage—F. The percentage of points earned for each standard is depicted in the bar graph in the last column.

Scores on Montana Standards	Points Possible	Student Percentage	State Percentage	Percentage of Points Earned (0 25 50 75 100)
Reading Standards				
1. Students construct meaning as they comprehend, interpret, and respond to what they read.	44	75	84	
2. Students apply a range of skills and strategies to read.	40	3	62	
3. Students set goals, monitor, and evaluate their reading progress.	This standard is not measureable in a statewide assessment.			
4. Students select, read, and respond to print and nonprint material for a variety of purposes.	4	--	--	
5. Students gather, analyze, synthesize, and evaluate information from a variety of sources, and communicate their findings in ways appropriate for their purposes and audiences.	4	--	--	
Math Standards				
1. Problem Solving	36	39	71	
2. Numbers and Operations	32	25	67	
3. Algebra	0	--	--	
4. Geometry	0	--	--	
5. Measurement	0	--	--	
6. Data Analysis, Statistics, and Probability	52	6	65	
7. Patterns, Relations, and Functions	16	50	58	

Percentage of points earned by student — State percentage of points earned — -- There were too few score points to report on this standard, or no items on the test measured this standard.

CRT-Alternate Roster & Item-Level Report

The Roster & Item-Level Report is presented by content area. It provides information about class performance. Each student in the class is listed on the roster. Each item (performance indicator) on the test—A, the Montana content standard each item is measuring—B, and the total number of possible points (four for every item)— C—are presented along the top of the roster. Beside the name of the student is the score the student recieved for each item—D. The two columns on the right present the scaled score for each student—E—and the performance level—F—the student attained. The end of the report lists the item average for students in the class—G, school—H, system—I, and state—J—who answered each item. A legend, with performance-level descriptors, is located on page 18 in this guide.

Reading
Roster & Item-Level Report
Confidential

Class: Ab
School: Ab
System: Ab

Name															Scaled Score (E)	Perf. Level (F)
	A → Item Number	1	2	3	4	5	6	7								
	B → Standard	1	4	4	2	1	1	2								
	C → Total Possible Points	4	4	4	4	4	4	4								
Jane Doe	D →	4	4	4	4	3	4	3							295	A
Mike Smith		4	4	4	4	2	4	3							270	P
G → Class Average*		4	4	4	4	2	4	3								
H → School Average*		4	4	4	4	3	4	3								
I → System Average*		4	4	4	4	3	3	3								
J → State Average*		4	4	4	4	3	4	3								

† Student did not complete the assessment.
§ Teacher halted the administration of the assessment after the student scored 0 for three consecutive items on two different test administrations.
¥ Not in school and/or district for full academic year.
* Some students were excluded from aggregations (averages) pursuant to Decision Rules.

CRT-Alternate School and System Summary Reports

The School and System Summary Reports are presented by content area and provide information at the school and system level. The first chart, "Distribution of scores"—A; shows the distribution of scores in each performance level: Advanced (A), Proficient (P), Nearing Proficiency (NP), and Novice (N). The first column, "Scores"—B, represents the scaled score.

The "School," "System," and "State" columns are each divided into three columns that represent the number of students ("N") and the percentage of students receiving each scaled score point—C. The last column, "% of Students in Cat."—D, represents the total percentage of students within the designated performance level.

The second chart, "Subtest results"—E, reports the total points and average points earned for each content standard.

The third chart, "Results for Subgroups of Students"—F, disaggregates student data in several ways—by gender, ethnicity, school programs, etc. This data helps measure the effectiveness of instructional programs for different groups in a school. In addition, subgroup data identifies instructional practices and program characteristics that may be more effective. Finally, subgroup data enables educators to identify factors that appear to relate to performance, and to compare students statewide with respect to those factors.

Performance-level results were not reported if less than 10 students were assessed. Only the number of students ("N") in each category with less than 10 students assessed was reported.

MontCAS, Phase 2
CRT-Alternate

School: X
System: X
Grade: 4

Reading

School Summary Report

A → I. Distribution of scores

Perf. Level	Scores	School N	School % of Students	School % of Students in Cat.	System N	System % of Students	System % of Students in Cat.	State N	State % of Students	State % of Students in Cat.
Advanced	294–300									
	288–293									
	281–287									
	275–280									
	268–274									
Proficient	264–267									
	261–263									
	257–260									
	254–256									
	250–253									
Nearing Proficiency	245–249									
	240–244									
	235–239									
	230–234									
	225–229									
Novice	220–224									
	215–219									
	210–214									
	205–209									
	200–204									
		B	C	D	C	D	C	D		

E → II. Subtest results

Reading	Points Possible	Average Points Earned: School	System	State
*Total Points	92			
Standards: 1. Students construct meaning as they comprehend, interpret, and respond to what they read.	44			
2. Students apply a range of skills and strategies to read.	40			
3. Students set goals, monitor, and evaluate their reading progress.	This standard is not measureable in a statewide assessment.			
4. Students select, read, and respond to print and nonprint material for a variety of purposes.	4			
5. Students gather, analyze, synthesize, and evaluate information from a variety of sources, and communicate their findings in ways appropriate for their purposes and audiences.	4			

--There were too few score points to report on this standard, or no items on the test measured this standard.

CRT-Alternate Performance-Level Descriptors

Advanced
The student at the Advanced level accurately and independently demonstrates the ability to carry out comprehensive content-specific performance indicators.

Proficient
The student at the Proficient level, given limited prompting, demonstrates the ability to respond accurately in performing a wide variety of content-specific performance indicators.

Nearing Proficiency
The student at the Nearing Proficiency level, given moderate prompting, demonstrates the ability to respond accurately in performing a narrow set of content-specific performance indicators.

Novice
The student at the Novice level, given physical assistance and/or modeling, is supported to participate in content-specific performance indicators.

*The sum of the points for each standard may exceed the total points, as some items correlate with more than one standard.

MontCAS, Phase 2 CRT-Alternate

Confidential

Reading — **School Summary Report**

School: XX
System: XX
Grade: 04
Spring 2007

III. Results for Subgroups of Students

Reporting Category	School					System					State				
	Number	% in N	% in NP	% in P	% in A	Number	% in N	% in NP	% in P	% in A	Number	% in N	% in NP	% in P	% in A
All Students	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
Gender	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
Male															
Female															
Ethnicity															
American Indian or Alaska Native															
Asian															
Hispanic															
Black or African American															
Native Hawaiian or Other Pacific Islander															
White															
Special Education															
Students with a 504 Plan															
Title I (optional)															
Tested with Standard Accommodation															
Tested with Non-Standard Accommodation															
Alternate Assessment															
Migrant															
Gifted/Talented															
LEP/ELL															
Former LEP Student															
LEP Student Enrolled for First Time in a U.S. School															
Free/Reduced Lunch															
Significant Cognitive Disability	Data not available for the 2007 report														
Special Education Disability(ies):															
Autism															
Cognitive Delay															
Deaf-Blindness Impairment															
Deafness															
Emotional Disturbance															
Hearing Impairment															
Learning Disability															
Other Health Impairment															
Orthopedic Impairment															
Speech/Language															
Traumatic Brain Injury															
Visual Impairment															

*Less than ten (10) students were assessed

CRT-Alternate Performance-Level Descriptors

Advanced

The student at the Advanced level accurately and independently demonstrates the ability to carry out comprehensive content-specific performance indicators.

Proficient

The student at the Proficient level, given limited prompting, demonstrates the ability to respond accurately in performing a wide variety of content-specific performance indicators.

Nearing Proficiency

The student at the Nearing Proficiency level, given moderate prompting, demonstrates the ability to respond accurately in performing a narrow set of content-specific performance indicators.

Novice

The student at the Novice level, given physical assistance and/or modeling, is supported to participate in content-specific performance indicators.

The above performance-level descriptors are general across all grades and content areas. Performance-level descriptors by grade and content area were reviewed and revised during standard setting in the summer of 2006. These were placed online with the released items in October 2006.

CRT-Alternate Scaled Score Ranges for Performance Levels

Grade 3

Performance Level	Reading	Mathematics
Advanced	265–300	269–300
Proficient	250–264	250–268
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Grade 4

Performance Level	Reading	Mathematics
Advanced	271–300	295–300
Proficient	250–270	250–294
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Grade 5

Performance Level	Reading	Mathematics
Advanced	263-300	297–300
Proficient	250–262	250–296
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Grade 6

Performance Level	Reading	Mathematics
Advanced	275–300	258–300
Proficient	250–274	250–257
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Grade 7

Performance Level	Reading	Mathematics
Advanced	277–300	275–300
Proficient	250–276	250–274
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Grade 8

Performance Level	Reading	Mathematics
Advanced	269–300	273–300
Proficient	250–268	250–272
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Grade 10

Performance Level	Reading	Mathematics
Advanced	278–300	265–300
Proficient	250–277	250–264
Nearing Proficiency	225–249	225–249
Novice	200–224	200–224

Other CRT-Alternate Information

To review the items (performance indicators) and the standards that correlate to the items on the test, please visit the Measured Progress Web site at www.measuredprogress.org.

For more information about the CRT-Alternate Assessment, please refer to the CRT-Alternate Administration Manual at either of the following Web sites:

The Office of Public Instruction (OPI) at www.opi.state.mt.gov

or

Measured Progress at www.measuredprogress.org.

Appendix A

Overview of Assessment Instruments and Procedures
MontCAS, Phase 2 CRT of 2007

Local Educator Involvement in Test Development

Local educators were actively involved in each aspect of test development – from the development of *Grade Level Expectations*, review of all passages and items for bias and sensitivity issues, review of all items for purposes of alignment, Depth of Knowledge, age appropriateness and accuracy of content. Local educators were also involved in two standard setting meetings during the summer of 2006.

Grade Level Learning Expectations Development

OPI has developed a common set of grade level expectations, known as the *MontCAS Comprehensive Assessment System Grade Level Expectations* (GLEs) in mathematics and reading. These expectations were developed in response to the requirements of the federally mandated No Child Left Behind Act of 2001 to test all students, beginning in the 2005-2006 academic year, in each of grades 3 through 8 and 10 in mathematics and reading. Although these sets of GLEs were developed for this purpose, the intent was to build coherent sets of expectations that would focus, not narrow, the curricula; would support good instruction; and would be aligned with Montana's standards.

In the 2004-2005 academic year Reading and Math Grade Level expectations were developed to expand the current *MontCAS Comprehensive Assessment System Grade Level Expectations* for students with significant cognitive disabilities. The resulting documents *Montana Standards and Expanded Benchmarks for Reading* and *Montana Standards and Expanded Benchmarks for Math* were used as a framework to create the CRT Alternate Assessments for Reading and Math.

Throughout the development process of both the *MontCAS Comprehensive Assessment System Grade Level Expectations*, and the *Montana Standards and Expanded Benchmarks* documents OPI has relied upon the expertise of Montana educators. These educators have helped guide the development of these documents and have made numerous insightful contributions in an effort to help support meaningful instruction in mathematics and reading.

Item Review Committee

During the item review process, a committee of local educators was convened to review all of the items developed for the CRT and CRT-ALT. Committee member comments are solicited for each item. Each item is evaluated on the following criteria:

- alignment with the standard being measured;
- appropriateness for grade-level; and
- content accuracy.

Bias and Sensitivity Committee

A committee of local educators also met to review all reading passages and individual test items. Committee members determine if the passages and items are likely to place a particular group of students at an advantage or disadvantage for non-educational reasons; and if so, whether the passage or item should be revised or removed.

Technical Advisory Committee

A committee of nationally recognized test and measurement experts (psychometricians) was established and meets regularly to ensure the technical integrity of the CRT and CRT-ALT tests.

CRT Test Design

Types of Items on CRT

In order to provide a valid assessment of students' attainment of the *Grade Level Expectations*, a variety of item types needed to be used. Therefore, multiple-choice items, short-answer items and constructed-response items were used as follows.

Multiple choice (one point)

Multiple-choice items are efficient for testing a broad array of content in a relatively short time span.

Short answer (one point – mathematics only)

These open-ended items ask students to generate a short response to a mathematics computation question.

Constructed response (four points)

This is a more complex item type that requires students to give a longer response to items related to a reading passage or solve multi-step mathematics problems.

Common and Matrix-Sampled Items

There are sixteen versions, or forms, of the CRT created for each grade level tested in reading and mathematics. Approximately half of the items in each of the CRT forms were the same in every form, or were "common" to all forms of the test. All individual student results (performance levels, scaled scores, content area subscores) and school results are based on only common items. The other half of the items in each form were matrix sampled. "Matrix sampling" means distributing a large number of items among the different forms of the test. This approach allows for field testing of new items for subsequent years' tests and also allows some items to be administered in successive years for purposes of equating the tests from year to year.

Common items are publicly released following each year's test administration to inform local curriculum and instruction. Released common items are replaced each year with some of the items from the previous year's matrix-sampled section.

CRT-Alt Test Design

To provide an option for participation of all students in the state's accountability system, including those for whom a paper and pencil test is not appropriate; Montana has developed the Criterion-Referenced Test-Alternate (CRT-Alternate). It is expected that only those Individuals with Disabilities

Education Act (IDEA)-eligible students with the most significant cognitive disabilities will participate in the CRT-Alternate. The CRT-Alternate consists of test activities in reading and math for students in grades 3–8 and 10. The components of the test are identified below to provide an overview of the test and an introduction to terminology used to describe the test's structure. Each component of the test is described in detail in the Administrator's Manual.

Rubric

The scoring rubric is a matrix that describes various levels of achievement for each test item. It incorporates increasing levels of teacher support designed to elicit a correct response from the student. The Rubric incorporates a numerical scale that extends from 4 to 0.

Scoring

The Scoring system is guided by the rubric. Student performance on each item is scored based on amount of assistance required to elicit correct response. Grade-specific scoring rules guide administrator if the student is unresponsive, uncooperative, or repeatedly unsuccessful with test items.

Scaffolding

Scaffolding is a systematic process of providing increasing levels of assistance on each test item. The test booklet provides teacher instruction and suggested language to scaffold each test item.

Scoring

In May 2007, more than 318,000 responses were processed and scored at Measured Progress. The scoring activities that were used to produce the results for the CRT reports are described below.

Scoring was separated into the following three major tasks:

- scoring of responses to multiple-choice items,
- scoring of responses to short-answer items, and
- scoring of responses to constructed-response items.

Scoring of Multiple-choice Items

Multiple-choice items were machine-scored using digital scanning equipment. Correct responses were assigned a score of one point each; incorrect or blank responses were assigned a score of zero points each.

Scoring of Short-answer and Constructed-response Items

Short-answer and constructed-response items were scored by scorers employed by Measured Progress. Short-answer items were given a score of zero or one. Constructed-response items were given a score from zero to four. Zeros are employed when a student produces some work, but the work is totally wrong or irrelevant or if he or she leaves the item blank. For purposes of aggregating item results, blanks and zeros both count as zero points towards a student's score.

The work in preparation for scoring student responses included:

- development of scoring guides (rubrics) by content specialists (educators) from the Montana and Measured Progress's test developers, and
- selection of "benchmark" responses—examples of student work at different score points for each item—that were used in training and continuous monitoring of scorer accuracy.

Scorer training consisted of:

- review of each item and its related content and performance standard,
- review and discussion of the scoring guide and multiple sets of benchmark responses for each score point, and
- qualifying rounds of scoring in which scorers needed to demonstrate a prescribed level of accuracy.

Setting Standards for Performance on the CRT and CRT-ALT Tests

Standard setting is the process of determining the minimum or "threshold" score for each performance level, grade, and subject for which results are reported. The multi-step process of setting standards for the CRT and CRT-ALT began with creation of performance level descriptors.

In June 21 & 22, 2006, OPI convened panels of grades 4, 8, & 10 educators to participate in a standard-setting process for the CRT. Panels were also convened for grades 3 through 8 and 10 on June 20 through 21 for the CRT-ALT. On July 26 & 27, additional panels of educators were convened in grades 3, 5, 6, & 7 to participate in the CRT standard-setting process. A challenging aspect of standard setting is that many methods exist to set standards and establish cut points. With this in mind, OPI, in consultation with the Technical Advisory Committee and Measured Progress, determined that judgments would be employed for setting standards on the tests.

Upon completion of the data gathering phases of standard setting described above and recommendations from the Technical Advisory Committee, the Superintendent approved the recommended cut points.

CRT: Bookmark Standard-Setting Process

One standard-setting panel was convened for each grade level (3 through 8 and 10) in mathematics and reading. More than 160 panelists participated in two-day meetings to set the standards for each content area. Panelists were Montana educators invited to participate by OPI and selected using a psychometric sampling plan.

The Bookmark method of standard setting is a multistep process. First, participants took the CRT test as though they were students. Then, as a group, the panels reviewed the performance-level descriptors, paying special attention to differentiating between knowledge, skills, and abilities typically associated with

students described as being on the borderline between performance levels. Panelists then looked at "Ordered Item Booklets," which show each common item on the test in order from easiest to hardest. The "Ordered Item Booklet" also includes actual student work samples for each score point for constructed-response items. Participants made decisions about which items would differentiate between students at each performance level and placed a "bookmark" between those items to represent the cut point between performance levels. Small- and large-group discussions followed regarding the knowledge, skills, and abilities associated with the items around each cut point. Participants had the opportunity to change their placement of the "bookmark" based on these discussions. Finally, panelists had the opportunity to provide feedback on the performance-level descriptors.

CRT-Alt: Body of Work Standard-Setting Process

A total of seven panels were convened to set standards for the CRT-Alternate Assessments. Each panel was comprised of a diverse group of five to twelve Montana educators, with expertise in Special Education and/or Reading or Math. Each Panel reviewed two assessments over the two-day period. Panelists were local educators invited to participate by OPI and selected using a psychometric sampling plan.

The Body of Work method of standard setting for the Alternate Assessment is a multistep process. First, participants reviewed the CRT-ALT test and the scoring rubric, which determined how various responses to each item were scored. Then, as a group, the panels reviewed the performance-level descriptor, paying special attention to differentiating between knowledge, skills, and abilities typically associated with students assigned to each of the performance levels. Panelists then looked at "Ordered Item Lists," which show each common item on the test in order from easiest to hardest. The "Ordered Item List" participants were also given a set of "Student Profiles," which showed the average response on each item of the entire test for students who received a score within a specific range. Participants reviewed each of the Student Profiles and made an individual determination as to which Performance Level each Student Profile should be assigned. Large-group discussions followed regarding the knowledge, skills, and abilities associated with the Student Profiles in each Performance Level. Participants had the opportunity to change their placement of any or all Student Profiles based on these discussions. Finally, panelists had the opportunity to provide feedback on the performance-level descriptors.

Reporting

The tests were designed to measure student performance against the learning goals described in *Montana Content Standards*. Consistent with this purpose, primary results on the tests are reported in terms of performance levels that describe student performance in relation to these established state standards. There are four performance levels: Advanced, Proficient, Nearing Proficiency, and Novice. Students receive

a separate performance-level classification (based on total scaled score) in each content area (Mathematics and Reading) in which they complete a test. There is no overall classification of student performance across content areas. School- and system-level results are reported as the number and percentage of students attaining each performance level at each grade level tested.

In addition to performance levels, CRT and CRT-ALT results are also reported as scaled scores. The major purpose of including scaled scores in reports is to enhance the level of feedback provided to students, parents, and teachers. Each of the four performance levels encompasses a range of student performance. A student whose test performance is just above Nearing Proficiency and a student whose level of performance is slightly below Proficient are both classified as Nearing Proficiency. However, scaled-score results are more precise since they pinpoint a student's performance (score) on the continuum of scores within the performance levels. The additional information provided by scaled scores is critical in forming the most accurate impression of performance possible.

Translating Raw Scores to Scaled Scores and Performance Levels

CRT and CRT-ALT scores in each content area are reported on a scale that ranges from 200 to 300. Scaled scores supplement the performance-level results by providing information about the position of a student's results within a performance level. School- and system-level scaled scores are calculated by computing the average of student-level scaled scores. Students' raw scores, or total number of points, on the tests are translated to scaled scores using a data analysis process called scaling. Scaling simply converts raw points from one scale to another. In the same way that the same temperature can be expressed on either the Fahrenheit or Celsius scales and the same distance can be expressed either in miles or kilometers, student scores on the tests could be expressed as raw scores (i.e., number right) or scaled scores.

It is important to note that converting from raw scores to scaled scores does not change the students' performance-level classifications. Given the relative simplicity of raw scores, it is fair to question why scaled scores are used in reports instead of raw scores. Foremost, scaled scores offer the advantage of simplifying the reporting of results across content areas, grade levels, and subsequent years. Because the standard-setting process typically results in different cut scores across content areas on a raw score basis, it is useful to transform these raw cut scores to a scale that is more easily interpretable and consistent. Using scaled scores greatly simplifies the task of understanding how a student performed.