eMPowerME ELA/Literacy and Mathematics Assessment Standard Setting Report

August 16–19, 2016

Portland, ME

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TABLE OF CONTENTS

CHAPTER 1 DESCRIPTION OF STANDARD SETTING METHODOLOGY

1.1 OVERVIEW OF STANDARD SETTING PROCEDURES

The purpose of this report is to summarize the activities of the standard setting meeting for the Maine Department of Education (DOE) using eMPower (eMPowerME) assessment in English language arts (ELA/Literacy) and mathematics (Grades 3–8). The need for standard setting arises from the fact that this is a new assessment that was administered for the first time in 2016. For this new assessment, achievement standards must be set. The primary goal of the standard setting was to determine the knowledge, skills, and abilities (KSAs) that are necessary for students to demonstrate in order to be classified into each of the achievement levels. The methodology utilized was consistent with the Maine DOE's desire to establish cut scores similar in rigor to those applied in 2014-15 by the Smarter Balanced Assessment Consortium (SBAC), of which Maine was a member in 2014-15.

The standard setting was completed using a triangulation of three main methods:

1) A judgmental standard setting meeting using the Bookmark method.
2) An equipercentile link to the 2014-15 SBAC achievement level distributions.
3) A Lexile/Quantile link to 2014-15 SBAC assessment conducted by MetaMetrics.

The Maine standard setting meeting was held August 16 through 19, 2016. In all, there were 6 panels with over 40 panelists participating in the process. Each panelist was assigned to two adjacent grades (i.e., 3/4, 5/6, or 7/8). Note that in the ELA/Literacy 7/8 and Mathematics 3/4 panels, one panelist in each could not stay for the second grade in the panel, resulting in different counts for the panel. The configuration of the panels is shown in Table 1-1.

Table 1-1. 2016 eMPowerME Standard Setting Report: Configuration of Standard Setting Panels

Panel	Number of Panelists	Content Area(s)	Grade/ Grade Span
1	7 7	ELA/Literacy	3 4
2	8 8	ELA/Literacy	5 6
3	8 7	ELA/Literacy	7 8
4	8 7	Mathematics	3 4
5	8 8	Mathematics	5 6
6	7 7	Mathematics	7 8

The standard setting process used was the bookmark procedure (see, for example, Lewis et al., 1996; Mitzel et al., 2000; Cizek & Bunch, 2007). The main reason for choosing this method was that the assessment consists primarily of multiple-choice items but also includes some constructed-response items, and the bookmark procedure is appropriate for use with assessments that contain primarily or exclusively multiple-choice items, scaled using item response theory (IRT) (Cizek & Bunch, 2007). The agenda for the standard setting meeting is provided in Appendix A.

The equipercentile and Lexile/Quantile studies were completed after the judgmental standard setting meeting. These three methods were taken into account in determining the final standard setting results.

1.2 ORGANIZATION OF THIS REPORT

This report is organized into three major sections. They are organized to describe tasks completed (1) prior to, (2) during, and (3) after the judgmental standard setting meeting.

CHAPTER 2 TASKS COMPLETED PRIOR TO THE STANDARD SETTING MEETING

2.1 CREATION OF ACHIEVEMENT LEVEL DESCRIPTORS

The achievement level descriptors (ALDs) for each grade and content area provided panelists with the official description of the knowledge, skills, and abilities (KSAs) that students are expected to be able to display in order to be classified into each achievement level. The ALDs were reviewed, edited, and approved by the DOE. The ALDs utilized during standard setting are included in Appendix A.

2.2 PREPARATION OF MATERIALS FOR PANELISTS

The following materials were assembled for presentation to the panelists at the standard setting meeting:

- Meeting agenda
- Non-disclosure agreement form
- ALDs
- Test booklets
- Ordered item booklets (OIBs)
- Item map forms
- Rating forms
- Evaluation forms

OIBs were created from the eMPowerME operational forms. Copies of the ALDs, meeting agenda, non-disclosure agreement form, sample item map form, sample rating form, and evaluation form are included in Appendices A through F.

2.3 PREPARATION OF PRESENTATION MATERIALS

The standard setting process was presented to the panels in the opening session. The slides were prepared prior to the meeting and are included in Appendix G.

2.4 PREPARATION OF INSTRUCTIONS FOR FACILITATORS

Scripts were created for the group facilitators to refer to while working through each step of the standard setting process. This document is included in Appendix H. The facilitators also attended a training session led by a Measured Progress psychometrician approximately a week before the standard setting. The purpose of the training

was to prepare the facilitators for the panel activities and to ensure consistency in the implementation of the bookmark method.

2.5 Preparation of Systems and Materials for Analysis During the Meeting

The computational programming used to calculate cut scores and impact data during the standard setting meeting was completed and thoroughly tested prior to the standard setting meeting. See Section 3.7, Tabulation of Round 1 Results, for a description of the analyses performed during standard setting.

2.6 Selection of Panelists

As emphasized in Cizek and Bunch (2007), regardless of the method used, the selection of panelists is an important factor in determining standard setting outcomes and maximizing the validity of the standard setting process. Consistent with the above guidance, as well as practical considerations regarding the maximum size of a group that can be successfully managed, the goal was to recruit standard setting panels of 8 to 10 educators per panel, representing different stakeholder groups to set standards for each grade. Panelists were recruited and selected by the Maine Department of Education, Office of Assessment & Accountability, prior to the standard setting sessions.

The committee was purposefully selected, including representative samples of general and special educators, administrators, and curriculum specialists with expertise for each grade level in each content area.

Panelists were recruited through an online application process. The Maine Department of Education, Office of Assessment & Accountability, made an announcement in June 2016 on the Maine Educational Assessment listserv that they were seeking interested teachers, instructional coaches, and building/corporation administrators to serve on assessment-related committees. Interested educators were asked to submit a survey focused on details regarding their experience, including teaching experience (current and past), experience with special populations (students with disabilities, limited English proficient learners), and familiarity with state assessments and Maine content standards. Survey information also included the educator's gender, race/ethnicity, and geographical location. The Office of Assessment & Accountability then selected applicants based on the qualifications included in their survey answers, and Measured Progress contacted the applicants to confirm their availability to serve on a panel during the week of standard setting meetings.

CHAPTER 3 TASKS COMPLETED DURING THE STANDARD SETTING MEETING

3.1 OVERVIEW OF BOOKMARK METHOD

The bookmark method (Cizek & Bunch, 2007; Lewis et al., 1996; Mitzel et al., 2000) involves rank ordering the items by difficulty and asking the panelists to identify the point in the ordered set of items at which the students at the borderline of two achievement levels would no longer answer the item correctly. The method has been widely used for setting performance standards for high-stakes assessments.

3.2 ORIENTATION

With regard to panelist training, *Standards for Educational and Psychological Testing* states the following:

> Care must be taken to assure these persons understand what they are to do and that their judgments are as thoughtful and objective as possible. The process must be such that well-qualified participants can apply their knowledge and experience to reach meaningful and relevant judgments that accurately reflect their understandings and intentions. (AERA/APA/NCME, 2014, p. 101)

The training of the panelists began with a general orientation at the start of the standard setting meeting. The purpose of the orientation was to ensure that all panelists received the same information about the need for, and goals of, standard setting and about their role in the process. The orientation consisted of two parts. First, Measured Progress Program Manager Dr. Dave Knauer provided some pertinent information about the eMPowerME assessment and an introduction to standard setting. Next, Measured Progress psychometrician Dr. Lee LaFond presented a brief overview of the bookmark procedure and the activities that would occur during the standard setting meeting. Once the general orientation was complete, each panel convened in a break-out room, where the panelists received more detailed training from their facilitator and completed the standard setting activities.

3.3 REVIEW OF ASSESSMENT MATERIALS

The first step after the opening session was for the panelists to become familiar with the eMPowerME assessment. The facilitators provided an overview of the assessment. Then, each panelist took a paper version of the assessment. The purpose of the step was to help the panelists become familiar with the test items and gain an understanding of the experience of the students who take the assessment.

3.4 Review of Achievement Level Descriptors (ALDs)

After taking the test, panelists reviewed the ALDs. This important step was designed to ensure that panelists thoroughly understood the knowledge, skills, and abilities (KSAs) needed in order for students to be classified into four achievement levels (Level 1, Level 2, Level 3, and Level 4). Panelists reviewed the ALDs on their own and then participated in group discussion, clarifying each level. The ALDs are provided in Appendix A.

3.5 Completion of the Item Map Form

Panelists then completed the item map form. The item map form listed the items in the same order as they appeared in the ordered item booklet (OIB). The item map form included space for the panelists to write in the KSAs required to answer each item correctly. There was also space for the panelists to explain why they believed each item was more difficult than the previous one.

The purpose of this step was to ensure that panelists became familiar with the OIB and understood the relationships among the ordered items. The OIB contained one item per page, ordered from the easiest item to the most difficult item. The OIB was created by sorting the items according to their IRT-based difficulty values (the $RP_{0.50}$). A three-parameter logistic IRT model was used to calculate the response probability (RP) values for dichotomous items. For polytomous items the Graded Response Model was used to calculate RP values. Each panelist reviewed the OIB item by item, considering the KSAs students needed to answer each one. The panelists recorded this information on the item map form along with reasons why each item was more difficult than the previous one. After they finished working individually, panelists had the opportunity to discuss the item map form as a group and make necessary additions or adjustments.

3.6 Discussion of ALDs and Borderline Students

Panelists had another opportunity to individually review the ALDs as needed. Afterward, panelists developed consensus definitions of borderline students—that is, students who have only barely qualified for a particular achievement level. Bulleted lists of characteristics for each level were generated based on the whole-group discussion and posted in the room for reference throughout the bookmark process. Note that the purpose of this step was to clarify and add specificity to the ALDs based on the KSAs identified for each item in the previous step (completion of the item map form), with particular attention to the definitions of the borderline students. The bulleted lists were developed as working documents to be used by the panelists for the purposes of standard setting. They supplemented the ALDs, which provide the official definition of what it means for a student to be classified into each achievement level, by specifically addressing the KSAs that define the borderline of each level.

3.7 PRACTICE ROUND

Next, the panelists completed a practice round of ratings. The purpose of the practice round was to familiarize the panelists with all the materials they would be using for the standard setting process and to walk them through the process of placing bookmarks. In addition to the ALDs and borderline descriptions, panelists were given a practice OIB, which consisted of five items (two easy, two difficult, and one moderately difficult), and a practice rating form.

The facilitator explained what each of the materials was and how panelists would use it to make their ratings. Then, beginning with the first ordered item and considering the KSAs needed to complete it, panelists were instructed to ask themselves, "Would 50% of the students performing at the borderline of Level 2 answer this question correctly?" For constructed-response items, the question is modified to: "Would 50% of the students performing at the borderline of Level 2 get this score point or higher?"

Panelists considered each ordered item in turn, asking themselves the same question until their answer changed from "yes" (or predominantly "yes") to "no" (or predominantly "no"). Each panelist practiced placing the Pass bookmark in the practice OIB. The facilitator then led the panelists in a readiness discussion, asking panelists to share the reasoning behind their bookmark placements with the group and assessing each panelist's understanding of the rating task, borderline students, and the 50% rule.

3.8 TRAINING EVALUATION

At the end of the practice round, panelists completed the training evaluation form. The evaluation form was designed to ascertain whether the panelists were comfortable moving ahead to the rating task or whether there were lingering questions or issues that needed to be addressed before proceeding to the Round 1 ratings. Facilitators were instructed to glance over each panelist's evaluation as he or she completed it to make sure panelists were ready to move on. The results of the training evaluation can be found in Appendix J.

3.9 ROUND 1 JUDGMENTS

In the first round, panelists worked individually with the ALDs, the item map form, and the OIB. Beginning with the first ordered item and considering the KSAs needed to complete it, they asked themselves, "Would at least 50% of the students performing at the borderline of Level 2 answer this question correctly?" Panelists considered each ordered item in turn, asking themselves the same question. They placed the bookmark between the two items where their answer changed from "yes" (or predominantly "yes") to "no" (or predominantly "no"). Panelists then repeated the process for the other two cuts and used the rating form to record their ratings for each cut.

3.10 TABULATION OF ROUND 1 RESULTS

After the Round 1 ratings were complete, the Measured Progress staff members calculated the median cut scores for the panels based on Round 1 bookmark placements. Cut scores were calculated using Statistical Analysis Software (SAS). First, each panelist's cut points were found on the theta scale by averaging the $RP_{0.50}$ values of the items on either side of the bookmark placed by that panelist for each cut. For a given cut point, the median was taken across all panelists. Using this methodology all cut points were determined on the theta scale. Because the eMPowerME assessment is constructed and equated using IRT analyses, use of an IRT-based standard setting method and calculating cuts on the theta metric is the natural choice (Cizek & Bunch, 2007). The theta scale established for the 2016 eMPowerME forms will be the reference scale for equating future test forms, and thus the cut points on the theta scale will represent a comparable level of achievement across forms and years.

The results of the panelists' Round 1 ratings and associated impact data are outlined in Tables 3-1 and 3-2. Shown are the theta cuts along with their associated OIB page ranges for each achievement level. In addition, the median absolute deviation (MAD) of the panelists' cut points was calculated, which gives an indication of the extent to which judgments were consistent across panelists and reflects the level of agreement among the ratings with each successive round of ratings. Finally, impact data—reflecting the percentage of students across Maine who would fall into each achievement level category according to the Round 1 total group median cut points—were calculated.

Table 3-1. 2016 eMPowerME Standard Setting Report: Round 1 Results—ELA/Literacy

Grade	Achievement Levels	Median Theta Cut	OIB Page Range		Median Absolute Deviation	Percent of Students
			Minimum	*Maximum*		
3	Level 1		1	8		26.03%
	Level 2	-0.693	9	29	0.000	25.96%
	Level 3	0.036	30	50	0.056	27.50%
	Level 4	0.849	51	64	0.254	20.52%
4	Level 1		1	7		19.43%
	Level 2	-0.972	8	28	0.163	18.83%
	Level 3	-0.291	29	54	0.095	43.32%
	Level 4	0.967	55	64	0.186	18.41%
5	Level 1		1	11		25.51%
	Level 2	-0.736	12	29	0.041	19.65%
	Level 3	-0.146	30	53	0.094	39.80%
	Level 4	1.057	54	64	0.473	15.03%
6	Level 1		1	12		16.26%
	Level 2	-1.068	13	26	0.000	13.16%
	Level 3	-0.511	27	56	0.088	55.84%
	Level 4	1.121	57	66	0.393	14.74%
7	Level 1		1	7		20.78%
	Level 2	-0.898	8	26	0.098	19.50%
	Level 3	-0.271	27	52	0.089	42.16%
	Level 4	0.965	53	64	0.269	17.55%

continued

Grade	Achievement Levels	Median Theta Cut	OIB Page Range		Median Absolute Deviation	Percent of Students
			Minimum	*Maximum*		
8	Level 1		1	16		16.14%
	Level 2	-0.993	17	32	0.000	12.23%
	Level 3	-0.483	33	57	0.157	59.80%
	Level 4	1.251	58	66	0.225	11.84%

Table 3-2. 2016 eMPowerME Standard Setting Report: Round 1 Results—Mathematics

Grade	Achievement Levels	Median Theta Cut	OIB Page Range		Median Absolute Deviation	Percent of Students
			Minimum	*Maximum*		
3	Level 1		1	3		22.56%
	Level 2	-0.849	4	17	0.051	20.56%
	Level 3	-0.161	18	38	0.271	53.48%
	Level 4	1.853	39	48	0.294	3.40%
4	Level 1		1	3		15.19%
	Level 2	-1.307	4	14	0.615	36.30%
	Level 3	0.091	15	42	0.121	47.34%
	Level 4	2.158	43	50	0.153	1.18%
5	Level 1		1	3		31.62%
	Level 2	-0.419	4	15	0.219	33.10%
	Level 3	0.410	16	37	0.209	28.45%
	Level 4	1.458	38	52	0.143	6.83%
6	Level 1		1	5		17.29%
	Level 2	-1.237	6	16	0.038	34.87%
	Level 3	0.091	17	43	0.316	46.15%
	Level 4	2.036	44	54	0.164	1.69%
7	Level 1		1	3		31.11%
	Level 2	-0.628	4	14	0.000	33.85%
	Level 3	0.338	15	33	0.250	31.46%
	Level 4	1.775	34	48	0.152	3.59%
8	Level 1		1	4		24.70%
	Level 2	-0.680	5	16	0.280	31.25%
	Level 3	0.218	17	33	0.337	35.45%
	Level 4	1.328	34	54	0.124	8.60%

3.11 ROUND 2 JUDGMENTS

The purpose of Round 2 was for panelists to discuss their Round 1 placements and, if necessary, to revise their ratings. The panelists were presented with the group median cut points based on the Round 1 ratings for the panelists. The median cut points were presented in terms of location in the OIB. The panelists then shared their individual rationales for their bookmark placements in terms of the necessary KSAs for each classification. Panelists were asked to pay particular attention to how their individual ratings compared to those of the others in their group and get a sense for whether they were unusually stringent or lenient within the group.

Psychometricians presented the information to the group with projected tables and figures, and explained how to use it as they completed their Round 2 discussions.

Panelists were told to set bookmarks according to their individual best judgments; consensus among the panelists was not necessary. Panelists were encouraged to listen to the points made by their colleagues but not to feel compelled to change their bookmark placements. Once the discussions were complete, panelists were given the opportunity to revise their Round 1 ratings on the rating form.

3.12 TABULATION OF ROUND 2 RESULTS

When Round 2 ratings were complete, the Measured Progress data analysis team calculated the median cut scores for the room and associated impact data. The results of the panelists' Round 2 ratings are outlined in Tables 3-3 and 3-4.

Table 3-3. 2016 eMPowerME Standard Setting Report: Round 2 Results—ELA/Literacy

Grade	Achievement Levels	Median Theta Cut	OIB Page Range		Median Absolute Deviation	Percent of Students
			Minimum	*Maximum*		
3	Level 1		1	7		26.03%
	Level 2	-0.716	8	29	0.023	25.96%
	Level 3	0.036	30	49	0.000	25.20%
	Level 4	0.817	50	64	0.000	22.82%
4	Level 1		1	5		12.09%
	Level 2	-1.316	6	24	0.000	26.18%
	Level 3	-0.343	25	52	0.147	38.45%
	Level 4	0.781	53	64	0.000	23.28%
5	Level 1		1	13		28.32%
	Level 2	-0.661	14	30	0.000	19.65%
	Level 3	-0.052	31	56	0.000	45.63%
	Level 4	1.574	57	64	0.000	6.41%
6	Level 1		1	12		16.26%
	Level 2	-1.068	13	24	0.000	10.70%
	Level 3	-0.614	25	57	0.000	62.91%
	Level 4	1.295	58	66	0.086	10.14%
7	Level 1		1	10		23.52%
	Level 2	-0.768	11	30	0.000	19.81%
	Level 3	-0.191	31	56	0.023	44.93%
	Level 4	1.234	57	64	0.053	11.74%
8	Level 1		1	16		16.14%
	Level 2	-0.993	17	36	0.000	17.27%
	Level 3	-0.385	37	58	0.000	59.04%
	Level 4	1.406	59	66	0.155	7.56%

Table 3-4. 2016 eMPowerME Standard Setting Report: Round 2 Results—Mathematics

Grade	Achievement Levels	Median Theta Cut	OIB Page Range		Median Absolute Deviation	Percent of Students
			Minimum	*Maximum*		
3	Level 1		1	3		22.56%
	Level 2	-0.849	4	17	0.000	20.56%
	Level 3	-0.161	18	38	0.000	53.48%
	Level 4	1.853	39	48	0.000	3.40%
4	Level 1		1	3		15.19%
	Level 2	-1.307	4	14	0.000	36.30%
	Level 3	0.091	15	45	0.000	47.92%
	Level 4	2.373	46	50	0.102	0.59%
5	Level 1		1	3		31.62%
	Level 2	-0.419	4	16	0.264	39.55%
	Level 3	0.579	17	43	0.025	26.49%
	Level 4	1.969	44	52	0.000	2.34%
6	Level 1		1	5		17.29%
	Level 2	-1.237	6	15	0.019	34.87%
	Level 3	0.030	16	42	0.026	45.71%
	Level 4	1.991	43	54	0.045	2.13%
7	Level 1		1	3		31.11%
	Level 2	-0.628	4	14	0.000	33.85%
	Level 3	0.338	15	32	0.000	31.46%
	Level 4	1.715	33	48	0.025	3.59%
8	Level 1		1	5		29.25%
	Level 2	-0.517	6	16	0.000	26.70%
	Level 3	0.218	17	32	0.077	33.71%
	Level 4	1.285	33	54	0.000	10.33%

3.13 ROUND 3 JUDGMENTS

The purpose of Round 3 was for panelists to discuss their Round 2 placements and, if necessary, to revise their ratings. Prior to the discussions, the panelists were presented with the median cuts of the group based on Round 2 results. During this round, the group was also presented with the impact data (i.e., the percentage of students classified into each achievement level based on the group median cuts) for the entire group. The psychometrician projected the information and explained how to use it as they completed their Round 3 discussions. The facilitator then led an extended discussion of the Round 2 results. The discussion walked the panelists through the OIB, focusing on the KSAs needed for each item and how they related to the ALDs. In addition, the discussion explored the differences in where each panelist placed the cuts. Finally, after the discussions, panelists were given a final opportunity to revise their bookmark placements. Once again, the facilitator reminded the panelists that they should place the bookmarks according to their individual best judgment and that it was not necessary for the panelists to reach a consensus.

3.14 TABULATION OF ROUND 3 RESULTS

When Round 3 ratings were complete, the Measured Progress staff members once again calculated the median cut scores for the room and the associated impact data. The results of the panelists' Round 3 ratings are outlined in Tables 3-5 and 3-6. The cross-grade impact data are shown in Figures 3-1 and 3-2.

Table 3-5. 2016 eMPowerME Setting Report: Round 3 Results—ELA/Literacy

Grade	Achievement Levels	Median Theta Cut	OIB Page Range		Median Absolute Deviation	Percent of Students
			Minimum	*Maximum*		
3	Level 1		1	7		26.03%
	Level 2	-0.716	8	23	0.000	15.34%
	Level 3	-0.229	24	49	0.000	35.81%
	Level 4	0.817	50	64	0.000	22.82%
4	Level 1		1	5		12.09%
	Level 2	-1.316	6	24	0.000	26.18%
	Level 3	-0.343	25	55	0.000	51.99%
	Level 4	1.342	56	64	0.234	9.74%
5	Level 1		1	13		28.32%
	Level 2	-0.661	14	30	0.000	19.65%
	Level 3	-0.052	31	56	0.000	45.63%
	Level 4	1.574	57	64	0.000	6.41%
6	Level 1		1	12		16.26%
	Level 2	-1.068	13	29	0.000	15.77%
	Level 3	-0.448	30	57	0.000	57.84%
	Level 4	1.295	58	66	0.086	10.14%
7	Level 1		1	10		23.52%
	Level 2	-0.768	11	30	0.000	19.81%
	Level 3	-0.191	31	56	0.000	44.93%
	Level 4	1.234	57	64	0.000	11.74%
8	Level 1		1	16		16.14%
	Level 2	-0.993	17	36	0.000	17.27%
	Level 3	-0.385	37	57	0.000	54.76%
	Level 4	1.251	58	66	0.000	11.84%

Figure 3-1. 2016 eMPowerME Standard Setting Report: Round 3 Results—ELA/Literacy

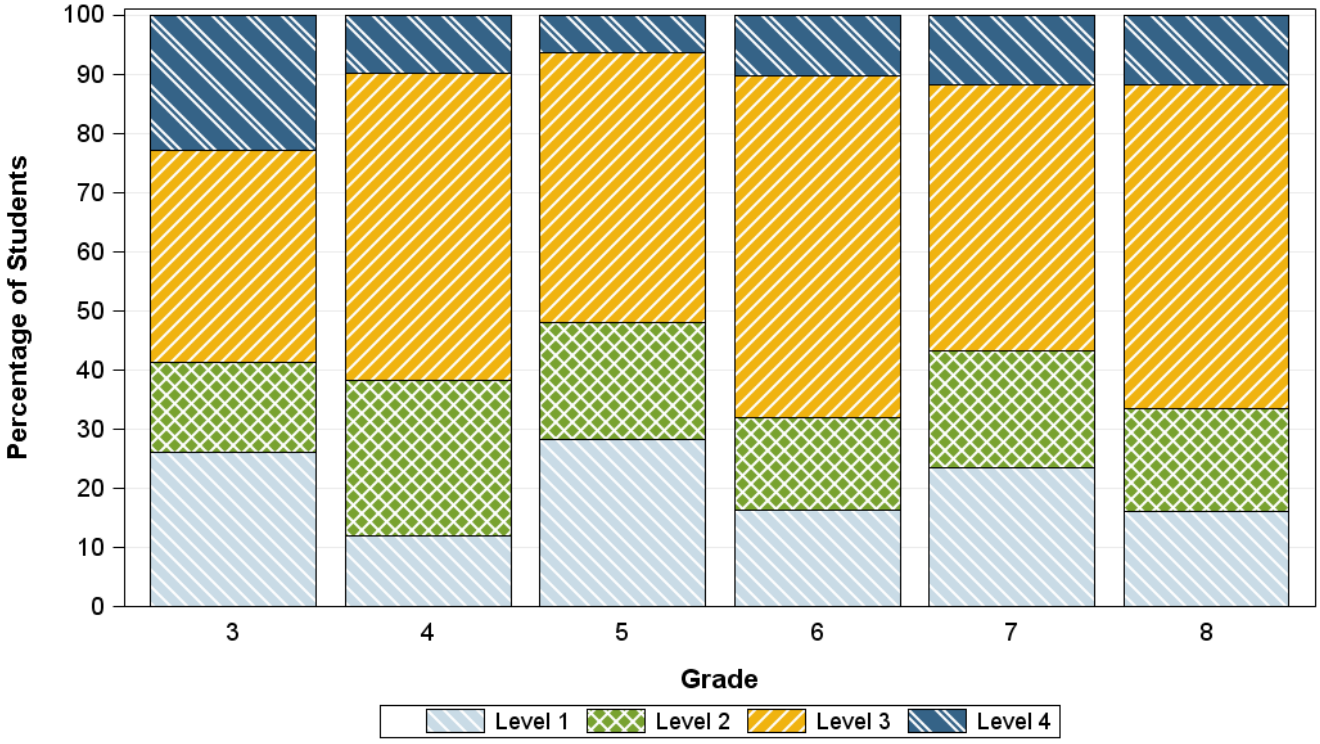
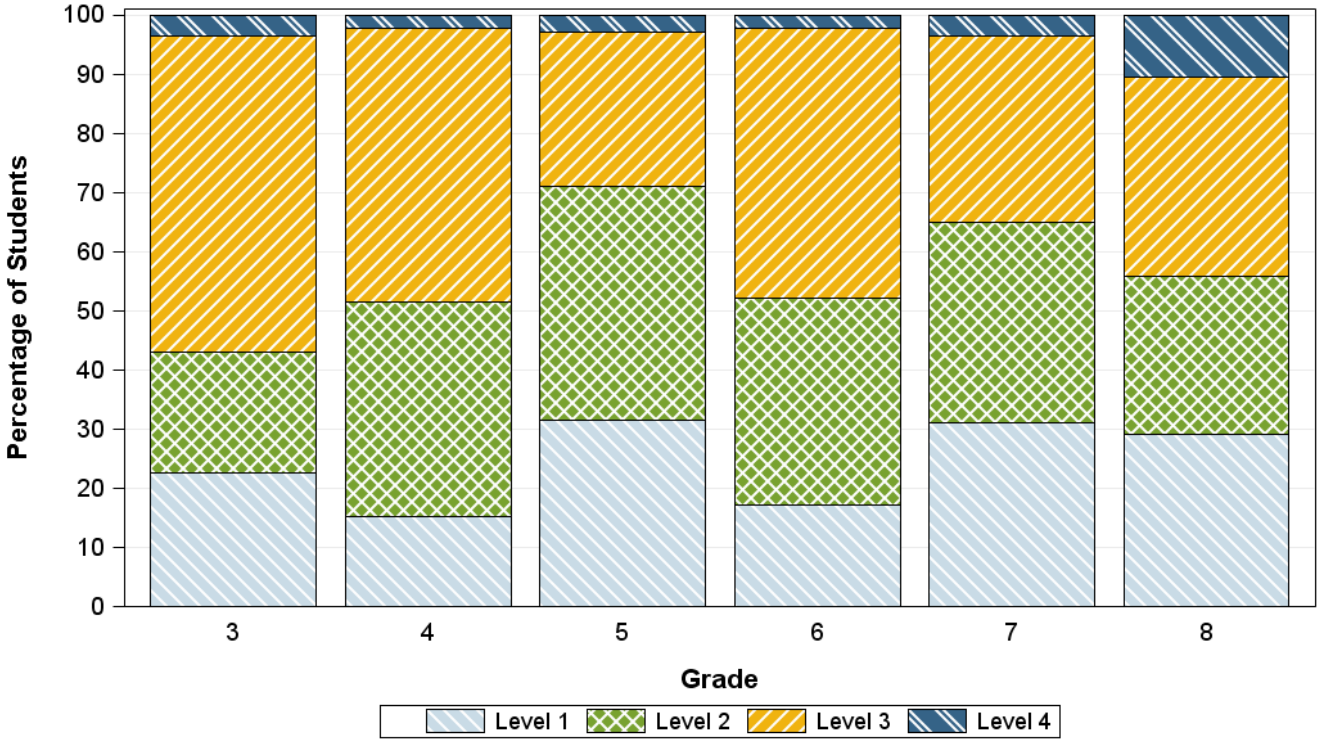


Table 3-6. 2016 eMPowerME Standard Setting Report: Round 3 Results—Mathematics

Grade	Achievement Levels	Median Theta Cut	OIB Page Range		Median Absolute Deviation	Percent of Students
			Minimum	*Maximum*		
3	Level 1		1	3		22.56%
	Level 2	-0.849	4	17	0.000	20.56%
	Level 3	-0.161	18	38	0.000	53.48%
	Level 4	1.853	39	48	0.000	3.40%
4	Level 1		1	3		15.19%
	Level 2	-1.307	4	13	0.000	36.30%
	Level 3	0.024	14	41	0.000	46.32%
	Level 4	2.005	42	50	0.000	2.19%
5	Level 1		1	3		31.62%
	Level 2	-0.419	4	16	0.000	39.55%
	Level 3	0.579	17	42	0.000	25.95%
	Level 4	1.852	43	52	0.116	2.88%
6	Level 1		1	5		17.29%
	Level 2	-1.237	6	14	0.000	34.87%
	Level 3	0.004	15	41	0.026	45.71%
	Level 4	1.946	42	54	0.000	2.13%
7	Level 1		1	3		31.11%
	Level 2	-0.628	4	14	0.000	33.85%
	Level 3	0.338	15	32	0.000	31.46%
	Level 4	1.715	33	48	0.025	3.59%
8	Level 1		1	5		29.25%
	Level 2	-0.517	6	16	0.000	26.70%
	Level 3	0.218	17	32	0.077	33.71%
	Level 4	1.285	33	54	0.000	10.33%

Figure 3-2. 2016 eMPowerME Standard Setting Report: Round 3 Results—Mathematics



3.15 SEQUENCE OF GRADE LEVELS

The process described in the previous paragraphs was followed for each grade/content area. Each panel was responsible for recommending standards for two grade levels. See Table 1-1 for the configuration of the panels. Therefore, the results presented in Tables 3-3 through 3-6 represent a repetition of the process by each panel. In each case, a panel would complete the process for its first grade level, starting with the review of the assessment materials and ending with the Round 3 ratings, and then repeat the entire process one more time for the remaining grade level.

3.16 EVALUATION

The measurement literature sometimes considers the evaluation process to be another product of the standard setting process (e.g., Reckase, 2001), as it provides important validity evidence supporting the cut scores that are obtained. To provide evidence of the participants' views of the standard setting process, panelists were asked to complete an evaluation about the general session presentations, the practice round, and the standard setting process itself. These evaluations were separated into a process evaluation that was completed after each grade (resulting in most panels completing two), and a final evaluation completed at the end of the meeting. The results of the evaluations are presented in Appendix J.

CHAPTER 4 TASKS COMPLETED AFTER THE STANDARD SETTING MEETING

Upon conclusion of the standard setting meeting, several important tasks were completed. These tasks centered on the following: convening a cross-grade articulation committee to review the cut scores for all grades and content areas; reviewing the standard setting process and addressing issues presented by the outcomes; presenting the results to Maine; making any final revisions or adjustments based on policy considerations under the direction of the Maine DOE; and preparing the standard setting report.

4.1 CROSS-GRADE ARTICULATION COMMITTEE MEETING

Upon completion of the standard setting process, a cross-grade articulation committee was convened. Two to three panelists from each of the ELA/literacy and mathematics panels were asked to be a part of this meeting. Panelists were given an overview of the process, which involved: (1) reviewing the impact data that result from the Round 3 ratings; (2) completing a rating form to indicate if they think each cut score is too high, about right, or too low; and (3) discussing any concerns or observations they have about the data (a sample of the evaluation forms is included in Appendix F). The discussions started with the Level 2 cut for the lowest grade, followed by discussions of the Level 2 cuts for the following grades. If the panelists were uncomfortable with a particular cut score and wanted to investigate it further, they were presented with the ordered item booklet (OIB), achievement level descriptors (ALDs), borderline ALDs, and the location of the bookmark for the grade of interest. Their task was to review the content of the items that surround the bookmark and make a recommendation for a revised placement. Once the group made a recommendation, the impact data results were updated and shared with the group for further discussion. This process continued until the committee discussed all cut scores that were of concern.

For both subject areas, a few of the cuts were decided to be inconsistent with other grades' bookmark placement reasoning and adjustments were made. A summary of these bookmark adjustments can be seen in Tables 4-1 and 4-2. Post-articulation results are shown in Tables 4-3 and 4-4, with shaded grades showing changes since Round 3. The post-articulation cross-grade impact data are shown in Figures 4-1 and 4-2. Panelist evaluations of the appropriateness of the cuts, both pre- and post-articulation, are in Appendix J.

Table 4-1. 2016 eMPowerME Standard Setting Report: Summary of Articulation Changes—ELA/Literacy

Grade	Achievement Levels	Round 3 OIB Cut	Post-Articulation OIB Cut
3	Level 2	8	6
	Level 4	50	53
4	Level 2	6	9
5	Level 2	14	10
	Level 3	31	29
	Level 4	57	55
6	Level 3	30	34
7	Level 2	11	8

Table 4-2. 2016 eMPowerME Standard Setting Report: Summary of Articulation Changes—Mathematics

Grade	Achievement Levels	Round 3 OIB Cut	Post-Articulation OIB Cut
4	Level 2	4	6
5	Level 2	4	3
6	Level 2	6	9
	Level 3	15	20
8	Level 3	17	18
	Level 4	33	36

Table 4-3. 2016 eMPowerME Standard Setting Report: Post-Articulation Results—ELA/Literacy

Grade	Achievement Levels	Median Theta Cut	OIB Page Range		Percent of Students
			Minimum	*Maximum*	
3	Level 1		1	5	23.46%
	Level 2	-0.773	6	23	17.90%
	Level 3	-0.229	24	52	42.72%
	Level 4	1.036	53	64	15.91%
4	Level 1		1	8	19.43%
	Level 2	-0.900	9	24	18.83%
	Level 3	-0.343	25	55	51.99%
	Level 4	1.342	56	64	9.74%
5	Level 1		1	9	22.72%
	Level 2	-0.813	10	28	22.45%
	Level 3	-0.175	29	54	45.44%
	Level 4	1.355	55	64	9.40%
6	Level 1		1	12	16.26%
	Level 2	-1.068	13	33	18.39%
	Level 3	-0.368	34	57	55.22%
	Level 4	1.295	58	66	10.14%
7	Level 1		1	7	18.14%
	Level 2	-0.925	8	30	25.18%
	Level 3	-0.191	31	56	44.93%
	Level 4	1.234	57	64	11.74%

continued

Grade	Achievement Levels	Median Theta Cut	OIB Page Range		Percent of Students
			Minimum	*Maximum*	
8	Level 1		1	16	16.14%
	Level 2	-0.993	17	36	17.27%
	Level 3	-0.385	37	57	54.76%
	Level 4	1.251	58	66	11.84%

Figure 4-1. 2016 eMPowerME Standard Setting Report: Post-Articulation Results—ELA/Literacy

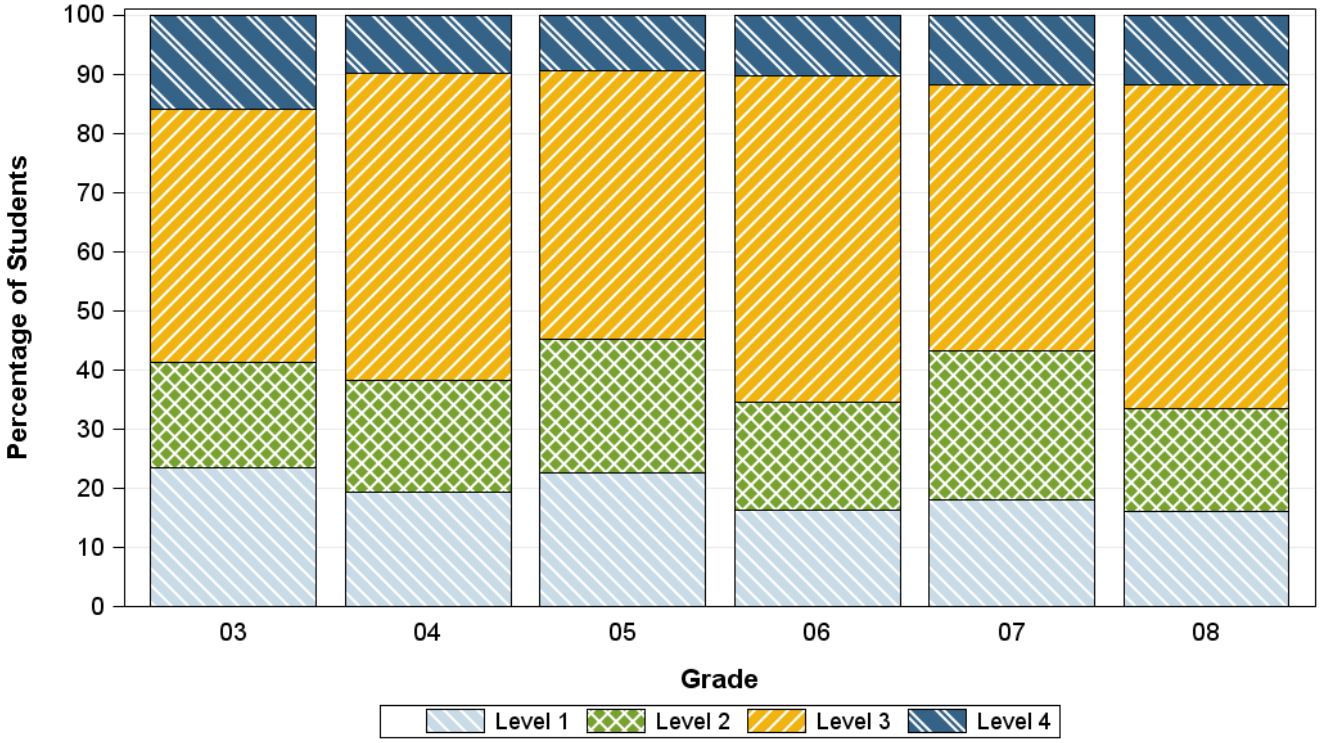
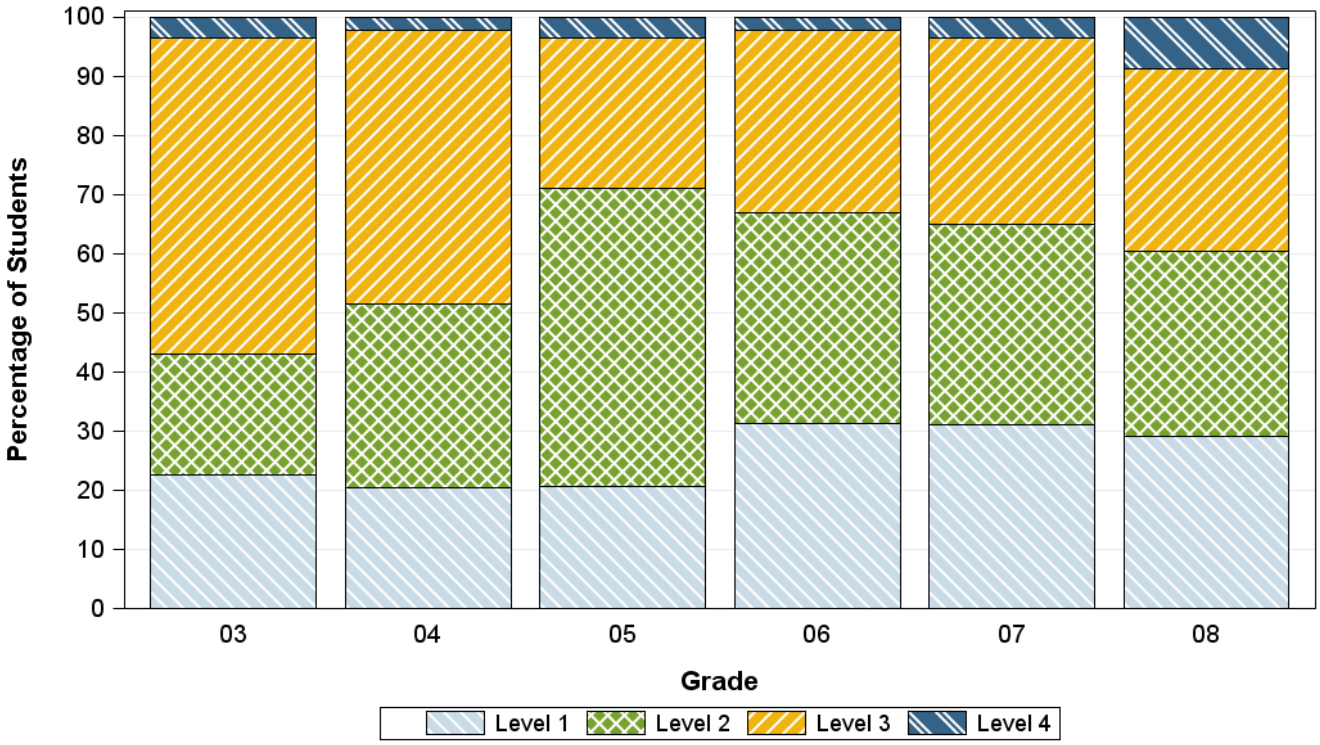


Table 4-4. 2016 eMPowerME Standard Setting Report: Post-Articulation Results—Mathematics

Grade	Achievement Levels	Median Theta Cut	OIB Page Range		Percent of Students
			Minimum	*Maximum*	
3	Level 1		1	3	22.56%
	Level 2	-0.849	4	17	20.56%
	Level 3	-0.161	18	38	53.48%
	Level 4	1.853	39	48	3.40%
4	Level 1		1	5	20.47%
	Level 2	-1.002	6	13	31.02%
	Level 3	0.024	14	41	46.32%
	Level 4	2.005	42	50	2.19%
5	Level 1		1	2	20.78%
	Level 2	-1.028	3	16	50.40%
	Level 3	0.579	17	42	25.31%
	Level 4	1.837	43	52	3.52%
6	Level 1		1	8	31.23%
	Level 2	-0.580	9	19	35.70%
	Level 3	0.417	20	41	30.94%
	Level 4	1.946	42	54	2.13%
7	Level 1		1	3	31.11%
	Level 2	-0.628	4	14	33.85%
	Level 3	0.338	15	32	31.46%
	Level 4	1.715	33	48	3.59%
8	Level 1		1	5	29.25%
	Level 2	-0.517	6	17	31.19%
	Level 3	0.336	18	35	30.96%
	Level 4	1.401	36	54	8.60%

Figure 4-2. 2016 eMPowerME Standard Setting Report: Post-Articulation Results—Mathematics



4.2 Analysis and Review of Panelists' Feedback

Upon completion of the evaluation forms, panelists' responses were reviewed by Measured Progress psychometricians. This review did not reveal any anomalies in the standard setting process or indicate any reason that a particular panelist's data should not be included when the final cut points were calculated. In general, participants felt that the recommended cut points were appropriate and that their judgments were based on appropriate information and decision making (see Appendix J). However, one notable exception is that in the post-articulation evaluation of the mathematics grade 5 Level 2/3 cut, the majority of panelists thought the cut was somewhat low. Similarly, in the post-articulation evaluation of the ELA/literacy grade 6 Level 2/3 cut, the majority of panelists thought the cut was somewhat high.

4.3 Equipercentile and Lexile/Quantile Linking

Given Maine's goal of establishing cut scores that were similar in rigor to the cut scores employed by SBAC in 2014-15, three different methodologies were employed. In addition to the results suggested by the judgmental standard setting meeting, two additional studies were completed to provide additional data to ensure that the standard setting results were consistent with achievement level distributions from the 2014-15 academic year. The additional studies included an equipercentile link to the 2014-15 SBAC achievement level distributions

and a Lexile/Quantile link to the 2014-15 SBAC assessment conducted by MetaMetrics. All three methodologies were taken into account in a triangulation to determine the final standard setting results.

The equipercentile link was accomplished by taking the 2014-15 achievement level distributions on the SBAC and comparing them to the 2015-16 eMPowerME achievement level distributions. For each achievement level in a given grade/content combination, a linear interpolation of the associated theta cut value on the eMPowerME scale using cumulative distributions of the eMPowerME data relative to SBAC achievement distributions was calculated. The formula for calculating the theta cut for a given achievement level is as follows:

$$\theta_{Cut} = \theta_{EMP\_Low} + \left(CDF_{SBAC} - CDF_{EMP\_Low}\right)\frac{(\theta_{EMP\_High} - \theta_{EMP\_Low})}{(CDF_{EMP\_High} - CDF_{EMP\_Low})} \qquad \text{(Equation 1)}$$

The resulting theta cuts and achievement distributions are displayed in Tables 4-5 and 4-6.

Table 4-5. 2016 eMPowerME Standard Setting Report: Equipercentile Results—ELA/Literacy

Grade	Achievement Levels	Median Theta Cut	Percent of Students
3	Level 1		23.46%
	Level 2	-0.788	28.52%
	Level 3	0.013	25.20%
	Level 4	0.773	22.82%
4	Level 1		29.72%
	Level 2	-0.599	23.96%
	Level 3	0.075	25.62%
	Level 4	0.844	20.70%
5	Level 1		22.72%
	Level 2	-0.784	25.25%
	Level 3	-0.070	33.00%
	Level 4	0.964	19.03%
6	Level 1		22.24%
	Level 2	-0.793	31.26%
	Level 3	0.100	31.76%
	Level 4	1.116	14.74%
7	Level 1		23.52%
	Level 2	-0.755	25.91%
	Level 3	0.023	36.98%
	Level 4	1.124	13.60%
8	Level 1		21.95%
	Level 2	-0.743	29.37%
	Level 3	0.057	34.46%
	Level 4	1.145	14.22%

Table 4-6. 2016 eMPowerME Standard Setting Report: Equipercentile Results—Mathematics

Grade	Achievement Levels	Median Theta Cut	Percent of Students
3	Level 1		22.56%
	Level 2	-0.774	29.03%
	Level 3	0.103	33.89%
	Level 4	1.094	14.52%
4	Level 1		20.47%
	Level 2	-0.959	35.54%
	Level 3	0.234	30.77%
	Level 4	1.112	13.22%
5	Level 1		26.10%
	Level 2	-0.586	38.62%
	Level 3	0.377	19.32%
	Level 4	1.019	15.97%
6	Level 1		26.21%
	Level 2	-0.640	35.89%
	Level 3	0.356	22.85%
	Level 4	0.998	15.05%
7	Level 1		24.69%
	Level 2	-0.683	35.54%
	Level 3	0.280	22.34%
	Level 4	0.992	17.43%
8	Level 1		38.35%
	Level 2	-0.293	26.48%
	Level 3	0.457	20.27%
	Level 4	1.036	14.89%

Measured Progress proposed a study to link the eMPowerME scale to the Spring 2015 Smarter Balanced scale using the MetaMetrics Lexile® and Quantile® scales. We chose to use the Quantile and Lexile scales as the basis of a linking study because of existing plans to link Lexile and Quantile scales to the Smarter Balanced scales and due to the solid research that underlies the development of the Lexile and Quantile scales. MetaMetrics used a combination of theory and empirical data to construct the Lexile and Quantile scales. Their research is extensively documented in technical reports.

4.3.1 Lexile and Quantile Measures

MetaMetrics' research on the typical reading demands of college and careers was used to help in the development of the Common Core State Standards and, more specifically, to the Lexile-based grade bands. The specific range associated with each grade level can be seen at: https://www.lexile.com/about-lexile/grade-equivalent/grade-equivalent chart/ (see "Typical Text Measures, by Grade"). The ranges presented in these tables are consistent with the Maine Learning Results.

Lexile measures delineate the level at which students read. The Lexile Framework is a unique tool for accurately matching readers with text. Unlike other measurement systems, the Lexile Framework provides a

scientific scale that measures text complexity and, more importantly, places students on that same scale to evaluate reading ability. In addition, it can be used to evaluate reading ability and growth based on actual assessment results, rather than generalized age or grade levels.

The Quantile Framework for Mathematics is a developmental scale similar to The Lexile Framework for Reading. The structure of the Quantile Framework is organized around two principles: 1) mathematics and mathematical achievement are developmental in nature, and 2) mathematics is a content area. Much like the Lexile Framework, the Quantile Framework places the mathematics curriculum, teaching resources, and students on a common, developmental scale, enabling educators to match students with instructional materials by readiness level, forecast their understanding, and monitor their progress.

4.3.2 Linking the eMPowerME Scale to Spring 2015 Smarter Balanced Scale

In Spring of 2016, MetaMetrics conducted a study to link Smarter Balanced scaled scores to the Lexile and Quantile scales and a second study linking eMPowerME Assessments reading and mathematics scaled scores to Lexile and Quantile scales. Based on those studies, Maine DOE received student-level Lexile and Quantile scaled scores for students who completed Smarter Balanced assessments in Spring of 2015.

Step 1: Convert Spring 2015 Smarter Balanced Scores

MetaMetrics converted all student-level Smarter Balanced scale scores to Lexile and Quantile measures for the Maine DOE and provided information on the development of the converted scores. The Smarter Balanced linking study was conducted between March and April 2016. The conversion tables to report the 2015 Smarter Balanced results for Maine were made available in September 2016.

Step 2: Conduct a Linking Study

During the Spring of 2016, MetaMetrics also conducted a study, on behalf of Maine DOE and Measured Progress, to link scores from the Maine eMPowerME Assessments in English/Language Arts & Literacy and Mathematics for Grades 3 through 8 with the Lexile and Quantile Frameworks. The linking study included the following activities:

- MetaMetrics built a T-Parallel set of items for each grade to be linked. The Lexile item bank contained between 34 and 36 items for each of Grades 3 through 8. The Quantile item bank contained between 38 and 40 items for each of Grades 3 through 8. Lexile/Quantile items were used in their target grade and at least one adjacent grade. For this study, all students in Maine were administered an embedded set of between 7 and 8 items from the Lexile item bank and 3 items from the Quantile item bank.
- Measured Progress, through its platform vendor, eMetric, administered the Lexile/Quantile Linking item sets and the Maine eMPowerME Assessments in English language arts/literacy and mathematics .

- Measured Progress provided an item-level data file of the 2016 Maine eMPowerME Assessments in English language arts/literacy and mathematics that included the Lexile and Quantile item sets to MetaMetrics.
- MetaMetrics examined the relationship between the Lexile/Quantile Linking item sets and the English language arts/literacy and mathematics items.

There were be two phases to the Maine eMPowerME Assessments Lexile/Quantile linking study: (1) calibration of Maine eMPowerME Assessments items to the Lexile and Quantile scales with Lexile/Quantile items as anchors; and (2) use of a linear method to link the two score scales (Kolen and Brennan, 2014).

Phase 1: Calibration Analyses.

MetaMetrics performed three steps prior to the linking analysis. First, a concurrent calibration of all Maine eMPowerME Assessments English language arts/literacy and mathematics items and Lexile/Quantile items was conducted to determine which items and persons are appropriate for further analysis. During this step, misfitting students were removed from the pool.

Second, a concurrent calibration of the Maine eMPowerME Assessments English language arts/literacy and mathematics items with Lexile/Quantile items anchored to their theoretical values was conducted to place the Maine eMPowerME Assessments English language arts/literacy and mathematics items onto the Lexile/Quantile scale.

Finally, a scoring run using only the Maine eMPowerME Assessments English language arts/literacy and mathematics items on the Lexile/Quantile scale was conducted to obtain Maine eMPowerME Assessments English language arts/literacy and mathematics calibrated Lexile/Quantile measures for students. These calibrated Lexile/Quantile measures were used in the subsequent linking process.

Phase 2: Linking Analyses.

Two score scales (e.g., the Smarter Balanced ELA/Mathematics scale and the Lexile/Quantile Scale) can be linked using linear equating when 1) test forms have similar difficulties; and 2) simplicity in conversion tables or equations, in conducting analyses, and in describing procedures are desired (Kolen and Brennan, 2004).

In linear equating, a transformation is chosen such that scores on two sets of items are considered to be equated if they correspond to the same number of standard deviations above (or below) the mean in some group of examinees (Angoff, 1984, cited in Peterson, Kolen, and Hoover, 1989; Kolen and Brennan, 2004, 2014). Given scores x and y on Tests X and Y, the linear relationship is

$$\frac{(x-\mu_X)}{\sigma_X}=\frac{(y-\mu_y)}{\sigma_y} \qquad \text{(Equation 2)}$$

and the linear transformation lx (called the SD line in this report) used to transform scores on test Y to scores on text X is

$$x = l_x(y) = \left(\frac{\sigma_X}{\sigma_y}\right)y + \left(\mu_x - \frac{\mu_y \sigma_X}{\sigma_y}\right) \qquad \text{(Equation 3)}$$

Linear equating, by definition, has the same mean and standard deviation for the overall equation when the scale is vertically aligned. The means and standard deviations are the same for the Linking test and the Target test when calculated across grades. The values are somewhat different when the formula is developed by grade. Linear equating using an SD-line approach is preferable to linear regression because the tests are not perfectly correlated. With less than perfectly correlated tests, linear regression is dependent on which way the regression is conducted: predicting scores on test X from scores on test Y or predicting scores on test Y from scores on test X. The SD line provides the symmetric linking function that is desired.

Once the linking study was completed, MetaMetrics provided the following:

- Conversion tables that convert Maine eMPowerME Assessments in English language arts/literacy and mathematics scale scores to Lexile/Quantile measures
- A technical report describing the procedures and results of the linking study

Essentially, the 2014-15 SBAC cut scores were translated to the eMPowerME theta scale through Lexile and Quantile linking items that were embedded in the test forms. The resulting theta cuts and achievement distributions are displayed in Tables 4-7 and 4-8.

Table 4-7. 2016 eMPowerME Standard Setting Report: Lexile Results—ELA/Literacy

Grade	Achievement Levels	Median Theta Cut	Percent of Students
3	Level 1		23.46%
	Level 2	-0.818	30.95%
	Level 3	0.115	27.22%
	Level 4	0.928	18.36%
4	Level 1		24.54%
	Level 2	-0.788	29.14%
	Level 3	0.073	27.90%
	Level 4	0.969	18.41%
5	Level 1		25.51%
	Level 2	-0.712	30.70%
	Level 3	0.156	32.62%
	Level 4	1.314	11.16%
6	Level 1		8.41%
	Level 2	-1.505	23.62%
	Level 3	-0.412	47.74%
	Level 4	0.885	20.23%

continued

Grade	Achievement Levels	Median Theta Cut	Percent of Students
7	Level 1		18.14%
	Level 2	-0.912	34.19%
	Level 3	0.055	37.66%
	Level 4	1.345	10.00%
8	Level 1		16.14%
	Level 2	-0.989	35.18%
	Level 3	0.074	41.12%
	Level 4	1.418	7.56%

Table 4-8. 2016 eMPowerME Standard Setting Report: Quantile Results—Mathematics

Grade	Achievement Levels	Median Theta Cut	Percent of Students
3	Level 1		26.67%
	Level 2	-0.669	32.65%
	Level 3	0.262	30.56%
	Level 4	1.330	10.13%
4	Level 1		20.47%
	Level 2	-0.928	47.20%
	Level 3	0.488	28.63%
	Level 4	1.750	3.70%
5	Level 1		20.78%
	Level 2	-0.933	56.26%
	Level 3	0.750	20.62%
	Level 4	1.940	2.34%
6	Level 1		26.21%
	Level 2	-0.761	55.80%
	Level 3	0.847	15.86%
	Level 4	1.984	2.13%
7	Level 1		24.69%
	Level 2	-0.855	54.93%
	Level 3	0.819	19.01%
	Level 4	2.182	1.37%
8	Level 1		33.84%
	Level 2	-0.385	48.49%
	Level 3	0.980	15.51%
	Level 4	2.110	2.16%

4.4 TRIANGULATION OF FINAL STANDARD SETTING RESULTS

Each of the three methodologies resulted in recommended cut scores to establish Maine's four achievement levels on the eMPowerME assessments in mathematics and in ELA/literacy. All were aimed at replicating the rigor of the 2014-15 SBAC achievement levels. However, since each of the methodologies is imperfect, the recommended cuts across the three methodologies were not exactly the same. Graphs showing the

resulting percentages in the four achievement levels based on each of the three methodologies are presented in Appendix K. The three methodologies are represented as:

- SS Impact (based on the judgment of educators in the standard setting meeting)
- EQ Impact (based on the equipercentile approach using SBAC and eMPowerME data)
- QNT (or LEX) Impact (based on the study using MetaMetric scales as a link)

The graphs in Appendix K also show impact data (TRI Impact) for the cut scores derived through a triangulation process conducted by the Maine DOE. A group of Maine DOE staff, including multiple assessment experts and multiple content specialists each in mathematics and ELA/literacy, worked through all available sources of data to thoughtfully consider and reconcile the recommendations derived from the three different standard setting procedures.

- In mathematics, the judgmental standard setting process and equipercentile approach produced very similar recommendations, and these two methods were most influential in the triangulation process. The recommended cut scores from the quantile linking process were quite different. Based on the judgment of the Maine DOE content and assessment specialists, the recommendations from the quantile linking process had little influence on this process.
- In ELA/literacy, the results from the equipercentile approach and the Lexile linking study produced very similar results, and these two methods were most influential in the triangulation process. The judgmental standard setting meeting produced results that were quite different. After examining the items viewed by teachers during the standard setting process as well as notes from the meeting, the Maine DOE experts decided to honor the input of the educators where we could without overpowering the other sources of data.

The impact of the cut scores that resulted from the triangulation process are compared to Maine's 2014-15 results on the Smarter Balanced Assessment in Appendix L. The impact data shows that Maine's 2014-15 data based on the Smarter Balanced cut scores is very similar to the 2015-16 data based on the cut scores produced through this triangulation process.

Final cut scores can be found in Appendix M.

Although we have taken great care to maintain the rigor of Maine's assessment of mathematics and ELA/literacy between 2014-15 and 2015-16, it is not recommended that assessment results be compared across the two years. The two tests were designed to measure the same content standards, but there are many differences between the two tests that may affect the performance of different populations (e.g., schools) differently.

4.5 Preparation of Standard Setting Report

Following the final compilation of the standard setting results, Measured Progress prepared this report, which documents the procedures and results of the 2016 standard setting meeting, which was held to establish Maine achievement standards for the eMPowerME assessment in ELA/literacy and mathematics.

REFERENCES

American Educational Research Association, American Psychological Association, National Council on Measurement in Education. (2014). *Standards for Educational and Psychological Testing.* Washington, DC: American Educational Research Association.

Angoff, W. H. (1984). *Scales, Norms, and Equivalent Scores*. Princeton, NJ: Educational Testing Service.

Cizek, G. J., & Bunch, M. B. (2007). *Standard setting: Establishing and evaluating performance standards on tests*. Thousand Oaks, CA: Sage Publications.

Kolen, M. J., & Brennan, R. L. (2004). *Test equating, scaling, and linking: Methods and practices* (2nd ed.). New York: Springer-Verlag.

Kolen, M. J., & Brennan, R. L. (2014). *Test equating, scaling, and linking: Methods and practices* (3rd ed.). New York: Springer-Verlag.

Lewis, D. M., Mitzel, H. C., & Green, D. R. (1996). Standard setting: A bookmark approach. In D.R. Green (Chair), *IRT-based standard setting procedures utilizing behavioral anchoring.* Symposium conducted at the Council of Chief State School Officers National Conference on Large-Scale Assessment, Phoenix, AZ.

Mitzel, H. C., Lewis, D. M., Patz, R. J., & Green, D. R. (2000). The Bookmark Procedure: Cognitive Perspectives on Standard Setting. In G.J. Cizek (Ed.), *Setting Performance Standards: Concepts, Methods, and Perspectives*. Mahwah, NJ: Lawrence Erlbaum Associates.

Petersen, N. S., Kolen, M. J., & Hoover, H. D. (1989). Scaling, norming, and equating. In R.L. Linn (Ed.), *Educational measurement* (3rd ed., pp. 221-262). New York: Macmillan Publishing Company.

Reckase, M. D. (2001). Innovative methods for helping standard-setting participants to perform their task: The role of feedback regarding consistency, accuracy, and impact. In G. J. Cizek (Ed.), *Setting performance standards: concepts, methods, and perspectives* (pp. 159–173). Mahwah, NJ: Lawrence Erlbaum.

APPENDICES

APPENDIX A—MEETING AGENDA

eMPowerME
ELA/Literacy & Mathematics
Standard Setting Meetings

Tuesday, August 16, 2016 *DoubleTree Hilton*

8:00 am	Registration and Continental Breakfast Lighthouse A			
9:00 am	Welcome and Introductions Lighthouse A			
10:00 am	Standard Setting Breakout Sessions			
	Math Grades 3-4	Winter Harbor	ELA Grades 3-4	Lighthouse B
	Math Grades 5-6	Little River	ELA Grades 5-6	Cumberland
	Math Grades 7-8	Sebago	ELA Grades 7-8	Monhegan
12:00 pm	*Lunch* *Lighthouse A*			
1:00 pm	Standard Setting Breakout Sessions Continued			
2:30 pm	*Afternoon Break* *Foyer*			
2:45 pm	Standard Setting Breakout Sessions Continued			
5:00 pm	Adjourn			

All times are approximate
Breaks will take place as needed

Wednesday, August 17, 2016 *DoubleTree Hilton*

8:00 am	Continental Breakfast Lighthouse A
9:00 am	Standard Setting Breakout Sessions
12:00 pm	*Lunch* *Lighthouse A*
1:00 pm	Standard Setting Breakout Sessions Continued
2:30 pm	*Afternoon Break* *Foyer*
2:45 pm	Standard Setting Breakout Sessions Continued
5:00 pm	Adjourn

Thursday, August 18, 2016 *DoubleTree Hilton*

8:00 am	Continental Breakfast Lighthouse A
9:00 am	Standard Setting Breakout Sessions
12:00 pm	*Lunch* *Lighthouse A*
1:00 pm	Standard Setting Breakout Sessions Continued
2:30 pm	*Afternoon Break* *Foyer*
2:45 pm	Standard Setting Breakout Sessions Continued
5:00 pm	Adjourn

All times are approximate
Breaks will take place as needed

eMPowerME
ELA/Literacy & Mathematics
Vertical Articulation Meetings

Friday, August 19, 2016	*DoubleTree Hilton*
8:00 am	Continental Breakfast Lighthouse A
9:00 am	ELA Vertical Articulation Breakout Session Winter Harbor
12:00 pm	*Lunch* *Lighthouse A*
1:00 pm	Math Vertical Articulation Breakout Session Winter Harbor
4:00 pm	Adjourn

All times are approximate
Breaks will take place as needed

APPENDIX B—ACHIEVEMENT LEVEL DESCRIPTORS

eMPower Maine Mathematics Achievement Level Descriptors

On the following pages, we present "Threshold Achievement Level Descriptors (ALDs)" for eMPower Maine Mathematics Assessments. The Threshold ALDs describe performances that are "just barely" at the basic (approaching standard) level, "just barely" at the proficient (meets standard) level, and "just barely" at the advanced (exceeds standard) level. In developing these ALDs, we began with the Measured Progress college- and career-readiness (CCR) standards. Our CCR standards are based on the Common Core State Standards[1] and are shared by many states (e.g., California, Florida, Indiana, Louisiana, Maine, Maryland, Massachusetts, Missouri, New Hampshire, New York, Oregon, Pennsylvania, South Carolina, Washington, and Wisconsin).

We began development of the Threshold ALDs with the assumption that the grade level content standards represent what students should know and be able to do at the end of a given grade level. We used prior research on learning, cognition, and human development, knowledge about learning in the subject area, the teaching experiences of our content experts, and other relevant information and research to define a range of performance for each standard.

As we worked through each standard, we associated some grade level content standards with "just barely" basic students, some with "just barely" proficient students, and some with "just barely" advanced students. In many cases, we then worked to identify those attributes of the standard that would be associated with students at the other achievement levels.

[1]

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Consider the following Grade 5 standards for Operations and Algebraic Thinking as we provide an example of the process of starting with the standard and moving toward defining student achievement.

5.OA.1[2] Write and interpret numerical expressions.

5.OA.1.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

5.OA.1.2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.

5.OA.2 Analyze patterns and relationships.

5.OA.2.3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.

Students' understanding related to this domain could range from rote memorization to deep understanding.

Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
• **Evaluate and write simple numerical expressions that record calculations with numbers using one of the four operations including expressions set in parentheses**	• **Evaluate and write simple numerical expressions that record calculations with numbers using two of the four operations and multiple sets of parentheses, brackets, and braces**	• **Evaluate and write simple numerical expressions that record calculations with numbers using the four operations and multiple sets of parentheses, brackets, and braces**
	• **Identify an accurate interpretation of a simple numerical expression without evaluating it**	• **Interpret numerical expressions without evaluating them**
• **Generate two number patterns that follow the same rule**	• **Generate two number patterns that follow two given rules**	• **Generate two number patterns that follow two given rules and identify apparent relationships between corresponding terms from the two patterns**
	• **Form ordered pairs consisting of corresponding terms from two patterns and graph the ordered pairs on a coordinate grid**	• **Form ordered pairs consisting of corresponding terms from two patterns that follow two rules, graph the ordered pairs on a coordinate grid, and explain the apparent relationship between the two patterns**

[2] Coding for standards is as follows: grade level.domain.standard.specific skill related to the standard. 5.OA.1.2 indicates Grade 5, Operations and Algebraic Thinking, Standard 1, Skill 2.

In these achievement level statements we were purposeful in selecting verbs that differentiated achievement levels. For example, it is easier for students to identify a response than to produce it. This work not only helps to differentiate levels of student achievement, but differentiate test items and tasks as well.

We also considered whether the entire standard represented an on-grade level expectation. In some cases, a concept or skill could be achieved in a more familiar context than that given in the standard. The example given with a standard may represent a more abstract understanding than is typical of students in a given grade level.

For example, consider the following 8th grade standard from the *Functions* domain.

> 8.F.1.2 compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, and by verbal descriptions.)

For this standard, students are expected to compare the properties of two functions represented in different ways; however, a pre-requisite skill is to understand how a single function is represented in multiple ways. Research suggests that understanding functions is more challenging than understanding single solutions to equations. Therefore, we decided that the threshold expectation for meeting standard is to represent a single function in two ways and that the ability to compare two functions, each represented in a different way, was a threshold skill for students who exceed standard.

Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
• **Represent a function in one way (algebraically, graphically, or numerically in tables).**	• **Represent a function in two a different ways (algebraically, graphically, or numerically in tables)**	• **Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions)**

With these guidelines in mind, our content experts drafted each threshold descriptor. Once an initial draft of the ALDs was developed, we re-examined the within-grade progressions as well as the cross-grade progressions. Our goal was to ensure that growth was evident across grade levels for each achievement level (e.g., performance description for the basic level in grade 4 suggested a higher level of performance than the basic level for grade 3 and a lower level of performance than the basic level of grade 5) and within grade levels (the performance description for the basic level was lower than for the proficient level; the performance description for the advanced level was higher than for the proficient level). This overarching review ensured that meaningful growth was defined both within and across grade levels.

The Threshold ALDs that follow have two parts. The first part is a summary table for each grade describing the overall performance of students at a given achievement level. After the summary for a grade, in the second part, we defined the achievement levels in terms of performance descriptions aligned to the standards.

These Threshold ALDs represent our effort to define different levels of student achievement. We are using these ALDs to refine our detailed item specifications. As we continue to write and test items at these achievement levels, item analysis data will help us reevaluate and refine ALDs in future years as well as provide evidence to support validation of the cut scores.

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Grade 3 Mathematics Threshold Achievement Level Descriptors

Grade	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Grade 3	By the end of year, third graders at the basic level can solve simple mathematical problems using addition and subtraction facts; understand what a fraction represents; identify, describe, and create simple predictable patterns. They can:	By the end of year, third graders at the proficient level can solve two-step mathematical problems using whole numbers; multiply and divide whole numbers within 50; represent and generate equivalent fractions; compare fractions with the same numerator or same denominator; reason with shapes and their attributes; work within measurement systems to solve problems involving time, volume, and mass; solve problems involving area and perimeter; solve one-step problems involving data from scaled bar graphs; create and use models to represent and solve problems; analyze others' arguments and identify flaws in arguments if appropriate; identify, define, and explain numeric patterns. They can:	By the end of year, third graders at the advanced level can solve two-step mathematical problems using whole numbers; multiply and divide whole numbers within 100; represent and generate equivalent fractions; compare fractions with the same numerator or same denominator justifying the comparison; reason with shapes and their attributes; work within measurement systems to solve problems involving time, volume, and mass; solve problems involving area and perimeter, including representing whole-number products as rectangular areas in mathematical reasoning; solve two-step problems involving data from scaled bar graphs; create and use models to represent and solve problems; analyze others' arguments and identify flaws in arguments if appropriate; identify, define, and explain numeric patterns. They can:

Grade 3 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		Concepts & Procedures	
Operations and Algebraic Thinking		• Interpret products and quotients of whole numbers	• Describe contexts in which a total number of objects or in which a number of shares/groups can be expressed as a product or quotient
	• Use multiplication and division within 5 groups of 5 to solve word problems	• Use multiplication and division within 100 to solve word problems	
		• Create models to represent multiplication equations in word problems	• Create models to represent multiplication and division equations in word problems
	• Determine an unknown product or quotient in a multiplication or division equation up to 50	• Determine an unknown whole number in a multiplication or division equation within 100 relating three whole numbers	
	• Apply the commutative property as a strategy to multiply and divide	• Apply the commutative and associative properties as strategies to multiply and divide	• Apply the commutative, associative, and distributive properties as strategies to multiply and divide
		• Understand division as an unknown factor problem	
		• Fluently multiply and divide within 50	
	• Fluently multiply and divide within 25	• Solve two-step word problems using addition and subtraction with numbers larger than 100 and solutions within 1,000	• Fluently multiply and divide within 100
	• Solve one- and two-step addition and subtraction problems to 100		• Solve two-step word problems using the four operations up to 100
	• Identify arithmetic patterns		• Identify arithmetic patterns and explain them using the properties of operations

Grade 3 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Number and Operations in Base 10	• Round whole numbers to the nearest 10s place • Multiply one-digit whole numbers by 10	• Round whole numbers to the nearest 10s and 100s place • Fluently add and subtract whole numbers within 1,000 with or without grouping using the standard algorithm and strategies based on place value, properties of operations, and the relationship between addition and subtraction • Multiply one-digit whole numbers by multiples of 10 in the range 10–90	
Number and Operations - Fractions	• Understand a fraction 1/*b* as the quantity formed by 1 part when a whole is partitioned into *b* equal parts • Represent a fraction 1/*b* on a number line diagram	• Understand a fraction *a*/*b* as the quantity formed by *a* parts of size 1/*b* • Represent a fraction *a*/*b* on a number line • Understand two fractions as equivalent if they are the same size or the same point on a number line • Recognize and generate simple equivalent fractions (denominators of 2, 3, 4, 6, and 8) • Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers	• Recognize and generate simple equivalent fractions (denominators 2, 3, 4, 6, and 8); explain why the fractions are equivalent

Grade 3 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		• Compare two fractions with the same numerator or the same denominator referring to the same whole. Record the comparisons with the symbols >, =, or <.	• Justify the comparison of two fractions referring to the same whole, e.g., by using a visual faction model
Measurement and Data	• Tell time and write time to the nearest 5 minutes	• Tell time and write time to the nearest minute • Measure time intervals in minutes within the same hour • Solve word problems involving addition and subtraction of time intervals in minutes within the same hour	• Measure time intervals in minutes • Solve word problems involving addition and subtraction of time intervals in minutes
	• Measure liquid volumes using liters	• Measure and estimate liquid volumes using liters and masses using grams and kilograms • Use the four operations to solve one-step word problems involving masses or volumes that are given in the same units	• Measure and estimate liquid volumes and masses using metric measures beyond standard units (grams, kilograms, and liters)
	• Draw a picture graph and a bar graph, scaled by 1s and 2s, to represent a data set with four or fewer categories	• Draw a picture graph and a bar graph, both scaled by 1s, 2s, or 5s, to represent a data set with several categories • Solve one-step "how many more/less" problems using scaled bar graphs	• Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories • Solve one- and two-step "how many more/less" problems using scaled bar graphs
	• Measure lengths using rulers marked with halves of an inch	• Measure lengths using rulers marked with halves and fourths of an inch • Make a line plot to represent measurement data using a scale of whole numbers, halves, or quarters	• Measure lengths using rulers marked with halves, fourths, and eighths of an inch

Grade 3 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Recognize area as an attribute of squares and rectangles	• Recognize area as an attribute of any plane figure • Know that a square with side length of 1 unit has an area 1 square unit and can be used to measure area	
	• Find the area of a rectangle with whole-number side lengths by tiling it	• Show that the area of a rectangle with whole-number side lengths can be found both by tiling it and by multiplying the side lengths • Multiply side lengths to find areas of rectangles with whole-number side lengths to solve mathematical problems	• Use tiling to show that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.
	• Solve real world and mathematical problems by finding the perimeter given side lengths in pictures of rectangular plane figures	• Find areas of rectilinear figures (figures formed by straight lines) by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts • Solve real world and mathematical problems by using the perimeter to find an unknown side length	• Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems • Solve real world and mathematical problems that involve rectangles with the same perimeter and different area or the same area and different perimeters

Grade 3 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Geometry	• Recognize that figures with the same number of sides belong to the same category • Partition shapes into parts with equal areas	• Recognize that figures with the same attribute belong to the same category and name the category • Partition shapes into parts with equal areas based on a unit fraction of the whole	• Partitions shapes into parts with equal areas and express the area of each part as a unit fraction of the whole
		Math Practices	
Problem-Solving	• Discuss how to solve a problem • Use concrete objects to help in solving problems	• Explain the meaning of a problem and look for ways to solve it • Check the solution to a problem by asking, "Does this make sense?" • Use concrete objects and pictures to help in solving problems	• Listen to the strategies others used to solve a problem and differentiate approaches • Use another method to check the answer to a problem
Quantitative Reasoning		• Recognize that a number represents a specific quantity • Create a representation of the quantitative components of a given problem	• Create a representation of the quantitative components and relationships in a given problem
Logical Reasoning	• Construct an argument using concrete objects	• Construct an argument using concrete objects, pictures, and drawings • Explain their thinking to others	• Construct an argument using concrete objects, pictures, drawings, and mathematical expressions • Respond to others' thinking • Ask questions designed to refine others' thinking
Modeling	• Represent problem situations with concrete objects	• Represent problem situations with concrete objects, numbers, pictures, lists, charts, and graphs	• Represent problem situations with concrete objects, pictures, lists, charts, graphs, words (mathematical language), actions, and mathematical expressions

Grade 3 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Patterns and Structures	• Identify a pattern or mathematical structure in a situation	• Use common mathematical properties (commutative and distributive properties) to solve problems	

Grade 4 Mathematics Threshold Achievement Level Descriptors

Grade	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Grade 4	By the end of year, fourth graders at the basic level can solve simple mathematical problems using math facts and unit fractions; identify, describe, and create simple predictable patterns. They can:	By the end of year, fourth graders at the proficient level can solve multi-step mathematical problems using multi-digit whole numbers and fractions with like denominators; multiply one-digit whole numbers by multi-digit whole numbers and unit fractions; represent and compare fractions, equivalent fractions, and decimal numbers; identify and describe the geometric properties of geometric figures; work within measurement systems to solve problems; use models to represent and solve nonstandard problems; analyze others' arguments and identify flaws in arguments if appropriate; identify, define, and explain figural and numeric patterns. They can:	By the end of year, fourth graders at the advanced level can solve multi-step mathematical problems using multi-digit whole numbers with or without regrouping; solve addition and subtraction problems using fractions and/or mixed numbers with or without like denominators; multiply one-digit whole numbers times multi-digit whole numbers with or without regrouping; multiply one-digit whole numbers times unit fractions; represent fractions as decimal numbers; compare fractions with unlike denominators, equivalent fractions with like and unlike denominators, and decimal numbers; identify, describe, and compare two-dimensional figures based on their geometric properties; solve problems requiring conversions within measurement systems; solve nonstandard problems; identify and explain figural and numeric patterns; and construct models to represent and solve problems; develop and communicate arguments supported by data; analyze complex mathematical representations. They can:

Grade 4 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		Concepts & Procedures	
Operations and Algebraic Thinking	• Represent verbal statements of multiplicative comparisons as multiplication equations	• Interpret a multiplication equation as a comparison • Represent verbal statements of multiplicative equations that involve a letter for an unknown • Multiply or divide to solve word problems involving multiplicative comparison • Solve multi-step word problems posed with whole numbers and having whole-number answers, including problems in which remainders must be interpreted	• Explain why multiplication can be interpreted as a comparison • Distinguish multiplicative comparison from additive comparison • Solve multi-step word problems posed with whole numbers and having whole-number answers, including problems in which remainders must be interpreted. Assess the reasonableness of answers using mental computation and estimation strategies (including rounding).
	• Find one or two factor pairs for whole numbers less than or equal to 50 • Determine whether a whole number between 1 and 50 is a prime or composite number	• Find all factor pairs for multiples of 2 and 5 in the range 1 – 100 • Recognize that a whole number is a multiple of each of its factors • Determine whether a whole number between 1 and 100 is a prime or composite number • Identify multiples of a one-digit number	• Find all factor pairs for a whole number in the range 1–100.
	• Generate a shape pattern that follows a given rule	• Generate a shape or number pattern that follows a given rule	• Identify features of a shape or number pattern that were not explicit in the rule itself
Number and Operations – Base 10		• Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right	

Grade 4 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Write numeric representations of number names to 999 • Round whole numbers to any place value to 1,000 • Fluently add and subtract multi-digit whole numbers without regrouping using the standard algorithm • Find quotients of two-digit numbers divided by one-digit numbers without remainders	• Read and write multi-digit whole numbers using base-ten numerals and number names • Use >, =, and < symbols to record whole number comparisons • Round whole numbers to any place value to 10,000 • Fluently add and subtract multi-digit whole numbers with or without regrouping using the standard algorithm • Multiply a whole number of up to four digits by a one-digit whole number using strategies based on place value and the properties of operations. Illustrate the calculation by using area models and/or rectangular arrays. • Find whole-number quotients and remainders with up to two-digit dividends and one-digit divisors. Illustrate the calculation by using areas models and/or rectangular arrays.	• Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form • Round multi-digit whole numbers to any place • Multiply two two-digit numbers using strategies based on place value and the properties of operations. Illustrate the calculation by using area models, rectangular arrays, and equations. • Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors. Illustrate the calculation by using equations.
Number and Operations - Fractions	• Identify fractions that are equivalent to unit fractions with denominators 2, 3, 4, 6, 8, or 10	• Generate equivalent fractions and explain why two fractions are equivalent using visual fraction models • Compare two fractions with unlike numerators and like denominators. Record the results with symbols >, =, or <. Justify the conclusion. • Understand addition and subtraction of fractions as joining and separating parts referring to the same whole	• Generate equivalent fractions and explain why two fractions are equivalent using visual fraction models and common denominators

Grade 4 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		• Decompose fractions into unit fractions with the same denominator	• Use different methods to decompose fractions with the same denominator. Justify decompositions.
	• Add fractions to whole numbers to create mixed numbers	• Add and subtract mixed numbers with like denominators	
	• Solve word problems involving addition of fractions referring to the same whole and having like denominators	• Solve problems involving addition and subtraction of fractions referring to the same whole and having like denominators	• Solve problems involving addition and subtraction of fractions referring to the same whole and having unlike denominators
	• Understand a fraction *a*/*b* as a multiple of 1/*b*	• Multiply unit fractions by whole numbers	• Solve word problems involving multiplication of a fraction by a whole number. Represent such problems using visual fraction models and equations.
	• Express fraction with denominator 10 as an equivalent fraction with denominator 100. Use this technique to add two fractions with respective denominators 10 and 100.	• Use decimal notation for fractions with denominators 10 or 100	
		• Compare two decimals to hundredths. Record the results with symbols >, =, or <. Justify the conclusion.	• Compare two decimals to the thousandths. Record the results with the symbols >, =, or <. Justify the conclusion.
Measurement and Data	• Identify relative sizes of units within the same system	• Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit within the same system (e.g., km->m->cm; kg->g; lb->oz.; l->ml; hr.->min.->sec.)	
	• Record measurement equivalents in a two-column table		

Grade 4 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money that whole numbers and simple fractions	• Use four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money that involve whole numbers, simple fractions, and simple decimals, and require expressing measurements given in a larger unit in terms of a smaller unit	• Make a line plot to display a data set of measurements in fractions of a unit appropriate for a fourth grader (denominators of 3, 5, 6, 8, and 10)
		• Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale	
	• Apply perimeter formulas for rectangles in real world and mathematical problems	• Apply area formulas in real world and mathematical problems	
	• Make a line plot to display a data set of measurements in 1/2 fractions of a unit	• Make a line plot to display a data set of measurements in 1/4 or 1/8 fractions of a unit	
		• Solve problems involving addition and subtraction by using information presented in line plots	
	• Recognize angles as geometric shapes that are formed whenever two rays share a common endpoint	• Understand the following concepts of angle measurement: An angle is measured with reference to a circle with its center at the common endpoint of the rays. An angle that turns through 1/360 of a circle is called a “one-degree angle” and can be used to measure angles. An angle that turns through *n* one-degree angles is said to have and angle measure of *n* degrees.	

Grade 4 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		• Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	• Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. • Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical contexts
Geometry	• Identify points, lines, line segments, and rays. Identify these in two-dimensional figures. • Identify parallel lines in shapes • Distinguish between right triangles and non-right triangles • Identify or draw one line of symmetry for a two-dimensional shape	• Identify points, lines, line segments, rays, angles (right, acute, obtuse), perpendicular line, and parallel lines. Identify these in two-dimensional figures. • Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of right angles • Identify or draw all of the lines of symmetry for a two-dimensional shape	• Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Draw two-dimensional figures with these attributes. • Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of specific angles • Identify right triangles in polygons
Math Practices			
Problem-Solving	• Discuss how to solve a problem • Explain the meaning of a problem and look for ways to solve it	• Check their thinking about how to solve a problem by asking, “Does this make sense?” • Compare two solutions to a problem	• Listen to the strategies others used to solve a problem and differentiate approaches • Use another method to check their answer to a problem

Grade 4 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Use concrete objects and pictures to help in solving problems	• Use expressions and equations to help in solving problems	• Transform representations to get the needed information
Quantitative Reasoning	• Recognize that a number represents a specific quantity • Record calculations with numbers • Round numbers in a problem situation by using place value concepts and understand how the rounded numbers relate to the original quantity	• Extend concepts of quantity from whole numbers to fractions • Create a representation of the quantitative components of a given problem, considering the appropriate units involved and the meaning of quantities • Identify important quantities in a practical situation • Decontextualize a problem by writing simple numerical expressions	• Extend concepts of quantity from whole numbers and fractions to decimals
Logical Reasoning	• Construct an argument using concrete objects, pictures, and drawings	• Explain their thinking and make connections between models and equations • Explain their thinking to others and respond to others' thinking	• Ask and answer questions designed to refine a group's thinking about a problem
Modeling	• Represent problem situations with concrete objects, numbers, pictures, lists, charts, and graphs	• Represent problem situations with equations • Explain the connections between two or three representations (concrete objects, numbers, pictures, lists, charts, graphs, and equations) • Evaluate results in the context of the situation and reflect on whether the results make sense	• Use multiple representations as needed to solve a problem

Grade 4 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Patterns and Structures	• Use the structure of tree diagrams and arrays to describe the multiplication principle of counting	• Use properties of operations to explain calculations (partial product model) • Generate number of shape patterns that follow a given rule	• Identify attributes for pre-sorted groups

Grade 5 Mathematics Threshold Achievement Level Descriptors

Grade	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Grade 5	By the end of year, fifth graders at the basic level can solve mathematical problems using whole numbers and fractions with like denominators; work within measurement systems to solve problems; identify, describe, and create patterns. They can:	By the end of year, fifth graders at the proficient level can solve multi-step mathematical problems using multi-digit numbers and fractions; divide a whole number with up to four digits by a two-digit whole number; represent, compare, and compute decimal numbers to the tenths place; find the volume of right rectangular prisms; identify and describe the geometric properties of geometric figures; work within measurement systems to solve problems; use models to represent and solve nonstandard problems; analyze others' arguments and identify flaws in arguments if appropriate; identify, define, and explain numeric patterns. They can:	By the end of year, fifth graders at the advanced level can solve multi-step mathematical problems using multi-digit numbers, fractions, and mixed numbers; divide a whole number with up to four digits by a two-digit whole number; represent, compare, and compute decimal numbers to the hundredths place; use exponents to denote powers of 10; solve problems involving the volume of right rectangular prisms; identify and describe the geometric properties of geometric figures and use them to classify figures; work within measurement systems to solve problems; use models to represent and solve nonstandard problems; analyze others’ arguments and identify flaws in arguments if appropriate; identify, define, and explain numeric patterns. They can:

Grade 5 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		Concepts & Procedures	
Operations and Algebraic Thinking	• Evaluate numerical expressions that use parentheses	• Evaluate numerical expressions that use parentheses, brackets, and/or braces	
		• Write and interpret simple numerical expressions that record calculations with numbers using two of the four operations	• Write and interpret simple numerical expressions that record calculations with numbers using the four operations.
	• Generate two number patterns that follow two given rules	• Form ordered pairs consisting of corresponding terms from two number patterns that follow two given rules. Graph the ordered pairs on a coordinate grid.	• Identify apparent relationships between corresponding terms from two number patterns with different rules
Number and Operations Base 10	• Recognize that in a multi-digit whole number, a digit in one place represents 10 times what it represents in the place to its right	• Recognize that in a multi-digit number, a digit in one place 1/10 of what it represents in the place to its left	• Recognize that in a multi-digit number, a digit in one place represents one hundred times what it represents two places to its right and 1/100 of what it represents in two places to its left
	• Explain patterns in the number of zeros of the product when multiplying a number by a power of 10	• Use exponents to denote powers of 10	• Explain what a numeral to the 10th power means
	• Read and write multi-digit numbers to the tenths place using base-ten numerals, number names, and expanded form	• Read and write multi-digit decimal numbers to the hundredths place using base-ten numerals, number names, and expanded form	• Read and write multi-digit decimal numbers to thousandths place using base-ten numerals, number names, and expanded form
	• Use >, =, and < symbols to record decimal number comparisons to the tenths place	• Use >, =, and < symbols to record decimal number comparisons to the thousandths place	• Use >, =, and < symbols to record decimal number comparisons to the ten thousandths place
		• Round decimal numbers to any whole-number place and to the hundredths place	• Round decimal numbers to any whole-number place and to any decimal place

Grade 5 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Fluently multiply up to a four-digit whole number by a one-digit whole number using the standard algorithm	• Fluently multiply multi-digit whole numbers using the standard algorithm	
	• Find whole-number quotients with up to two-digit dividends and two-digit divisors	• Find whole-number quotients with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation using rectangular arrays and/or area models.	• Find whole-number quotients with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation using equations, rectangular arrays, and/or area models.
	• Add and subtract multi-digit decimals to the tenths place	• Add, subtract, multiply, and divide decimals to the hundredths place, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction	• Relate the strategy used to add, subtract, multiply, and divide decimals to the hundredths place by relating the strategy to a written method. Explain the reasoning used.
Number and Operations - Fractions	• Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators	• Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.	
		• Interpret a fraction as division of the numerator by the denominator	
		• Interpret the product of a whole number and a fraction in terms of partitioning a whole into parts defined by the denominator	• Solve word problems involving division of whole numbers that result in fractions or mixed numbers

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Find the area of a rectangle that has one dimension as a unit fraction and the other dimension as a whole number by tiling it using unit squares of the unit fraction side length	• Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths. Show that the area is the same as would be found by multiplying the side lengths. • Multiply fractional side lengths to find areas of rectangles • Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number. Explain why multiplying a given number by a fraction less than 1 results in a product smaller than the given number.	• Represent fractions as the product of two fractions that can be lengths of a rectangle • Interpret the product of fractions and whole numbers as compared to the value of one of the factors based on the value of the other factor • Relate the principle of fraction equivalence $a/b = (nxa)/(nxb)$ to the effect of multiplying a/b by 1
	• Solve real world problems involving multiplication of fractions • Divide a unit fraction by a non-zero whole number using a visual fraction model	• Solve real world problems involving multiplication of fractions and mixed numbers • Divide a unit fraction by a non-zero whole number, including solving word problems that result in division of a unit fraction by a non-zero whole number • Create a story context that results in the division of a unit fraction by a non-zero whole number	• Divide a unit fraction by a fraction, including solving word problems that result in division of a unit fraction by a unit fraction • Create a story context that results in the division of a unit fraction by a unit fraction.
Measurement and Data	• Convert among standard measurement units within the same system using whole numbers	• Solve one-step word problems involving conversions of standard measurement units within the same system	• Solve multi-step word problems involving conversions of standard measurement units within the same system

Grade 5 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8).	• Use operations on fractions for this grade to solve a one-step problem involving information presented in line plots	• Use operations on fractions for this grade to solve multi-step problems involving information presented in line plots
	• Measure volume of a right rectangular prism by packing it with and counting unit cubes	• Solve mathematical or word problems involving volume of a right rectangular prism by packing it with and counting unit cubes and comparing the result with applying the formulas $V = l \times w \times h$ or $V = B \times h$.	• Solve word problems involving volume of a solid figure composed of non-overlapping right rectangular prisms.
Geometry	• Graph points (both terms are whole numbers) in the first quadrant of the coordinate plane	• Explain how a coordinate grid represents information	• Construct coordinate grids appropriate for a problem situation
		• Represent problems by graphing points (one term is a fraction with a denominator of 2 or 4) in the first quadrant of the coordinate plane and interpret coordinate values of points in the context of the situation	• Represent problems by graphing points (one or both terms are fractions with a denominator of 2, 4, or 10) in the first quadrant of the coordinate plane and interpret coordinate values of points in the context of the situation
	• Identify properties (e.g., number of sides and angles, types of angles, parallel sides) of two-dimensional figures	• Classify two-dimensional figures based on their properties	• Classify two-dimensional figures in hierarchy based on their properties
Math Practices			
Problem-Solving	• Explain the meaning of a problem	• Plan a solution pathway in order to solve a problem	• Identify an efficient means to solve a problem

Grade 5 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Draw diagrams of important features and relationships • Check thinking by asking follow-up questions such as, “Does this make sense?”	• Identify givens and constraints • Transform representations to get the needed information • Solve problems by applying understandings of operations with whole numbers, decimals, and fractions including mixed numbers • Solve problems related to volume and measurement conversions • Check thinking by asking follow-up questions such as, “Does this make sense?” and “Can I solve the problem in a different way?”	• Identify givens, constraints, relationships, and goals • Explain relationships between the representations used to solve a problem • Check thinking by asking follow-up questions such as, “Does this make sense?”, “Can I solve this problem in a different way?”, and “What is the most efficient way to solve the problem?”
Quantitative Reasoning	• Recognize that a number represents a specific quantity • Consider both the appropriate units involved and the meaning of the quantities presented in a problem	• Connect quantities to written symbols. Extend the creation of such representations from whole numbers to fractions and decimals.	• Link abstract representations to a concrete situation • Write simple expressions to express a quantity as the result of combining other quantities using the four operations. Extend the creation of expressions from whole numbers to fractions and decimals.
Logical Reasoning	• Make an argument using concrete referents, such as objects, pictures, and drawings	• Explain calculations based upon models and properties of operations and rules that generate patterns	

Grade 5 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Identify information needed to clarify other's arguments	• Identify reasons in an argument • Compare the reasonableness of two plausible arguments • Identify relevant questions to clarify arguments	• Demonstrate and explain the relationship between volume and multiplication • Identify reasons and assumptions in an argument • Compare the effectiveness (efficiency of process used to arrive at solution) of two plausible arguments • Ask relevant questions to clarify arguments
Modeling	• Create and use models to describe phenomena	• Create and use models to solve real world problems and describe phenomena • Explain the connections between different representations when modeling a problem • Evaluate results in the context of the situation and determine whether the results make sense	• Evaluate the utility of models to determine which models are most useful and efficient to solve problems
Patterns and Structures	• Identify a pattern or mathematical structure in a situation	• Use properties of operations as strategies to add, subtract, multiply, and divide with whole numbers, fractions, and decimals • Examine numerical patterns and relate them to a rule or a graphical representation	• Use repeated reasoning to understand algorithms and make generalizations about patterns

Grade 6 Mathematics Threshold Achievement Level Descriptors

Grade	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Grade 6	By the end of year, sixth graders at the basic level can solve simple mathematical equations by replacing the variable with a probable correct answer; describe relationships between quantities using ratio language; write and evaluate numerical and algebraic expressions; find the area of polygons and volumes of right rectangular prisms; plot numerical data on a dot plot; identify, describe, and develop patterns in computations and relationships between quantities. They can:	By the end of year, sixth graders at the proficient level can solve single-step mathematical equations; use ratio and rate reasoning to solve real world and mathematical problems; compute with decimal numbers; find and position rational numbers on a number line or plot points of rational numbers on a coordinate plane; write and evaluate numerical and algebraic expressions, including those with exponents to 4; find the area of polygons, volumes of right rectangular prisms, and surface area of three-dimensional figures made up of rectangles and triangles; plot numerical data on a dot plot, histogram, or box plot; use models to represent and solve nonstandard problems; analyze others' arguments and identify flaws in arguments if appropriate; identify, define, and explain numeric patterns and determine nets of three-dimensional figures. They can:	By the end of year, sixth graders at the advanced level can solve single-step mathematical equations; use ratio and rate reasoning to solve real world and mathematical problems; compute with decimal numbers; find and position rational numbers on a number line or plot points of rational numbers on a coordinate plane; write and evaluate numerical and algebraic expressions, including those with whole-number exponents; find the area of polygons, volumes of right rectangular prisms, and surface area of three-dimensional figures made up of rectangles and triangles; plot numerical data on a dot plot, histogram, or box plot; summarize numerical data; construct and manipulate models to represent and solve nonstandard problems; analyze others' arguments and identify flaws in arguments if appropriate; identify, define, and explain numeric patterns and determine nets of three-dimensional figures. They can:

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		Concepts & Procedures	
Ratios and Proportional Relationships	• Understand the concept of a ratio • Understand the concept of unit rate *a*/*b* associated with a ratio *a*:*b* with $b \neq 0$. Find unit rates when given whole number quantities that divide without a remainder.	• Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities • Understand the concept of unit rate *a*/*b* associated with a ratio *a*:*b* with $b \neq 0$. Find unit rates when given whole number quantities that divide without a remainder. Use rate language in the context of a ratio relationship. • Use ratio and rate reasoning to solve real world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, or double number line diagrams • Make tables of equivalent ratios relating quantities in whole number measurements and plot the pairs of values on the coordinate plane • Solve unit rate problems including those involving unit pricing and constant speed • Find the whole in a percent of a quantity given the part and the percent	• Use ratio and rate reasoning to solve real world and mathematical problems, e.g., by using equations • Make tables of equivalent ratios relating quantities in whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. • Use ratio reasoning to convert measurement units, manipulating and transforming units appropriately when multiplying or dividing quantities

Grade 6 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Expressions and Equations	• Write and evaluate numerical expressions that contain any combination of operations and grouping symbols, but do not include whole-number exponents	• Write numerical expressions involving whole-number exponents. Evaluate numerical expressions involving whole-number exponents up to 3. • Write expressions that record operations with numbers and with letters standing for numbers	• Write and evaluate numerical expressions involving whole-number exponents
		• Identify parts of an expression using mathematical terms (e.g., sum, difference, product, quotient, term, factor)	• Identify parts of an expression using mathematical terms (e.g., sum, difference, product, quotient, term, factor, coefficient, constant, variable)
	• Evaluate expressions arising from formulas used in real world problems,	• Evaluate expressions in the conventional order when there are no grouping symbols to specify a particular order of operations	
		• Identify simple equivalent expressions	• Apply the properties of operations to generate equivalent expressions
	• Use substitution to determine whether a given number in a specified set makes a one-variable equation true where the variable term appears only on one side of the equation	• Use substitution to determine whether a given number in a specified set makes a one-variable equation true where the variable term appears on either or both sides of the equation	• Use substitution to determine whether a given number in a specified set makes a one-variable equation or inequality true
		• Use variables to represent unknown values and write expressions to represent real world and mathematical problems	
	• Solve equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all nonnegative whole numbers.	• Solve mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all nonnegative rational numbers	

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		• Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real world or mathematical problem • Represent on a number line an inequality of the form $x > c$ or $x < c$ for cases in which c and x are nonnegative whole numbers. • Use variables to represent two quantities in a real world problem that change in relationship to one another • Write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable	• Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real world or mathematical problem. State that an inequality given in this form has infinitely many solutions. • Represent on a number line an inequality of the form $x > c$ or $x < c$ for cases in which c and x are nonnegative rational numbers. • Use variables to represent two quantities in a real world or mathematical problem that change in relationship to one another • Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation
The Number System	• Divide a fraction by a unit fraction • Fluently divide multi-digit whole numbers by two-digit divisors using the standard algorithm • Fluently add and subtract multi-digit decimals	• Divide a fraction by a fraction • Solve word problems that involve division of a fraction by a fraction • Fluently divide multi-digit whole numbers using the standard algorithm • Fluently add, subtract, and multiply multi-digit decimals using the standard algorithm	• Use multiplication to interpret the quotient when a fraction is divided by another fraction • Create a context that involves dividing a fraction by a fraction and solve for a given quotient of two fractions • Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm

Grade 6 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Find the greatest common factor of two numbers less than or equal to 20 and the least common multiple of two numbers less than or equal to 5	• Find the greatest common factor of two numbers less than or equal to 100 and the least common multiple of two numbers less than or equal to 12	• Find the greatest common factor and/or the least common multiple of any two whole numbers
		• Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor	• Use the distributive property to express a sum of two whole numbers with a common factor as a multiple of a sum of two whole numbers with no common factor
	• Use positive and negative numbers to represent quantities in real world contexts	• Use positive and negative numbers to represent quantities in real world contexts, explaining the meaning of 0 in the context	
		• Locate numbers on opposite sides of 0 on a number line	• Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on a number line. Recognize that the opposite of the opposite of a number is the number itself.
		• Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane	• Recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes
	• Find or position integers on a horizontal or vertical number line	• Find and position integers and rational numbers on a horizontal or vertical number line	
	• Find and position pairs of integers on a coordinate plane	• Find and position pairs of integers and familiar rational numbers on a coordinate plane	
		• Interpret statements of inequality as statements about the relative position of two numbers on a number line	
	• Identify correct statements of order for rational numbers in real world contexts	• Write and explain statements of order for rational numbers in real world contexts	

Grade 6 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Understand the absolute value of a rational number as its distance from 0 on the number line		• Interpret absolute value as magnitude for a positive or negative quantity in a real world situation • Distinguish comparisons of absolute value from statements about order
	• Solve real world and mathematical problems by graphing points in the first quadrant of the coordinate plane	• Solve real world and mathematical problems by graphing points in all four quadrants of the coordinate plane	
	• Use coordinates and absolute value to find distances between points in the first quadrant with the same first coordinate or the same second coordinate.	• Use coordinates and absolute value to find distances between points on a coordinate plane with the same first coordinate or the same second coordinate.	• Use coordinates and absolute value to find distances between points on a coordinate plane with the same first coordinate or the same second coordinate. Explain the distance in the context of the problem situation.
Statistics and Probability	• Recognize a statistical question as one that anticipates variability in the data related to the question	• Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for variability in the answers to the question	
		• Pose statistical questions that can be answered by categorical data	• Pose statistical questions that can be answered by categorical or continuous data
		• Understand that a set of data collected to answer a statistical question has a distribution that can be described by its center and spread	• Understand that a set of data collected to answer a statistical question has a distribution that can be described by its center, spread, and overall shape
		• Recognize that a measure of center for a numerical data set summarizes all of its values with a single number	• Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number

Grade 6 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Display numerical data on a dot plot • Summarize numerical data sets by: reporting the number and range of observations and giving quantitative measures of center (median and/or mean)	• Display numerical data on a dot plot, histogram, or box plot • Summarize numerical data sets by: reporting the number of observations, describing how an attribute of the set was measured, what its units of measure are, and by giving a quantitative measure of center (median and/or mean) and variability (interquartile range).	• Summarize numerical data sets by: reporting the number of observations, describing how an attribute of the set was measured and what its units of measure are, giving quantitative measure of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered • Predict effects on mean and median given a change in data points
Geometry	• Find the volume of a right rectangular prism with one dimension with fractional edge length and the other two dimensions with whole number edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths	• Solve real world and mathematical problems involving finding the area of right triangles, other triangles, special quadrilaterals, and polygons by decomposing into triangles and rectangles • Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction lengths • Apply the formulas for finding the volume of right rectangular prisms with fraction edge lengths to solving real world and mathematical problems	• Solve real world and mathematical problems involving finding the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles and decomposing into triangles, rectangles, and other shapes • Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction lengths. Show that the volume is the same as would be found by multiplying the edge lengths of the prism.

Grade 6 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Draw right triangles, squares, and rectangles in the first quadrant given the coordinates for the vertices • Find the side lengths of polygons in the first quadrant with the same first coordinate or the same second coordinate	• Draw polygons in the coordinate plane given the coordinates for the vertices • Solve real world and mathematical problems involving the side lengths of polygons in the coordinate plane with the same first coordinate or the same second coordinate • Solve real world or mathematical problems involving the surface area of three-dimensional figures made up of rectangles and triangles using the nets of the figures	• Solve real world and mathematical problems involving polygons in the coordinate plane • Solve real world or mathematical problems involving the surface area of three-dimensional figures made up of rectangles and triangles
Math Practices			
Problem-Solving	• Solve real world and mathematical problems by applying understandings of operations with whole numbers, decimals, and fractions including mixed numbers • Solve problems related to area, volume, and measurement conversions • Check thinking by asking questions like, “Does this make sense?”	• Solve real world and mathematical problems by applying concepts related to ratios and discuss the process used to solve them • Solve real world and mathematical problems by applying algebraic and geometric concepts and discuss the process used to solve them • Seek the meaning of a problem, develop a representation for the problem, and then derive the solution • Check thinking by asking questions like, “Does this make sense?” and “Can I solve the problem in a different way?”	• Seek the meaning of a problem, develop a representation that facilitates an efficient process to find the solution, and then derive the solution • Check thinking by asking questions like, “Does this make sense?”, “Can I solve the problem in a different way?”, and “What is the most efficient way to solve this problem?”

Grade 6 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Quantitative Reasoning	• Represent familiar contexts through the use of real numbers and variables in mathematical expressions • Decontextualize to manipulate numeric representations of expressions by applying properties of operations	• Represent familiar contexts through the use of real numbers and variables in mathematical expressions, equations, and inequalities • Contextualize to understand the meaning of the number as related to the problem • Decontextualize to manipulate symbolic representations by applying properties of operations	• Represent a wide variety of real world contexts through the efficient use of real numbers and variables in mathematical expressions, equations, and inequalities • Contextualize to understand the meaning of the number or variable as related to the problem
Logical Reasoning	• Construct arguments using drawings, models, and numeric expressions • Identify information needed to clarify other's arguments	• Construct arguments using drawings, models, numeric and algebraic expressions, equations, tables, and graphs • Identify reasons and assumptions in an argument • Compare the reasonableness of two plausible arguments • Identify relevant questions to clarify arguments	• Construct arguments using drawings, models, numeric and algebraic expressions, equations, inequalities, tables, and graphs • Compare the effectiveness of two plausible arguments • Ask relevant questions to clarify arguments
Modeling	• Model problem situations with concrete models and numeric expressions • Form numeric expressions from real world and mathematical contexts • Use number lines to compare numbers	• Model problem situations symbolically, graphically, tabularly, and contextually • Form expression, equations, or inequalities from real world and mathematical contexts. Connect symbolic and graphical representations. • Use number lines to compare numbers and represent inequalities • Use all representations as appropriate to a problem context	• Use all representations to efficiently and appropriately solve a problem

Grade 6 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Patterns and Structures	• Identify a pattern or structure in a situation	• Identify a pattern or structure in a real world or mathematical situation. Break down complicated phenomena into simpler parts.	• Identify a pattern or structure in a real world or mathematical situation. Break down complicated phenomena into simpler parts. Build a more complex representation from simpler parts.
	• Generate patterns from rules	• Identify patterns in ratio tables and in the points when plotting quantities from common ratios on a coordinate plane. Identify patterns in computations.	• Identify patterns in ratio tables and in the points when plotting quantities from common ratios on a coordinate plane. Identify patterns in computations. Identify and describe patterns in data.
	• Compose and decompose two-dimensional figures to solve real world problems involving area	• Compose and decompose two- and three-dimensional figures to solve real world problems involving area and volume	

Grade 7 Mathematics Threshold Achievement Level Descriptors

Grade	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Grade 7	By the end of year, seventh graders at the basic level can solve addition and multiplication problems with rational numbers, subtraction problems with positive rational numbers, and division problems with rational numbers divided by non-zero integers; compute unit rates; add and subtract simple linear expressions; solve problems involving scale drawings with whole number scales; solve problems involving area and circumference of a circle; understand that the probability of a chance event is a number between 0 and 1; identify, describe, and develop patterns in computations and relationships between quantities. They can:	By the end of year, seventh graders at the proficient level can solve problems with rational numbers of any form; solve two-step equations and inequalities; compute unit rates and use proportional relationships to solve multi-step ratio and percent problems; add, subtract, and expand linear expressions with rational coefficients; solve problems involving scale drawings, including computing actual lengths and areas from a scale drawing; solve problems involving area and circumference of a circle; solve problems involving angle measures in figures; understand that the probability of a chance event is a number between 0 and 1; develop uniform probability models; use models to represent and solve nonstandard problems; analyze others' arguments and identify flaws in arguments if appropriate; identify, define, and explain numeric patterns and patterns in tables or graphs. They can:	By the end of year, seventh graders at the advanced level can solve problems with rational numbers of any form; solve two-step equations and inequalities, and graph the solutions of inequalities; compute unit rates and use proportional relationships to solve multi-step ratio and percent problems; add, subtract, factor, and expand linear expressions with rational coefficients; solve problems involving scale drawings, including computing actual lengths and areas from a scale drawing; solve problems involving area and circumference of a circle; solve problems involving angle measures in figures; understand that the probability of a chance event is a number between 0 and 1; develop uniform and non-uniform probability models; construct and manipulate models to represent and solve nonstandard problems; analyze others’ arguments and identify flaws in arguments if appropriate; identify, define, and explain numeric patterns and patterns in tables or graphs They can:

Grade 7 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		Concepts & Procedures	
Ratios and Proportional Relationships	• Compute unit rates associated with ratios of fractions *a*/*b*, where *b* is a unit fraction	• Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like units	• Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units
		• Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table	• Decide whether two or more quantities are in a proportional relationship, e.g., by graphing on a coordinate plane and observing whether the graph is a straight line through the origin
	• Identify the unit rate of a ratio given in a table or graph	• Identify the unit rate of a ratio given in a table, graph, or equation	• Identify the unit rate of a ratio given in a table, graph, equation, diagram, or verbal description
		• Represent proportional relationships by equations	
		• Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation	• Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate
		• Use proportional relationships to solve multi-step ratio problems	• Use proportional relationships to solve multi-step ratio and percent problems
Expressions and Equations	• Apply properties of operations to add and subtract linear expressions with rational coefficients	• Apply properties of operations to add, subtract, and expand linear expressions with rational coefficients	• Apply properties of operations to add, subtract, factor, and expand linear expressions with integer or rational coefficients
		• Rewrite an expression in different forms in a problem context	• Rewrite an expression in different forms in a problem context and explain how the quantities in it are related.

Grade 7 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Solve multi-step real world and mathematical problems involving addition and multiplication with rational numbers of the same form. Solve real world and mathematical problems involving subtraction of positive rational numbers of the same form such that the minuend is greater than the subtrahend. Solve real world and mathematical problems involving division of a rational number by a non-zero integer. • Solve equations of the form $px + q = r$ and $p(x + q) = r$ where p, q, and r are specific integers	• Solve multi-step real world and mathematical problems involving rational numbers of any form. Convert between forms as appropriate to solve the problem. Assess the reasonableness of answers using mental computation and estimation strategies. • Solve equations of the form $px + q = r$ and $p(x + q) = r$ where p, q, and r are specific rational numbers • Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$ • Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific integers • Compare an algebraic solution of an equation to an arithmetic solution • Graph the solution set of an inequality	• Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers • Compare an algebraic solution of an equation to an arithmetic solution, identifying the sequence of operations used in each approach • Graph the solution set of an inequality and interpret it in the context of the problem
The Number System	• Describe situations in which opposite quantities combine to make 0	• Understand $p + q$ as the number located a distance $\|q\|$ from p, in the positive or negative direction depending on whether q is positive or negative	• Explain why, in $p + q$ the number located a distance $\|q\|$ from p, is in the positive or negative direction depending on whether q is positive or negative

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		• Interpret sums of rational numbers in real world contexts	• Demonstrate sums of rational numbers by describing real world contexts
		• Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$	• Explain why subtraction of rational numbers is the same as adding the additive inverse, $p - q = p + (-q)$
		• Show that the distance between two rational numbers on the number line is the absolute value of their difference	• Show that the distance between two rational numbers on the number line is the absolute value of their difference in real world contexts
	• Apply properties of operations as strategies to add positive and negative rational numbers and to subtract two positive rational numbers where the minuend is greater than the subtrahend	• Apply properties of operations as strategies to add and subtract rational numbers	• Apply properties of operations as strategies to add, subtract, multiply, and divide signed rational numbers
	• Apply properties of operations as strategies to multiply two integers	• Compute products of rational numbers in real world contexts	
	• Understand that integers can be divided, provided that the divisor is not zero	• Explain the rules for dividing signed numbers. Compute quotients of rational numbers in real world contexts	
	• Convert between familiar fractions and decimals	• Convert common fractions and fractions with denominators that are a factor of a power of 10 to decimals	• Convert a rational number to a decimal using long division
	• Solve real world and mathematical problems involving addition and multiplication with rational numbers, subtraction of positive rational numbers such that the minuend is greater than the subtrahend, and division of a rational number by a non-zero integer	• Solve real world and mathematical problems involving the four operations with rational numbers (including complex fractions)	

Grade 7 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Statistics and Probability	• Determine whether a sample is representative of a population	• Identify a sample that is representative of a population	• Explain why a sample is or is not representative of a population
	• Use data from a random sample to draw simple inferences about a population		• Explain conditions under which we can use data from a random sample to draw inferences about a population
		• Generate multiple samples of the same size to gauge the variation in estimates or predictions	
	• Informally assess the degree of visual overlap of two numerical data distributions with similar variability	• Informally assess the degree of visual overlap of two numerical data distributions with similar variability. Measure the difference between the centers.	• Informally assess the degree of visual overlap of two numerical data distributions with similar variability. Measure the difference between the centers by expressing it as a multiple of a measure of variability.
	• Use measures of center for numerical data from random samples to draw informal comparative inferences about two populations	• Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations	
	• Understand that the probability of a chance event is a number between 0 and 1 indicating the likelihood of the event occurring		
		• Understand that a probability near 0 indicates an unlikely event and a probability near 1 indicates a likely event	• Understand that a probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither likely or unlikely, and a probability near 1 indicates a likely event
		• Approximate the probability of a chance event by collecting sample data on the chance process that produced it and computing the probability for a larger sample	• Approximate the probability of a chance event by collecting data on the chance process that produced it and observing its long-run relative frequency

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		• Develop a uniform probability model by assigning equal probabilities to all outcomes • Evaluate whether frequencies in data generated from a chance process reflect a uniform model • Understand that the probability of a compound event is the fraction of the outcomes in the sample space for which the compound event occurs • Represent sample spaces for compound events using methods such as organized lists and tree diagrams • Identify outcomes of compound events in the sample space which compose the event	• Develop a uniform probability model by assigning equal probabilities to all outcomes and use the model to determine the probabilities of events • Predict the approximate relative frequency given the probability • Develop a probability model (uniform or not) by observing frequencies in data generated from a chance process • Compare probabilities from a model to observed frequencies and explain possible sources of discrepancies between the two • Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams • Design and use a simulation to generate frequencies for compound events
Geometry	• Solve problems involving scale drawings of geometric figures, including computing actual lengths from a scale drawing	• Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing	• Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale

Grade 7 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Draw geometric shapes with given conditions (e.g., number of sides, types of angles, parallel sides, lengths of sides, . . .)	• Draw geometric shapes with given conditions, focusing on triangles from three measures of angles or sides	• Draw geometric shapes with given conditions, focusing on triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle
		• Describe the two-dimensional figures that result from slicing right rectangular prisms and right rectangular pyramids.	• Describe the two-dimensional figures that result from slicing right rectangular prisms, right rectangular pyramids, spheres, and cones.
		• Solve problems involving the area and circumference of a circle	• Explain the relationship between circumference and area of circles in real world problems • Give an informal derivation of the relationship between the circumference and area of a circle
	• Use facts about supplementary and complementary angles to solve problems	• Use facts about supplementary, complementary, vertical, and adjacent angles in a one-step problem to solve for unknown angles. (The problem may be presented as a one-step equation).	• Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. (The problem may be presented as a multi-step equation.)
	• Solve real world and mathematical problems involving area and volume of two- and three-dimensional objects composed of triangles, rectangles, squares, cubes, and right prisms.	• Solve real world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, cubes, and right prisms.	• Solve real world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
Math Practices			
Problem-Solving	• Solve problems involving ratios and discuss solution strategy • Solve problems through the application of algebraic and geometric concepts	• Solve problems involving ratios and rates and discuss solution strategy	

Grade 7 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Seek the meaning of a problem and look for a solution pathway • Check thinking by asking questions like, “Does this make sense?” and “Can I solve the problem in a different way?”	• Seek the meaning of a problem and look for efficient ways to represent and solve it • Check thinking by asking questions like, “Does this make sense?”, Can I solve the problem in a different way?”, and “What is the most efficient way to solve the problem?” • Compare two solutions to a problem	• Identify simpler forms of the original problem in order to gain insight into its solution and solve such problems • Identify the more efficient and effective of two solutions
Quantitative Reasoning	• Represent familiar contexts through the use of real numbers and variables in mathematics expressions and equations • Decontextualize to manipulate symbolic representations in expressions and equations by applying properties of operations	• Represent familiar contexts through the use of real numbers and variables in mathematics expressions, equations, and inequalities • Contextualize to understand the meaning of the number or variable as related to the problem • Decontextualize to manipulate symbolic representations in expressions, equations, and inequalities by applying properties of operations	• Represent a wide variety of real world contexts through the efficient use of real numbers and variables in mathematics expressions, equations, and inequalities
Logical Reasoning	• Construct arguments using drawings, models, expressions, and equations • Identify reasons and assumptions in an argument • Compare the reasonableness of two plausible arguments • Identify relevant questions to clarify arguments	• Construct arguments using drawings, models, expressions, equations, inequalities, tables, and graphs • Compare the effectiveness of two plausible arguments • Asks relevant questions to clarify arguments	

Grade 7 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		• Explains their thinking to others	• Explains how their thinking is an efficient and effective argument
Modeling	• Model familiar problem situations symbolically, graphically, and contextually • Form expressions and equations from real world and mathematical contexts • Use all representations as appropriate to a problem context	• Model problem situations symbolically, graphically, tabularly, and contextually • Form expressions, equations, or inequalities from real world and mathematical contexts. Connect symbolic and graphical representations • Represent two quantities simultaneously • Use measures of center and data displays to draw inferences, make comparisons, and formulate predictions • Create probability models from data sets • Use all representations to efficiently and appropriately solve a problem	• Explore covariance and represent two quantities simultaneously • Use measures of center and variability and data displays to draw inferences, make comparisons, and formulate predictions • Use experiments or simulations to generate data sets and create probability models
Patterns and Structures	• Identify a pattern in a situation. Break down complicated phenomena into simpler parts. • Identify patterns in ratio tables • Compose and decompose two- and three-dimensional figures to solve real world problems involving area and volume	• Identify a pattern or structure in a situation. Break down complicated phenomena into simpler parts. Build a more complex representation from simpler parts. • Make the connection between the constant of proportionality in a ratio table with the slope of a graph (without defining slope)	

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		• Examine tree diagrams or systematic lists to determine the sample space for compound events and verify that they have listed all possibilities • Create, explain, evaluate, and modify probability models to describe simple events • Make connections between covariance, rates, and representations showing the relationship between quantities	• Create, explain, evaluate, and modify probability models to describe simple and compound events

Grade 8 Mathematics Threshold Achievement Level Descriptors

Grade	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Grade 8	By the end of year, eighth graders at the basic level can identify rational and irrational numbers; solve simple linear equations in one variable; graph proportional relationships; identify relationships that are functions; use properties of positive exponents to generate equivalent expressions and write numbers in scientific notation; translate and reflect figures; construct scatterplots of bivariate data; find the volume of cylinders; identify, describe, and develop patterns in computations, relationships between quantities, and bivariate data. They can:	By the end of year, eighth graders at the proficient level can identify rational and irrational numbers and give rational approximates of irrational numbers; solve linear equations in one variable and systems of linear equations; compare proportional relationships and properties of linear functions represented in different ways; solve addition, subtraction, and multiplication problems with numbers expressed in scientific notation; translate, dilate, rotate, and reflect figures and use these transformations to determine whether figures are congruent and/or similar; apply the Pythagorean theorem to solve real world and mathematical problems, including those on a coordinate plane; construct and interpret scatterplots of bivariate data and two-way tables of categorical data; solve problems involving the volumes of cylinders and cones; use models to represent and solve nonstandard problems; analyze others' arguments and identify flaws in arguments if appropriate; identify, define, and explain numeric patterns and patterns in tables or graphs. They can:	By the end of year, eighth graders at the advanced level can identify rational and irrational numbers and give rational approximates of irrational numbers and estimate values of expressions that include irrational numbers; solve linear equations in one variable and systems of linear equations; compare proportional relationships and properties of linear functions represented in different ways; sketch graphs that exhibit features of a function described verbally; solve problems with numbers expressed in scientific notation; translate, dilate, rotate, and reflect figures and use these transformations to determine whether figures are congruent and/or similar; apply the Pythagorean theorem to solve real world and mathematical problems, including those on a coordinate plane; construct and interpret scatterplots of bivariate data and two-way tables of categorical data; solve problems involving the volumes of cylinders, cones, and spheres; construct and manipulate models to represent and solve nonstandard problems; analyze others’ arguments and identify flaws in arguments if appropriate; identify, define, and explain numeric patterns and patterns in tables or graphs. They can:

Grade 8 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		Concepts & Procedures	
Functions	• Understand that a function is a rule that assigns to each input exactly one output		
		• Construct a graph of a function	• Explain how a graph of a function shows the relationship between an independent and a dependent variable
	• Compare two functions represented in the same way (algebraically, graphically, or numerically in tables)	• Compare two functions represented in different ways (algebraically, graphically, or numerically in tables)	
		• Interpret the equation $y = mx + b$ as defining a linear function whose graph is a straight line	• Explain the meaning of the variables in a $y = mx + b$ function in a real world situation
		• Give examples of functions that are not linear	
		• Construct a function to model a linear relationship between two quantities	
		• Determine the rate of change and initial value of the function from two (x, y) values, including reading these from a table or from a graph	• Explain rate of change and initial value of the function from a description of a relationship in a real world situation, including reading these from a table or from a graph
		• Describe qualitatively (e.g., where the function is increasing/decreasing, linear/nonlinear) the functional relationship between two quantities by analyzing a graph	• Sketch a graph that exhibits the qualitative features of a function that has been described verbally
Expressions and Equations	• Apply the properties of positive integer exponents to the power of 3 to generate equivalent numerical expressions	• Apply the properties of integer exponents to generate equivalent numerical expressions	

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Use square root symbols to represent solutions to equations of the form $x^2 = p$, where p is a positive rational number	• Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number	• Explain the relationship between square root and cube root solutions and equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number
	• Evaluate square roots of familiar perfect squares	• Evaluate cube roots of familiar perfect cubes	
	• Know that $\sqrt{2}$ is irrational		• Know why square roots may be irrational
	• Use numbers in the form of a single digit times a positive integer power of 10 to estimate numbers to 100,000	• Use numbers in the form of a single digit times an integer power of 10 to estimate very large or very small quantities	
		• Express how many times as much one number in the form of a single digit times an integer power of 10 is compared to another of the same form	
	• Perform addition with numbers expressed in scientific notation with positive integer powers of 10	• Perform addition and subtraction with numbers expressed in scientific notation with integer powers of 10, including problems where both decimal and scientific notation are used	
		• Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities	• Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities as appropriate for a real world situation
			• Interpret scientific notation in the context of a situation

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Interpret the slope of a graph as the unit rate	• Graph proportional relationships, interpreting the unit rate as the slope of the graph	• Graph proportional relationships, interpreting the unit rate in the context of the situation
		• Represent a proportional relationship in two ways	• Compare two different proportional relationships represented in different ways
	• Draw a line to represent equations of the form $y = mx$ and $y = mx + b$	• Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane	• Explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane
	• Solve linear equations in one variable with integer coefficients with one solution	• Derive the equation $y = mx$ for a line through the origin and $y = mx + b$ for a line intercepting the vertical axis at b.	• Explain the relationship between $y = mx$ and $y = mx + b$.
		• Solve linear equations in one variable with rational coefficients with one solution, infinitely many solutions, or no solution	• Give examples of and solve linear equations in one variable with rational coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms, with one solution, infinitely many solutions, or no solution
		• Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously	• Explain the solutions to a system of two linear equations in two variables in the context of a real world situation
	• Solve systems of two linear equations in two variables given in slope-intercept form algebraically and estimate solutions by graphing the equations	• Solve systems of two linear equations algebraically and estimate solutions by graphing the equations	
		• Solve simple systems of two linear equations in two variables by inspection	

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		• Represent real world and mathematical problems leading to two linear equations in two variables	• Solve real world and mathematical problems involving two linear equations in two variables
Number System	• Know whether a number is rational or irrational • Understand informally that every number has a decimal expansion	• Understand informally that every number has a decimal expansion. Show that the decimal expansion for a rational number eventually terminates or repeats. • Identify the rational number for a repeating decimal expansion • Use rational approximations of irrational numbers to compare the size of irrational numbers and locate them approximately on a number line	• Understand informally that every number has a decimal expansion. Provide an example that shows that the decimal expansion for an irrational number does not eventually repeat . • Convert a decimal expansion that repeats eventually into a rational number • Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line, and estimate the value of expressions
Statistics and Probability	• Construct scatterplots for bivariate measurement data • Informally fit a straight line to model a relationship between two quantitative variables on a scatterplot that suggests a linear association and explain why the line fits the data	• Construct and interpret scatterplots for bivariate measurement data. Describe patterns of association between two quantities represented on a scatter plot (positive/negative association, linear/nonlinear association). • Informally fit a straight line to model a relationship between two quantitative variables on a scatterplot that suggests a linear association and assess the model fit by judging the closeness of the data points to the line	• Construct and interpret scatterplots for bivariate measurement data. Describe patterns of association between two quantities represented on a scatter plot (clustering, outliers, positive/negative association, linear/nonlinear association). • Informally fit a straight line to model a relationship between two quantitative variables on a scatterplot that suggests a linear association, write a linear equation to represent the straight line, and informally assess the model fit by judging the closeness of the data points to the line

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Identify patterns of association in categorical data based on frequencies in a two-way table	• Use the equation of a linear model to solve problems in the context of bivariate measurement data, identifying the slope and intercept • Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects	• Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept in the context of the problem situation • Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects and explain the patterns of association between the variables • Use relative frequencies calculated for rows and columns to describe possible association between two variables
Geometry	• Identify accurate reflections and translations • Understand that two regular polygons are congruent if they have exactly the same side lengths and angles	• Verify experimentally that for reflections, rotations, and translations lines are taken to lines, line segments are taken to line segments of the same length, angles are taken to angles of the same measure, and parallel lines are taken to parallel lines • Determine whether a two-dimensional figure is the result of taking an initial figure through a sequence of reflections, rotations, and translations. Identify such figures as congruent to the initial figure. • Given two congruent figures, describe two transformations that exhibit the congruence between them	• Given two congruent figures, describe a sequence of transformations that exhibits the congruence between them

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
		• Apply translations, rotations, dilations, and reflections on two-dimensional figures using coordinates • Describe the effect of translations, rotations, dilations, and reflections on two-dimensional figures using coordinates • Determine whether a two-dimensional figure is similar to another using a sequence of rotations, reflections, translations, and dilations • Given two similar two-dimensional figures, describe a sequence of up to 3 transformations that exhibit the similarity between them • Use informal arguments to establish facts about the angle sum and exterior angle of triangles and about the angles created when parallel lines are cut by a transversal	• Given two similar two-dimensional figures, describe a sequence of transformations that exhibit the similarity between them • Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles
	• Apply the Pythagorean Theorem to determine the unknown whole number hypotenuse length in right triangles mathematical problems in two dimensions (the side lengths are whole numbers) • Apply the Pythagorean Theorem to find the whole-number distance between two points within the same quadrant in a coordinate system	• Apply the Pythagorean Theorem to determine the unknown whole number side lengths in right triangles in real world and mathematical problems in two and three dimensions (the side lengths are whole numbers) • Apply the Pythagorean Theorem to find the whole-number distance between two points in a coordinate system	• Apply the Pythagorean theorem to determine the unknown side lengths in right triangles in real world and mathematical problems in two and three dimensions (the side lengths are rational numbers) • Apply the Pythagorean Theorem to find the distance between two points in a coordinate system

Grade 8 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Math Practices			
Problem-Solving	• Solve real world problems through the application of algebraic and geometric concepts	• Seek the meaning of a problem and look for efficient ways to represent and solve it • Check thinking by asking questions like, “Does this make sense?”, “Can I solve the problem in a different way?”, and “What is the most efficient way to solve the problem?”	• Monitor progress while solving an unfamiliar problem and, if necessary, devise another solution strategy
Quantitative Reasoning	• Represent familiar real world contexts through the use of real numbers and variables in mathematics expressions, equations, and inequalities • Decontextualize to manipulate symbolic representations by applying properties of operations	• Represent a wide variety of real world contexts through the use of real numbers and variables in mathematical expressions, equations, and inequalities • Examine patterns in data and assess the degree of linearity of functions • Contextualize to understand the meaning of the number or variable as related to the problem	• Informally describe the behavior of non-linear functions

Grade 8 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
Logical Reasoning	• Construct arguments using verbal or written explanations accompanied by expressions, equations, inequalities, models, graphs, tables, and other data displays	• Explain their thinking to others and respond to others' thinking	• Compare the effectiveness of two plausible arguments and distinguish correct logic or reasoning from that which is flawed • Determine the appropriate domain to which an argument applies
Modeling	• Model problem situations symbolically, graphically, tabularly, and contextually • Form expressions, equations, or inequalities from real world contexts. Connect symbolic and graphical representations. • Represent data in scatterplots • Use all representations as appropriate to a problem context	• Solve systems of linear equations presented in standard forms • Compare properties of linear functions provided in different forms • Use scatterplots to represent data and describe associations between variables • Use all representations to efficiently and appropriately solve a problem	• Solve systems of linear equations • Compare properties of functions provided in different forms
Patterns and Structures	• Identify a pattern or structure in a situation. Break down complicated phenomena into simpler parts. Build a more complex representation from simpler parts.	• Identify patterns and/or structures, model these patterns and/or structures, and use them to solve problems	

Grade 8 Mathematics Threshold Achievement Level Descriptors

Focus	Basic/Approaching Standard	Proficient/Meets Standard	Advanced/Exceeds Standard
	• Examine patterns in tables and graphs. Describe relationships. • Make connections between covariance, rates, and representations showing the relationship between quantities	• Examine patterns in tables and graphs. Describe relationships. Generate equations. • Solve and model problems. Identify the equivalence between the slope of a line and the rate of change in the problem. • Use iterative processes to determine more precise rational approximations of irrational numbers	• Examine patterns in tables and graphs. Describe relationships. Generate equations, inequalities, and functions. .

Maine's Achievement Level Definitions: Grades 3 -8

Maine's Achievement Level Descriptors (ALDs) describe progress toward meetings Maine's English Language Arts and Literacy College and Career Ready Learning Standards. Achievement for accountability is measured with the eMPower assessment which students in grades 3-8 take each April. Grade level expectations are determined by the grade level standards and are reflected in the items aligned to the reading, writing, and language standards.

While many of the standards are included on the accountability assessment, not every standard can be measured through an on-demand, large scale assessment. Therefore, the Achievement Level Descriptors reflect the standards measured with the eMPower assessment. These achievement levels reflect student performance at a point in time each year and can be used to validate growth over time. Continuous progress toward college and career readiness is the overall goal. The Achievement Level Descriptors are brief and succinct for efficiency of reporting. The information that follows provides further clarification of how the ALDs are determined.

Level 1	Level 2	Level 3	Level 4
The student has **not met** the achievement level and demonstrates a **minimal** understanding of the knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **partially** meets the achievement level and demonstrates an **incomplete** understanding of the knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **meets** the achievement level and demonstrates **adequate** understanding of the knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student meets with distinction the achievement level and demonstrates a **thorough** understanding of the knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.

Grade 6

Level 1

Students at this level demonstrate a **minimal** understanding by using passages and/or paired passages in a specified range of complexities for grade 6 in the 6-8 complexity band for both close reading and evidence based writing. Students at this level will **rarely**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is conveyed through particular details. (R2)
- Analyze how parts of a text work as a whole to develop a plot, characters, events, or information. (R3, R5)
- Determine the meaning of words and phrases as they are used in a text using context clues, word relationships, and nuances. (R4, L4 and L5)
- Determine an author's point of view and how it is conveyed in a text. (R6)
- Trace and evaluate the argument and specific claims in a text. (R8)
- Develop and strengthen writing by editing and revising. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 2

Students at this level demonstrate a **partial** understanding by using passages and/or paired passages in a specified range of complexities for grade 6 in the 6-8 complexity band for both close reading and evidence based writing. Students at this level will **inconsistently**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is conveyed through particular details. (R2)
- Analyze how parts of a text work as a whole to develop a plot, characters, events, or information. (R3, R5)
- Determine the meaning of words and phrases as they are used in a text using context clues, word relationships, and nuances. (R4, L4 and L5)
- Determine an author's point of view and how it is conveyed in a text. (R6)

- Trace and evaluate the argument and specific claims in a text. (R8)
- Develop and strengthen writing by editing and revising. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 3

Students at this level demonstrate a **sufficient** understanding by using passages and/or paired passages in a specified range of complexities for grade 6 in the 6-8 complexity band for both close reading and evidence based writing. Students at this level will **adequately**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is conveyed through particular details. (R2)
- Analyze how parts of a text work as a whole to develop a plot, characters, events, or information. (R3, R5)
- Determine the meaning of words and phrases as they are used in a text using context clues, word relationships, and nuances. (R4, L4 and L5)
- Determine an author's point of view and how it is conveyed in a text. (R6)
- Trace and evaluate the argument and specific claims in a text. (R8)
- Develop and strengthen writing by editing and revising. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 4

Students at this level demonstrate a **consistent** understanding by using passages and/or paired passages in a specified range of complexities for grade 6 in the 6-8 complexity band for both close reading and evidence based writing. Students at this level will **thoroughly**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is conveyed through particular details. (R2)
- Analyze how parts of a text work as a whole to develop a plot, characters, events, or information. (R3, R5)
- Determine the meaning of words and phrases as they are used in a text using context clues, word relationships, and nuances. (R4, L4 and L5)
- Determine an author's point of view and how it is conveyed in a text. (R6)
- Trace and evaluate the argument and specific claims in a text. (R8)
- Develop and strengthen writing by editing and revising. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Maine's Achievement Level Definitions: Grade 3

Maine's Achievement Level Descriptors (ALDs) describe progress toward meetings Maine's English Language Arts and Literacy College and Career Ready Learning Standards. Achievement for accountability is measured with the eMPower assessment which students in grades 3-8 take each April. Grade level expectations are determined by the grade level standards and are reflected in the items aligned to the reading, writing, and language standards.

While many of the standards are included on the accountability assessment, not every standard can be measured through an on-demand, large scale assessment. Therefore, the Achievement Level Descriptors reflect the standards measured with the eMPower assessment. These achievement levels reflect student performance at a point in time each year and can be used to validate growth over time. Continuous progress toward college and career readiness is the overall goal. The Achievement Level Descriptors are brief and succinct for efficiency of reporting. The information that follows provides further clarification of how the ALDs are determined.

Level 1	Level 2	Level 3	Level 4
The student has **not met** the achievement level and demonstrates **incomplete** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **partially** meets the achievement level and demonstrates **minimal** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **meets** the achievement level and demonstrates **adequate** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **meets with distinction** the achievement level and demonstrates **thorough** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.

Grade 3

Level 1

Students at this level demonstrate **incomplete** understanding of grade level standards through close reading of passages and/or paired passages at the high end of the grade 2-3 complexity band. Responses demonstrate **little** knowledge of conventions for editing and revising texts accurately. Students at this level will **rarely**:

- Answer text-based questions to demonstrate understanding of a text. (R1)
- Determine main idea, central message, lesson, or moral of a text using details in the text. (R2)
- Use language that pertains to time, sequence, and cause/effect to describe information from a text or characters in a story. (R3)
- Determine the meaning of words and phrases in a text, distinguishing literal from nonliteral language. (R4, L4 and L5)
- Describe how the each successive part of a text builds on earlier sections. (R5)
- Use text features and search tools to locate relevant information in a text. (R5)
- Distinguish the reader's point of view from the author's, narrator's and/or a character's. (R6)
- Explain how illustrations contribute to the understanding of the text. (R7)
- Describe logical connections between particular sentences and paragraphs in a text. (R8)
- Compare and contrast key details presented in two texts on the same topic. (R9)
- Compare and contrast themes, settings, and plots of stories written by the same author about the same or similar characters. (R9)
- Improve writing by editing and revising for conventions. (W5)
- Demonstrate command of conventions of Standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 2

Students at this level demonstrate **minimal** understanding of grade level standards through close reading of passages and/or paired passages at the high end of the grade 2-3 complexity band. Responses demonstrate **some** knowledge of conventions for editing and revising texts accurately. Students at this level will **inconsistently**:

- Answer text-based questions to demonstrate understanding of a text. (R1)

- Determine main idea, central message, lesson, or moral of a text using details in the text. (R2)
- Use language that pertains to time, sequence, and cause/effect to describe information from a text or characters in a story. (R3)
- Determine the meaning of words and phrases in a text, distinguishing literal from nonliteral language. (R4, L4 and L5)
- Describe how the each successive part of a text builds on earlier sections. (R5)
- Use text features and search tools to locate relevant information in a text. (R5)
- Distinguish the reader's point of view from the author's, narrator's and/or a character's. (R6)
- Explain how illustrations contribute to the understanding of the text. (R7)
- Describe logical connections between particular sentences and paragraphs in a text. (R8)
- Compare and contrast key details presented in two texts on the same topic. (R9)
- Compare and contrast themes, settings, and plots of stories written by the same author about the same or similar characters. (R9)
- Improve writing by editing and revising for conventions. (W5)
- Demonstrate command of conventions of Standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 3

Students at this level demonstrate **sufficient** understanding of grade level standards through close reading of passages and/or paired passages at the high end of the grade 2-3 complexity band. Responses demonstrate **satisfactory** knowledge of conventions for editing and revising texts accurately. Students at this level will **adequately**:

- Answer text-based questions to demonstrate understanding of a text. (R1)
- Determine main idea, central message, lesson, or moral of a text using details in the text. (R2)
- Use language that pertains to time, sequence, and cause/effect to describe information from a text or characters in a story. (R3)
- Determine the meaning of words and phrases in a text, distinguishing literal from nonliteral language. (R4, L4 and L5)
- Describe how the each successive part of a text builds on earlier sections. (R5)
- Use text features and search tools to locate relevant information in a text. (R5)
- Distinguish the reader's point of view from the author's, narrator's and/or a character's. (R6)

- Explain how illustrations contribute to the understanding of the text. (R7)
- Describe logical connections between particular sentences and paragraphs in a text. (R8)
- Compare and contrast key details presented in two texts on the same topic. (R9)
- Compare and contrast themes, settings, and plots of stories written by the same author about the same or similar characters. (R9)
- Improve writing by editing and revising for conventions. (W5)
- Demonstrate command of conventions of Standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 4

Students at this level demonstrate **consistent** understanding of grade level standards through close reading of passages and/or paired passages at the high end of the grade 2-3 complexity band. Responses demonstrate **exemplary** knowledge of conventions for editing and revising texts accurately. Students at this level will **thoroughly**:

- Answer text-based questions to demonstrate understanding of a text. (R1)
- Determine main idea, central message, lesson, or moral of a text using details in the text. (R2)
- Use language that pertains to time, sequence, and cause/effect to describe information from a text or characters in a story. (R3)
- Determine the meaning of words and phrases in a text, distinguishing literal from nonliteral language. (R4, L4 and L5)
- Describe how the each successive part of a text builds on earlier sections. (R5)
- Use text features and search tools to locate relevant information in a text. (R5)
- Distinguish the reader's point of view from the author's, narrator's and/or a character's. (R6)
- Explain how illustrations contribute to the understanding of the text. (R7)
- Describe logical connections between particular sentences and paragraphs in a text. (R8)
- Compare and contrast key details presented in two texts on the same topic. (R9)
- Compare and contrast themes, settings, and plots of stories written by the same author about the same or similar characters. (R9)
- Improve writing by editing and revising for conventions. (W5)
- Demonstrate command of conventions of Standard English grammar and usage. (L1)

- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Maine's Achievement Level Definitions: Grade 4

Maine's Achievement Level Descriptors (ALDs) describe progress toward meetings Maine's English Language Arts and Literacy College and Career Ready Learning Standards. Achievement for accountability is measured with the eMPower assessment which students in grades 3-8 take each April. Grade level expectations are determined by the grade level standards and are reflected in the items aligned to the reading, writing, and language standards.

While many of the standards are included on the accountability assessment, not every standard can be measured through an on-demand, large scale assessment. Therefore, the Achievement Level Descriptors reflect the standards measured with the eMPower assessment. These achievement levels reflect student performance at a point in time each year and can be used to validate growth over time. Continuous progress toward college and career readiness is the overall goal. The Achievement Level Descriptors are brief and succinct for efficiency of reporting. The information that follows provides further clarification of how the ALDs are determined.

Level 1	Level 2	Level 3	Level 4
The student has **not met** the achievement level and demonstrates **incomplete** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **partially** meets the achievement level and demonstrates **minimal** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **meets** the achievement level and demonstrates **adequate** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **meets with distinction** the achievement level and demonstrates **thorough** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.

Grade 4

Level 1

Students at this level demonstrate **incomplete** understanding of grade level standards through close reading of passages and/or paired passages in the grade 4-5 complexity band. Responses demonstrate **little** knowledge of conventions for editing and revising texts accurately. Students at this level will **rarely**:

- Refer to details in a text to support what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text using details from the text. (R2)
- Describe a character, setting, event or concept using specific details from a text. (R3)
- Determine the meaning of general academic and domain-specific words and phrases as they are used in a text. (R4, L4 and L5)
- Use structural elements to identify and describe differences in text structures. (R5)
- Compare and contrast point of view and/or accounts of the same event or topic (first hand, second hand); describe the difference in focus or information. (R6)
- Identify the reasons that support specific points in a text. (R8)
- Identify basic similarities and differences between two texts on the same topic. (R9)
- Compare and contrast similar themes, topics and patterns of events in stories. (R9)
- Improve writing by editing and revising for conventions. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 2

Students at this level demonstrate **minimal** understanding of grade level standards through close reading of passages and/or paired passages in the grade 4-5 complexity band. Responses demonstrate **some** knowledge of conventions for editing and revising texts accurately. Students at this level will **inconsistently**:

- Refer to details in a text to support what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text using details from the text. (R2)

- Describe a character, setting, event or concept using specific details from a text. (R3)
- Determine the meaning of general academic and domain-specific words and phrases as they are used in a text. (R4, L4 and L5)
- Use structural elements to identify and describe differences in text structures. (R5)
- Compare and contrast point of view and/or accounts of the same event or topic (first hand, second hand); describe the difference in focus or information. (R6)
- Identify the reasons that support specific points in a text. (R8)
- Identify basic similarities and differences between two texts on the same topic. (R9)
- Compare and contrast similar themes, topics and patterns of events in stories. (R9)
- Improve writing by editing and revising for conventions. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 3

Students at this level demonstrate **sufficient** understanding of grade level standards through close reading of passages and/or paired passages in the grade 4-5 complexity band. Responses demonstrate **satisfactory** knowledge of conventions for editing and revising texts accurately. Students at this level will **adequately**:

- Refer to details in a text to support what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text using details from the text. (R2)
- Describe a character, setting, event or concept using specific details from a text. (R3)
- Determine the meaning of general academic and domain-specific words and phrases as they are used in a text. (R4, L4 and L5)
- Use structural elements to identify and describe differences in text structures. (R5)
- Compare and contrast point of view and/or accounts of the same event or topic (first hand, second hand); describe the difference in focus or information. (R6)
- Identify the reasons that support specific points in a text. (R8)
- Identify basic similarities and differences between two texts on the same topic. (R9)

- Compare and contrast similar themes, topics and patterns of events in stories. (R9)
- Improve writing by editing and revising for conventions. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 4

Students at this level demonstrate **consistent** understanding of grade level standards through close reading of passages and/or paired passages in the grade 4-5 complexity band. Responses demonstrate **exemplary** knowledge of conventions for editing and revising texts accurately. Students at this level will **thoroughly**:

- Refer to details in a text to support what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text using details from the text. (R2)
- Describe a character, setting, event or concept using specific details from a text. (R3)
- Determine the meaning of general academic and domain-specific words and phrases as they are used in a text. (R4, L4 and L5)
- Use structural elements to identify and describe differences in text structures. (R5)
- Compare and contrast point of view and/or accounts of the same event or topic (first hand, second hand); describe the difference in focus or information. (R6)
- Identify the reasons that support specific points in a text. (R8)
- Identify basic similarities and differences between two texts on the same topic. (R9)
- Compare and contrast similar themes, topics and patterns of events in stories. (R9)
- Improve writing by editing and revising for conventions. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Maine's Achievement Level Definitions: Grade 5

Maine's Achievement Level Descriptors (ALDs) describe progress toward meetings Maine's English Language Arts and Literacy College and Career Ready Learning Standards. Achievement for accountability is measured with the eMPower assessment which students in grades 3-8 take each April. Grade level expectations are determined by the grade level standards and are reflected in the items aligned to the reading, writing, and language standards.

While many of the standards are included on the accountability assessment, not every standard can be measured through an on-demand, large scale assessment. Therefore, the Achievement Level Descriptors reflect the standards measured with the eMPower assessment. These achievement levels reflect student performance at a point in time each year and can be used to validate growth over time. Continuous progress toward college and career readiness is the overall goal. The Achievement Level Descriptors are brief and succinct for efficiency of reporting. The information that follows provides further clarification of how the ALDs are determined.

Level 1	Level 2	Level 3	Level 4
The student has **not met** the achievement level and demonstrates **incomplete** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **partially** meets the achievement level and demonstrates **minimal** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **meets** the achievement level and demonstrates **adequate** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **meets with distinction** the achievement level and demonstrates **thorough** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.

Grade 5

Level 1

Students at this level demonstrate **incomplete** understanding of grade level standards through close reading of passages and/or paired passages at the high end of the grade 4-5 complexity band. Responses demonstrate **little** knowledge of conventions for editing and revising texts accurately. Students at this level will **rarely**:

- Quote accurately from a text to support what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine one or more themes or central ideas of a text and how they are developed using details from the text. (R2)
- Compare and contrast two or more elements of a text or determine the relationship between individuals, events, ideas, or concepts using specific details in the text. (R3, R5)
- Determine the meaning of general academic and domain-specific words and phrases as they are used in a text. (R4, L4 and L5)
- Analyze multiple accounts of the same event or topic to identify similarities and differences in point of view. (R6)
- Describe how a narrator's or speaker's point of view influences how events are described. (R6)
- Describe how reasons support specific points the author makes in a text. (R8)
- Compare and contrast information from two texts on the same topic. (R9)
- Develop and strengthen writing by editing and revising. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 2

Students at this level demonstrate **minimal** understanding of grade level standards through close reading of passages and/or paired passages at the high end of the grade 4-5 complexity band. Responses demonstrate **some** knowledge of conventions for editing and revising texts accurately. Students at this level will **inconsistently**:

- Quote accurately from a text to support what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine one or more themes or central ideas of a text and how they are developed using details from the text. (R2)

- Compare and contrast two or more elements of a text or determine the relationship between individuals, events, ideas, or concepts using specific details in the text. (R3, R5)
- Determine the meaning of general academic and domain-specific words and phrases as they are used in a text. (R4, L4 and L5)
- Analyze multiple accounts of the same event or topic to identify similarities and differences in point of view. (R6)
- Describe how a narrator's or speaker's point of view influences how events are described. (R6)
- Describe how reasons support specific points the author makes in a text. (R8)
- Compare and contrast information from two texts on the same topic. (R9)
- Develop and strengthen writing by editing and revising. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 3

Students at this level demonstrate **sufficient** understanding of grade level standards through close reading of passages and/or paired passages at the high end of the grade 4-5 complexity band. Responses demonstrate **satisfactory** knowledge of conventions for editing and revising texts accurately. Students at this level will **adequately**:

- Quote accurately from a text to support what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine one or more themes or central ideas of a text and how they are developed using details from the text. (R2)
- Compare and contrast two or more elements of a text or determine the relationship between individuals, events, ideas, or concepts using specific details in the text. (R3, R5)
- Determine the meaning of general academic and domain-specific words and phrases as they are used in a text. (R4, L4 and L5)
- Analyze multiple accounts of the same event or topic to identify similarities and differences in point of view. (R6)
- Describe how a narrator's or speaker's point of view influences how events are described. (R6)
- Describe how reasons support specific points the author makes in a text. (R8)

- Compare and contrast information from two texts on the same topic. (R9)
- Develop and strengthen writing by editing and revising. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 4

Students at this level demonstrate **consistent** understanding of grade level standards through close reading of passages and/or paired passages at the high end of the grade 4-5 complexity band. Responses demonstrate **exemplary** knowledge of conventions for editing and revising texts accurately. Students at this level will **thoroughly**:

- Quote accurately from a text to support what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine one or more themes or central ideas of a text and how they are developed using details from the text. (R2)
- Compare and contrast two or more elements of a text or determine the relationship between individuals, events, ideas, or concepts using specific details in the text. (R3, R5)
- Determine the meaning of general academic and domain-specific words and phrases as they are used in a text. (R4, L4 and L5)
- Analyze multiple accounts of the same event or topic to identify similarities and differences in point of view. (R6)
- Describe how a narrator's or speaker's point of view influences how events are described. (R6)
- Describe how reasons support specific points the author makes in a text. (R8)
- Compare and contrast information from two texts on the same topic. (R9)
- Develop and strengthen writing by editing and revising. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Maine's Achievement Level Definitions: Grade 6

Maine's Achievement Level Descriptors (ALDs) describe progress toward meetings Maine's English Language Arts and Literacy College and Career Ready Learning Standards. Achievement for accountability is measured with the eMPower assessment which students in grades 3-8 take each April. Grade level expectations are determined by the grade level standards and are reflected in the items aligned to the reading, writing, and language standards.

While many of the standards are included on the accountability assessment, not every standard can be measured through an on-demand, large scale assessment. Therefore, the Achievement Level Descriptors reflect the standards measured with the eMPower assessment. These achievement levels reflect student performance at a point in time each year and can be used to validate growth over time. Continuous progress toward college and career readiness is the overall goal. The Achievement Level Descriptors are brief and succinct for efficiency of reporting. The information that follows provides further clarification of how the ALDs are determined.

Level 1	Level 2	Level 3	Level 4
The student has **not met** the achievement level and demonstrates **incomplete** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **partially** meets the achievement level and demonstrates **minimal** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **meets** the achievement level and demonstrates **adequate** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **meets with distinction** the achievement level and demonstrates **thorough** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.

Grade 6

Level 1

Students at this level demonstrate **incomplete** understanding of grade level standards through close reading of passages and/or paired passages at the lower end of the grade 6-8 complexity band. Responses demonstrate **little** knowledge of conventions for editing and revising texts accurately. Students at this level will **rarely**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is conveyed through particular details. (R2)
- Analyze how parts of a text work as a whole to develop a plot, characters, events, or information. (R3, R5)
- Determine the meaning of words and phrases as they are used in a text using context clues, word relationships, and nuances. (R4, L4 and L5)
- Determine an author's point of view and how it is conveyed in a text. (R6)
- Trace and evaluate the argument and specific claims in a text. (R8)
- Develop and strengthen writing by editing and revising. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 2

Students at this level demonstrate **minimal** understanding of grade level standards through close reading of passages and/or paired passages at the lower end of the grade 6-8 complexity band. Responses demonstrate **some** knowledge of conventions for editing and revising texts accurately. Students at this level will **inconsistently**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is conveyed through particular details. (R2)
- Analyze how parts of a text work as a whole to develop a plot, characters, events, or information. (R3, R5)
- Determine the meaning of words and phrases as they are used in a text using context clues, word relationships, and nuances. (R4, L4 and L5)
- Determine an author's point of view and how it is conveyed in a text. (R6)

- Trace and evaluate the argument and specific claims in a text. (R8)
- Develop and strengthen writing by editing and revising. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 3

Students at this level demonstrate **sufficient** understanding of grade level standards through close reading of passages and/or paired passages at the lower end of the grade 6-8 complexity band. Responses demonstrate **satisfactory** knowledge of conventions for editing and revising texts accurately. Students at this level will **adequately**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is conveyed through particular details. (R2)
- Analyze how parts of a text work as a whole to develop a plot, characters, events, or information. (R3, R5)
- Determine the meaning of words and phrases as they are used in a text using context clues, word relationships, and nuances. (R4, L4 and L5)
- Determine an author's point of view and how it is conveyed in a text. (R6)
- Trace and evaluate the argument and specific claims in a text. (R8)
- Develop and strengthen writing by editing and revising. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Level 4

Students at this level demonstrate **consistent** understanding of grade level standards through close reading of passages and/or paired passages at the lower end of the grade 6-8 complexity band. Responses demonstrate **exemplary** knowledge of conventions for editing and revising texts accurately. Students at this level will **thoroughly**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is conveyed through particular details. (R2)
- Analyze how parts of a text work as a whole to develop a plot, characters, events, or information. (R3, R5)
- Determine the meaning of words and phrases as they are used in a text using context clues, word relationships, and nuances. (R4, L4 and L5)
- Determine an author's point of view and how it is conveyed in a text. (R6)
- Trace and evaluate the argument and specific claims in a text. (R8)
- Develop and strengthen writing by editing and revising. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)

Maine's Achievement Level Definitions: Grade 7

Maine's Achievement Level Descriptors (ALDs) describe progress toward meetings Maine's English Language Arts and Literacy College and Career Ready Learning Standards. Achievement for accountability is measured with the eMPower assessment which students in grades 3-8 take each April. Grade level expectations are determined by the grade level standards and are reflected in the items aligned to the reading, writing, and language standards.

While many of the standards are included on the accountability assessment, not every standard can be measured through an on-demand, large scale assessment. Therefore, the Achievement Level Descriptors reflect the standards measured with the eMPower assessment. These achievement levels reflect student performance at a point in time each year and can be used to validate growth over time. Continuous progress toward college and career readiness is the overall goal. The Achievement Level Descriptors are brief and succinct for efficiency of reporting. The information that follows provides further clarification of how the ALDs are determined.

Level 1	Level 2	Level 3	Level 4
The student has **not met** the achievement level and demonstrates **incomplete** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **partially** meets the achievement level and demonstrates **minimal** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **meets** the achievement level and demonstrates **adequate** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **meets with distinction** the achievement level and demonstrates **thorough** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.

Grade 7

Level 1

Students at this level demonstrate **incomplete** understanding of grade level standards through close reading of passages and/or paired passages in the middle of the grade 6-8 complexity band. Responses demonstrate **little** knowledge of conventions for editing and revising texts accurately. Students at this level will **rarely**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is developed over the course of the text. (R2)
- Analyze how the structure or parts of a text work interact to support development of plot, characters, ideas, or information. (R3, R5)
- Determine the meaning of words and phrases as they are used in a text using context clues, word relationships, and nuances. (R4, L4 and L5)
- Analyze how an author provides point of view from different characters in a text. (R6)
- Determine an author's purpose or point of view in a text and how it is distinguished from others. (R6)
- Trace and evaluate the argument and specific claims in a text and determine whether the reasons and evidence are sufficient to support the claim(s). (R8)
- Develop and strengthen writing by editing and revising, focusing on how well purpose and audience have been addressed. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of Standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)
- Demonstrate understanding of figures of speech, word relationships and nuances, and connotation when denotation is similar. (L5)
- Accurately identify grade-appropriate general academic and domain-specific words and phrases. (L6)

Level 2

Students at this level demonstrate **minimal** understanding of grade level standards through close reading of passages and/or paired passages in the middle of the grade 6-8 complexity band. Responses demonstrate **some** knowledge of conventions for editing and revising texts accurately. Students at this level will **inconsistently**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is developed over the course of the text. (R2)
- Analyze how the structure or parts of a text work interact to support development of plot, characters, ideas, or information. (R3, R5)
- Determine the meaning of words and phrases as they are used in a text using context clues, word relationships, and nuances. (R4, L4 and L5)
- Analyze how an author provides point of view from different characters in a text. (R6)
- Determine an author's purpose or point of view in a text and how it is distinguished from others. (R6)
- Trace and evaluate the argument and specific claims in a text and determine whether the reasons and evidence are sufficient to support the claim(s). (R8)
- Develop and strengthen writing by editing and revising, focusing on how well purpose and audience have been addressed. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of Standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)
- Demonstrate understanding of figures of speech, word relationships and nuances, and connotation when denotation is similar. (L5)
- Accurately identify grade-appropriate general academic and domain-specific words and phrases. (L6)

Level 3

Students at this level demonstrate **sufficient** understanding of grade level standards through close reading of passages and/or paired passages in the middle of the grade 6-8 complexity band. Responses demonstrate **satisfactory** knowledge of conventions for editing and revising texts accurately. Students at this level will **adequately**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is developed over the course of the text. (R2)
- Analyze how the structure or parts of a text work interact to support development of plot, characters, ideas, or information. (R3, R5)
- Determine the meaning of words and phrases as they are used in a text using context clues, word relationships, and nuances. (R4, L4 and L5)
- Analyze how an author provides point of view from different characters in a text. (R6)
- Determine an author's purpose or point of view in a text and how it is distinguished from others. (R6)
- Trace and evaluate the argument and specific claims in a text and determine whether the reasons and evidence are sufficient to support the claim(s). (R8)
- Develop and strengthen writing by editing and revising, focusing on how well purpose and audience have been addressed. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of Standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)
- Demonstrate understanding of figures of speech, word relationships and nuances, and connotation when denotation is similar. (L5)
- Accurately identify grade-appropriate general academic and domain-specific words and phrases. (L6)

Level 4

Students at this level demonstrate **consistent** understanding of grade level standards through close reading of passages and/or paired passages in the middle of the grade 6-8 complexity band. Responses demonstrate **exemplary** knowledge of conventions for editing and revising texts accurately. Students at this level will **thoroughly**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is developed over the course of the text. (R2)
- Analyze how the structure or parts of a text work interact to support development of plot, characters, ideas, or information. (R3, R5)
- Determine the meaning of words and phrases as they are used in a text using context clues, word relationships, and nuances. (R4, L4 and L5)
- Analyze how an author provides point of view from different characters in a text. (R6)
- Determine an author's purpose or point of view in a text and how it is distinguished from others. (R6)
- Trace and evaluate the argument and specific claims in a text and determine whether the reasons and evidence are sufficient to support the claim(s). (R8)
- Develop and strengthen writing by editing and revising, focusing on how well purpose and audience have been addressed. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of Standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)
- Demonstrate understanding of figures of speech, word relationships and nuances, and connotation when denotation is similar. (L5)
- Accurately identify grade-appropriate general academic and domain-specific words and phrases. (L6)

Maine's Achievement Level Definitions: Grade 8

Maine's Achievement Level Descriptors (ALDs) describe progress toward meetings Maine's English Language Arts and Literacy College and Career Ready Learning Standards. Achievement for accountability is measured with the eMPower assessment which students in grades 3-8 take each April. Grade level expectations are determined by the grade level standards and are reflected in the items aligned to the reading, writing, and language standards.

While many of the standards are included on the accountability assessment, not every standard can be measured through an on-demand, large scale assessment. Therefore, the Achievement Level Descriptors reflect the standards measured with the eMPower assessment. These achievement levels reflect student performance at a point in time each year and can be used to validate growth over time. Continuous progress toward college and career readiness is the overall goal. The Achievement Level Descriptors are brief and succinct for efficiency of reporting. The information that follows provides further clarification of how the ALDs are determined.

Level 1	Level 2	Level 3	Level 4
The student has **not met** the achievement level and demonstrates **incomplete** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **partially** meets the achievement level and demonstrates **minimal** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **meets** the achievement level and demonstrates **adequate** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.	The student **meets with distinction** the achievement level and demonstrates **thorough** knowledge and skills needed to meet Maine's ELA/Literacy Content Standards with texts of appropriate complexity for the grade level.

Grade 8

Level 1

Students at this level demonstrate **incomplete** understanding of grade level standards through close reading of passages and/or paired passages at the high end of the grade 6-8 complexity band. Responses demonstrate **little** knowledge of conventions for editing and revising texts accurately. Students at this level will **rarely**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is developed over the course of the text including its relationship to characters, setting, plot, or supporting details. (R2)
- Analyze how a text makes connections and distinctions between individuals, ideas, and events. (R3)
- Analyze how dialogue or incidents propel action and reveal aspects of character or propel a decision. (R3)
- Determine the meaning of words and phrases as they are used in a text including figurative and connotative meanings, analogies, and allusions to other texts as well as the impact on tone or meaning. (R4, L4 and L5)
- Compare and contrast the structure of two or more texts and analyze how the differing structures contribute to meaning and style. (R5)
- Analyze the structure of a specific paragraph or sentence to determine its role in developing and refining a key concept. (R5)
- Analyze how different points of view from different characters create effects such as suspense or humor. (R6)
- Determine an author's purpose or point of view in a text and how the author acknowledges and responds to conflicting evidence or points of view. (R6)
- Trace and evaluate the argument and specific claims in a text and determine whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced. (R8)
- Develop and strengthen writing by editing and revising, focusing on how well purpose and audience have been addressed. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of Standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)
- Demonstrate understanding of figures of speech, word relationships and nuances, and connotation when denotation is similar. (L5)

- Accurately identify grade-appropriate general academic and domain-specific words and phrases. (L6)

Level 2

Students at this level demonstrate **minimal** understanding of grade level standards through close reading of passages and/or paired passages at the high end of the grade 6-8 complexity band. Responses demonstrate **some** knowledge of conventions for editing and revising texts accurately. Students at this level will **inconsistently**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is developed over the course of the text including its relationship to characters, setting, plot, or supporting details. (R2)
- Analyze how a text makes connections and distinctions between individuals, ideas, and events. (R3)
- Analyze how dialogue or incidents propel action and reveal aspects of character or propel a decision. (R3)
- Determine the meaning of words and phrases as they are used in a text including figurative and connotative meanings, analogies, and allusions to other texts as well as the impact on tone or meaning. (R4, L4 and L5)
- Compare and contrast the structure of two or more texts and analyze how the differing structures contribute to meaning and style. (R5)
- Analyze the structure of a specific paragraph or sentence to determine its role in developing and refining a key concept. (R5)
- Analyze how different points of view from different characters create effects such as suspense or humor. (R6)
- Determine an author's purpose or point of view in a text and how the author acknowledges and responds to conflicting evidence or points of view. (R6)
- Trace and evaluate the argument and specific claims in a text and determine whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced. (R8)
- Develop and strengthen writing by editing and revising, focusing on how well purpose and audience have been addressed. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of Standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)
- Demonstrate understanding of figures of speech, word relationships and nuances, and connotation when denotation is similar. (L5)

- Accurately identify grade-appropriate general academic and domain-specific words and phrases. (L6)

Level 3

Students at this level demonstrate **sufficient** understanding of grade level standards through close reading of passages and/or paired passages at the high end of the grade 6-8 complexity band. Responses demonstrate **satisfactory** knowledge of conventions for editing and revising texts accurately. Students at this level will **adequately**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is developed over the course of the text including its relationship to characters, setting, plot, or supporting details. (R2)
- Analyze how a text makes connections and distinctions between individuals, ideas, and events. (R3)
- Analyze how dialogue or incidents propel action and reveal aspects of character or propel a decision. (R3)
- Determine the meaning of words and phrases as they are used in a text including figurative and connotative meanings, analogies, and allusions to other texts as well as the impact on tone or meaning. (R4, L4 and L5)
- Compare and contrast the structure of two or more texts and analyze how the differing structures contribute to meaning and style. (R5)
- Analyze the structure of a specific paragraph or sentence to determine its role in developing and refining a key concept. (R5)
- Analyze how different points of view from different characters create effects such as suspense or humor. (R6)
- Determine an author's purpose or point of view in a text and how the author acknowledges and responds to conflicting evidence or points of view. (R6)
- Trace and evaluate the argument and specific claims in a text and determine whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced. (R8)
- Develop and strengthen writing by editing and revising, focusing on how well purpose and audience have been addressed. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of Standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)
- Demonstrate understanding of figures of speech, word relationships and nuances, and connotation when denotation is similar. (L5)

- Accurately identify grade-appropriate general academic and domain-specific words and phrases. (L6)

Level 4

Students at this level demonstrate **consistent** understanding of grade level standards through close reading of passages and/or paired passages at the high end of the grade 6-8 complexity band. Responses demonstrate **exemplary** knowledge of conventions for editing and revising texts accurately. Students at this level will **thoroughly**:

- Identify text evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (R1)
- Determine a theme or central idea of a text and how it is developed over the course of the text including its relationship to characters, setting, plot, or supporting details. (R2)
- Analyze how a text makes connections and distinctions between individuals, ideas, and events. (R3)
- Analyze how dialogue or incidents propel action and reveal aspects of character or propel a decision. (R3)
- Determine the meaning of words and phrases as they are used in a text including figurative and connotative meanings, analogies, and allusions to other texts as well as the impact on tone or meaning. (R4, L4 and L5)
- Compare and contrast the structure of two or more texts and analyze how the differing structures contribute to meaning and style. (R5)
- Analyze the structure of a specific paragraph or sentence to determine its role in developing and refining a key concept. (R5)
- Analyze how different points of view from different characters create effects such as suspense or humor. (R6)
- Determine an author's purpose or point of view in a text and how the author acknowledges and responds to conflicting evidence or points of view. (R6)
- Trace and evaluate the argument and specific claims in a text and determine whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced. (R8)
- Develop and strengthen writing by editing and revising, focusing on how well purpose and audience have been addressed. (W5)
- Draw evidence from literary and informational texts to support analysis and reflection. (W9)
- Demonstrate command of conventions of Standard English grammar and usage. (L1)
- Demonstrate command of the conventions of capitalization, punctuation, and spelling. (L2)
- Demonstrate understanding of figures of speech, word relationships and nuances, and connotation when denotation is similar. (L5)

- Accurately identify grade-appropriate general academic and domain-specific words and phrases. (L6)

APPENDIX C—NON-DISCLOSURE AGREEMENT FORM

eMPowerME Standard Setting

August 16-19, 2016

NON-DISCLOSURE AGREEMENT FORM

The Maine Education Department requires that the test questions, scoring guides, and any other related materials for Maine remain secure. All materials are to be regarded as secure instruments. As a result, such materials may not be reproduced, discussed, or in any way released or distributed to unauthorized persons.

The undersigned is an employee, contractor, assessment development committee member, or person otherwise authorized to view secure state assessment materials. The undersigned hereby agrees to be bound to the terms of this agreement restricting the disclosure of said materials.

NAME: _____

SIGNATURE: _____

DATE: _____

GRADE (circle one): 3-4 5-6 7-8

SUBJECT (circle one): ELA Math

APPENDIX D—SAMPLE ITEM MAP FORM

eMPower ME ELA/Literacy Grade 3
Item Map

Item Order	Item Number	Pts.	What knowledge and skills does this item measure?	Why is this item more difficult than the preceding item?
1	401701	1		
2	402513	1		
3	401241	1		
4	402294	1		
5	402282	1		
6	402422	1		
7	401182	1		
8	402463	1		
9	401229	1		
10	401223	1		
11	402526	1		
12	401179	1		
13	401534	1		
14	401186	1		
15	401719	1		
16	128560A	1		

eMPower ME ELA/Literacy Grade 3
Item Map

Item Order	Item Number	Pts.	What knowledge and skills does this item measure?	Why is this item more difficult than the preceding item?
17	402448	1		
18	402344	1		
19	402616	1		
20	402156	1		
21	130358A	1		
22	402297	1		
23	130355A	1		
24	401235	1		
25	402428	1		
26	402342	1		
27	128571A	1		
28	128558A	1		
29	401707	1		
30	402361	1		
31	130378A	1		
32	129875A	1		

eMPower ME ELA/Literacy Grade 3
Item Map

Item Order	Item Number	Pts.	What knowledge and skills does this item measure?	Why is this item more difficult than the preceding item?
33	402170	1		
34	402466	1		
35	401685	1		
36	129871A	1		
37	402468	1		
38	129850A	1		
39	402457	1		
40	402452	1		
41	401721	1		
42	128564A	1		
43	402511	1		
44	401254	1		
45	402454	1		
46	401229	2		
47	402347	1		
48	402524	1		

eMPower ME ELA/Literacy Grade 3
Item Map

Item Order	Item Number	Pts.	What knowledge and skills does this item measure?	Why is this item more difficult than the preceding item?
49	402141	1		
50	402361	2		
51	402300	1		
52	129850A	2		
53	402290	1		
54	401188	1		
55	128563A	1		
56	401186	2		
57	130358A	2		
58	402468	2		
59	401534	2		
60	129871A	2		
61	402300	2		
62	128571A	2		
63	130358A	3		
64	401534	3		

eMPower ME Mathematics Grade 3
Item Map

Item Order	Item Number	Pts.	What knowledge and skills does this item measure?	Why is this item more difficult than the preceding item?
1	124116A	1		
2	400436	1		
3	400044	1		
4	405465B	1		
5	400438	1		
6	126293A	1		
7	400434	1		
8	405465A	1		
9	400356	1		
10	405548A	1		
11	124111A	1		
12	125205A	1		
13	400353	1		
14	125228A	1		
15	125015A	1		
16	124462A	1		

eMPower ME Mathematics Grade 3
Item Map

Item Order	Item Number	Pts.	What knowledge and skills does this item measure?	Why is this item more difficult than the preceding item?
17	405588	1		
18	124370A	1		
19	405548A	2		
20	125253A	1		
21	400021	1		
22	405615	1		
23	405506	1		
24	123887A	1		
25	405548B	1		
26	126321A	1		
27	125235A	1		
28	125231A	1		
29	405492A	1		
30	400358	1		
31	124519AA	1		
32	400404	1		

eMPower ME Mathematics Grade 3
Item Map

Item Order	Item Number	Pts.	What knowledge and skills does this item measure?	Why is this item more difficult than the preceding item?
33	405548A	3		
34	400432	1		
35	405465A	2		
36	405532	1		
37	124519AB	1		
38	405548B	2		
39	400060	1		
40	405492B	1		
41	405465B	2		
42	405492A	2		
43	400440	1		
44	405548A	4		
45	405465A	3		
46	405465A	4		
47	124519AA	2		
48	400027	1		

APPENDIX E—SAMPLE RATING FORM

eMPower ME
Rating Form

ID: _____ Content: _____ Grade: _____

Round 1

Level 1	**Level 2**	**Level 3**	**Level 4**
Ordered Item Numbers	Ordered Item Numbers	Ordered Item Numbers	Ordered Item Numbers
First 1 Last ____	First ____ Last ____	First ____ Last ____	First ____ Last ____

Round 2

Level 1	**Level 2**	**Level 3**	**Level 4**
Ordered Item Numbers	Ordered Item Numbers	Ordered Item Numbers	Ordered Item Numbers
First 1 Last ____	First ____ Last ____	First ____ Last ____	First ____ Last ____

Round 3

Level 1	**Level 2**	**Level 3**	**Level 4**
Ordered Item Numbers	Ordered Item Numbers	Ordered Item Numbers	Ordered Item Numbers
First 1 Last ____	First ____ Last ____	First ____ Last ____	First ____ Last ____

Directions: Please enter the range of ordered item numbers that fall into each achievement level category according to where you placed your cutpoints.

Note: The ranges must be adjacent to each other. For example: Level 1: 1-12, Level 2: 13-24, Level 3: 25-36, Level 4: 37-56.

APPENDIX F—SAMPLE EVALUATION FORMS

Content Area: _____
Grade: _____

Standard Setting Final Evaluation

Please complete the information below. Your feedback will provide a basis for evaluating the training, methods, and materials. **Do not put your name on the form.** We want your feedback to be confidential.

Gender: Male ☐ Female ☐

Race/ethnicity: White ☐ Black ☐ Hispanic ☐ Asian ☐ Pacific Islander ☐ American Indian ☐

Years of experience in education: 0-5 ☐ 6-10 ☐ 11-15 ☐ More than 15 ☐

Area of Expertise (Check all that apply):

- Students with Disabilities ☐
- Students with Limited English Proficiency ☐
- Economically Disadvantaged Students ☐
- Gifted and Talented Students ☐
- General Education ☐

Please rate the usefulness of each of the following:

	Not at all useful				Extremely useful
The opening session.	☐	☐	☐	☐	☐
The small group activities.	☐	☐	☐	☐	☐
Becoming familiar with the assessment.	☐	☐	☐	☐	☐
Completing the Item Map Form.	☐	☐	☐	☐	☐
Articulating the borderline differences between the achievement levels.	☐	☐	☐	☐	☐
Discussions with other participants.	☐	☐	☐	☐	☐
Impact data.	☐	☐	☐	☐	☐

Please mark the appropriate box for each statement.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I understood the goals of the standard setting meeting.	☐	☐	☐	☐
I understood the procedures we used to set standards.	☐	☐	☐	☐
The facilitator helped me understand the process.	☐	☐	☐	☐
The materials contained the information needed to set standards.	☐	☐	☐	☐
I understood how to use the materials provided.	☐	☐	☐	☐
The borderline achievement level definitions were clear.	☐	☐	☐	☐
I understood how to make the cut score judgments.	☐	☐	☐	☐
I understood how to use the feedback provided after each round.	☐	☐	☐	☐
I understood how to use the impact data.	☐	☐	☐	☐
I understood how the cut scores were calculated.	☐	☐	☐	☐
The facilitator was able to get answers to my questions.	☐	☐	☐	☐
Sufficient time was allotted for training on the standard setting tasks.	☐	☐	☐	☐
Sufficient time was allotted to complete the standard setting tasks.	☐	☐	☐	☐
The facilitator helped the standard setting process run smoothly.	☐	☐	☐	☐
Overall the standard setting process produced credible results.	☐	☐	☐	☐

Please provide any additional comments about the standard setting process or suggestions as to how the training and process could be improved.

Content Area: _____
Grade: _____

Standard Setting Procedural Evaluation

Please rate the usefulness of each of the following:

	Strongly Disagree	Disagree	Agree	Strongly Agree
I understood how to make the cut score judgments.	☐	☐	☐	☐
I understood how to use the materials provided.	☐	☐	☐	☐
I understood how to record my judgments.	☐	☐	☐	☐
I think the procedures make sense.	☐	☐	☐	☐
I am sufficiently familiar with the assessment.	☐	☐	☐	☐
I understand the differences between the achievement levels.	☐	☐	☐	☐

Please rate the influence of the following when setting standards:

	Not at all influential				Extremely influential
The achievement level descriptors.	☐	☐	☐	☐	☐
The borderline achievement level details.	☐	☐	☐	☐	☐
My expectations of students.	☐	☐	☐	☐	☐
The difficulty of the test materials.	☐	☐	☐	☐	☐
My experience in the field.	☐	☐	☐	☐	☐
Discussions with other participants.	☐	☐	☐	☐	☐
Cut scores of other participants.	☐	☐	☐	☐	☐
Impact data.	☐	☐	☐	☐	☐

What materials, information, or procedures were most influential in your placement of the cut scores? Why?

Do you believe the final recommended cut score for each of the achievement levels is too low, about right, or too high?

	Too Low	Somewhat Low	About Right	Somewhat High	Too High
Level 4/Level 3	☐	☐	☐	☐	☐
Level 3/Level 2	☐	☐	☐	☐	☐
Level 2/Level 1	☐	☐	☐	☐	☐

ELA/Literacy Standard Setting Cross Grade Articulation Evaluation: Post Discussion

Think about the group conversations during the cross grade articulation committee, the KSAs that each grade-content group came to consensus on for each performance level, the Ordered Item Books, and your knowledge of the students and the content. When you look across all grade spans, do you judge the adjusted cut scores for each of the performance levels as too low, about right, or too high?

Grade		3	4	5	6	7	8
Level 4/ Level 3	Too High	☐	☐	☐	☐	☐	☐
	Somewhat High	☐	☐	☐	☐	☐	☐
	About Right	☐	☐	☐	☐	☐	☐
	Somewhat Low	☐	☐	☐	☐	☐	☐
	Too Low	☐	☐	☐	☐	☐	☐
Level 3/ Level 2	Too High	☐	☐	☐	☐	☐	☐
	Somewhat High	☐	☐	☐	☐	☐	☐
	About Right	☐	☐	☐	☐	☐	☐
	Somewhat Low	☐	☐	☐	☐	☐	☐
	Too Low	☐	☐	☐	☐	☐	☐
Level 2/ Level 1	Too High	☐	☐	☐	☐	☐	☐
	Somewhat High	☐	☐	☐	☐	☐	☐
	About Right	☐	☐	☐	☐	☐	☐
	Somewhat Low	☐	☐	☐	☐	☐	☐
	Too Low	☐	☐	☐	☐	☐	☐

Please provide any additional comments about the cut score placements across grade spans.

Math Standard Setting Cross Grade Articulation Evaluation: Post Discussion

Think about the group conversations during the cross grade articulation committee, the KSAs that each grade-content group came to consensus on for each performance level, the Ordered Item Books, and your knowledge of the students and the content. When you look across all grade spans, do you judge the adjusted cut scores for each of the performance levels as too low, about right, or too high?

Grade		3	4	5	6	7	8
Level 4/ Level 3	Too High	☐	☐	☐	☐	☐	☐
	Somewhat High	☐	☐	☐	☐	☐	☐
	About Right	☐	☐	☐	☐	☐	☐
	Somewhat Low	☐	☐	☐	☐	☐	☐
	Too Low	☐	☐	☐	☐	☐	☐
Level 3/ Level 2	Too High	☐	☐	☐	☐	☐	☐
	Somewhat High	☐	☐	☐	☐	☐	☐
	About Right	☐	☐	☐	☐	☐	☐
	Somewhat Low	☐	☐	☐	☐	☐	☐
	Too Low	☐	☐	☐	☐	☐	☐
Level 2/ Level 1	Too High	☐	☐	☐	☐	☐	☐
	Somewhat High	☐	☐	☐	☐	☐	☐
	About Right	☐	☐	☐	☐	☐	☐
	Somewhat Low	☐	☐	☐	☐	☐	☐
	Too Low	☐	☐	☐	☐	☐	☐

Please provide any additional comments about the cut score placements across grade spans.

ELA/Literacy Standard Setting Cross Grade Articulation Evaluation: Prior to Discussion

When you look across all grade spans, do you judge the cut scores for each of the performance levels as too low, about right, or too high?

Grade		3	4	5	6	7	8
Level 4/ Level 3	Too High	☐	☐	☐	☐	☐	☐
	Somewhat High	☐	☐	☐	☐	☐	☐
	About Right	☐	☐	☐	☐	☐	☐
	Somewhat Low	☐	☐	☐	☐	☐	☐
	Too Low	☐	☐	☐	☐	☐	☐
Level 3/ Level 2	Too High	☐	☐	☐	☐	☐	☐
	Somewhat High	☐	☐	☐	☐	☐	☐
	About Right	☐	☐	☐	☐	☐	☐
	Somewhat Low	☐	☐	☐	☐	☐	☐
	Too Low	☐	☐	☐	☐	☐	☐
Level 2/ Level 1	Too High	☐	☐	☐	☐	☐	☐
	Somewhat High	☐	☐	☐	☐	☐	☐
	About Right	☐	☐	☐	☐	☐	☐
	Somewhat Low	☐	☐	☐	☐	☐	☐
	Too Low	☐	☐	☐	☐	☐	☐

Please provide any additional comments about the cut score placements across grade spans.

Math Standard Setting Cross Grade Articulation Evaluation: Prior to Discussion

When you look across all grade spans, do you judge the cut scores for each of the performance levels as too low, about right, or too high?

Grade		3	4	5	6	7	8
Level 4/ Level 3	Too High	☐	☐	☐	☐	☐	☐
	Somewhat High	☐	☐	☐	☐	☐	☐
	About Right	☐	☐	☐	☐	☐	☐
	Somewhat Low	☐	☐	☐	☐	☐	☐
	Too Low	☐	☐	☐	☐	☐	☐
Level 3/ Level 2	Too High	☐	☐	☐	☐	☐	☐
	Somewhat High	☐	☐	☐	☐	☐	☐
	About Right	☐	☐	☐	☐	☐	☐
	Somewhat Low	☐	☐	☐	☐	☐	☐
	Too Low	☐	☐	☐	☐	☐	☐
Level 2/ Level 1	Too High	☐	☐	☐	☐	☐	☐
	Somewhat High	☐	☐	☐	☐	☐	☐
	About Right	☐	☐	☐	☐	☐	☐
	Somewhat Low	☐	☐	☐	☐	☐	☐
	Too Low	☐	☐	☐	☐	☐	☐

Please provide any additional comments about the cut score placements across grade spans.

Content Area: _____
Grade: _____

Standard Setting Training Evaluation

The purpose of this evaluation form is to obtain your feedback about the training you have received. Please complete the information below. **Do not put your name on the form.** We want your feedback to be confidential.

Please mark the appropriate box for each statement.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I understand the goals of the standard setting meeting.	☐	☐	☐	☐
I understand the procedures we are using to set standards.	☐	☐	☐	☐
I understand how to use the standard setting materials.	☐	☐	☐	☐
I understand the differences between the achievement levels.	☐	☐	☐	☐
I understand how to make the cut score judgment.	☐	☐	☐	☐
I am confident in my conceptualization of 50% of the borderline students answering questions correctly.	☐	☐	☐	☐
I know what tasks to expect for the remainder of the meeting.	☐	☐	☐	☐
I am confident in my understanding of the standard setting task.	☐	☐	☐	☐

I am ready to proceed with the standard setting process. ☐Yes ☐No

Please indicate any areas in which you would like more information before you continue.

Please indicate any questions you may have about the remainder of the standard setting meeting.

APPENDIX G—STANDARD SETTING PROCESS SLIDE PRESENTATION

eMPowerME

Standard Setting Overview

Mathematics and ELA/Literacy

Grades 3-8

What are eMPower Assessments?

Suite of assessments aligned with college and career readiness standards

Content areas: reading, writing & language, mathematics

Began content development in 2013-14 school year

Linked to PSAT/SAT scales

- MP provides assessment for grades 3-8
- College Board provides assessment for 3rd-year HS (SAT)

Development of eMPower

Began with clear goals about:

Intended meaning of test scores

Intended uses of test scores

- Progress toward readiness for college and career education
- Information for instructional planning
- End of year summative (accountability, program evaluation)

All development steps aligned to these goals

Alignment with College and Career Readiness Standards

All 3-8 items:

- Represent current research about the knowledge and skills needed for success in high school and beyond
- Written since 2012

Items written to detailed item specifications

Test designs ensure reliable reporting for each reporting category

eMPowerME Configuration

Selected-response items:

- Multiple-choice
- Evidence-based selected response

Constructed-response items:

- Short constructed-response
- Direct writing prompt
- Professional scoring of constructed-response items

eMPowerME Reading Assessments

Authentic, previously-published texts

All texts evaluated for text complexity

- Quantitative readability measures
- Qualitative rubric

Literary and Informational Texts (Science and Social Studies)

eMPowerME Writing & Language Assessments

eMPowerME Writing & Language test:

- Passage-based
- Selected-response items only

Demands of Writing & Language items:

- How to improve written work
- Identifying and correcting errors in conventions and spelling

eMPowerME includes direct writing assessment

- Integrate information from two or more texts into writing

eMPowerME Mathematics Assessments

Items written to college and career readiness concepts and procedures standards

All concepts and procedures items require at least one mathematical practice

Some mathematical practices go beyond concepts and procedures. Examples:

- Logical argument (pathway to proofs)
- Using mathematical models to solve non-standard problems
- Comparing different strategies for solving problems

eMPowerME Cut Score Considerations

Reading and Writing & Language are combined to set standards for ELA/Literacy

Final Cut Scores will be policy decision taking into account

- Standard setting results
- Equipercentile study results
- Metametrics linking study results (eMPowerME to SBAC)

Any Questions about eMPowerME?

On to Standard Setting…

What is Standard Setting?

Content Standards vs. Achievement Standards

Content standards = “What”

- Describe the knowledge and skills students are expected to demonstrate by content area and grade span

Achievement standards = “How well”

- Describe attributes of student achievement based on achievement level descriptors

Panelist Selection

- Represent a variety of expertise
  - Content expertise - mathematics and ELA/Literacy
  - Special education
  - Administrators

What is Your Role?

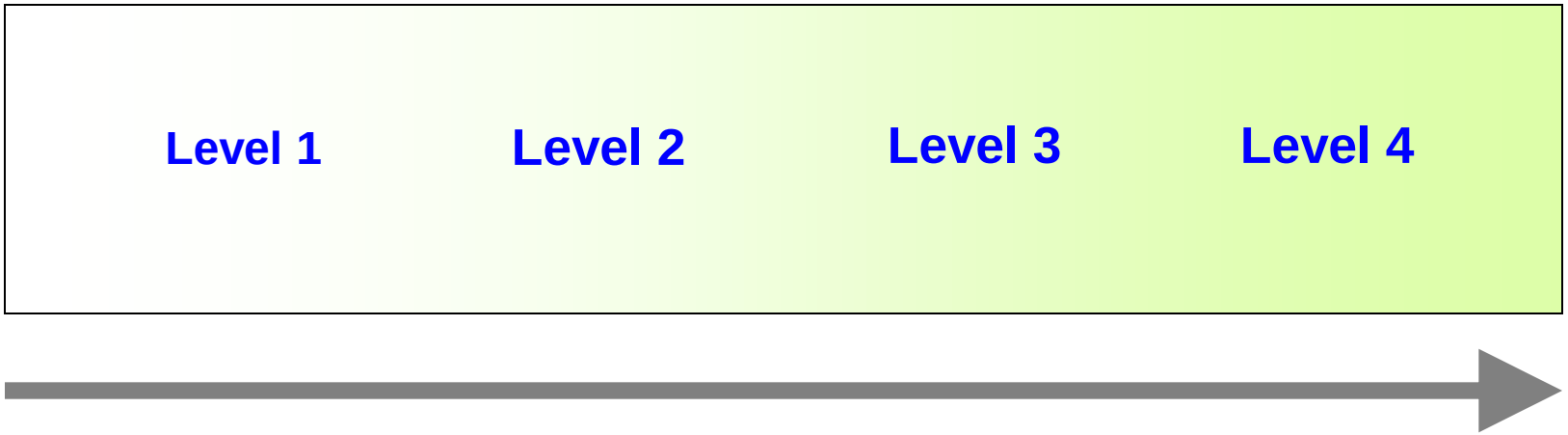
To recommend cut scores for each of the achievement levels that will be used to report results:

- Level 2
- Level 3
- Level 4

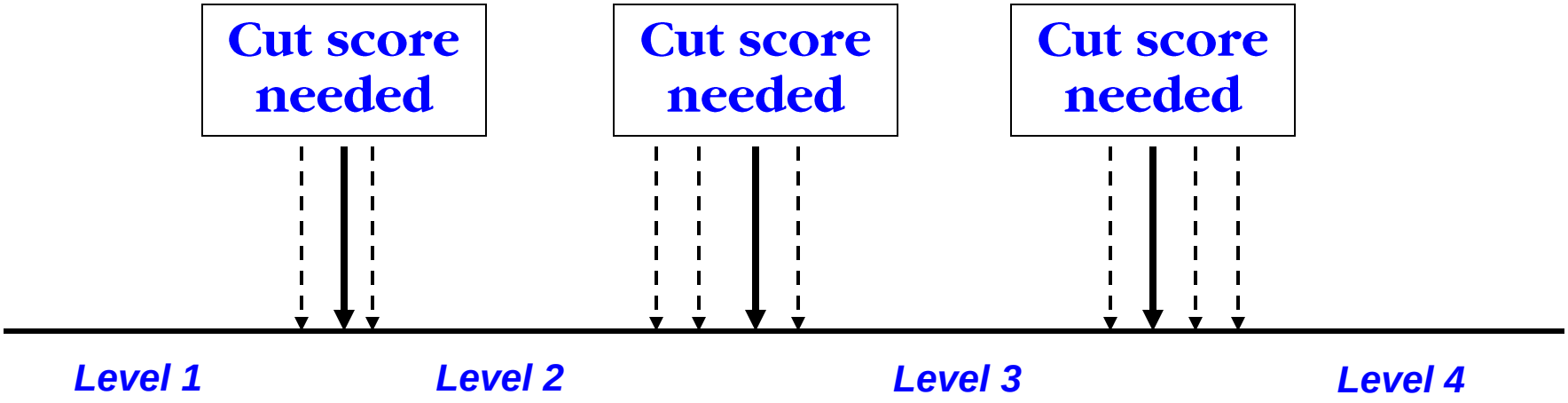
We are Trying to Determine

- What knowledge, skills, and abilities (KSAs) need to be demonstrated to be classified in each achievement level?
- How much is enough?
- What test achievement corresponds to Level 2 achievement?
  - Level 3
  - Level 4

Achievement Continuum



Based on achievement level descriptors, you will recommend cut scores…



Achievement Continuum

General Phases of Standard Setting

Data-collection ★

- Standard Setting Meeting – Content Experts
- Equipercentile link to SBAC performance
- Lexile/Quantile link to SBAC performance

Policy-making/Decision-making – Triangulation of three data points

Final Recommendations

- Your recommendations will be reviewed and presented to the policy makers responsible for final determination of the cut scores.

- The panel's recommendations will be considered by policymakers along with other data sources to establish Maine's cut scores.

Overview of the Bookmark Standard Setting Method

Today's Training

We will cover

- Implementation of the Bookmark procedure

Note

- This session is intended to be an overview
- Your facilitator will give you more details and guide you through the process step by step

Cut Score Recommendations

- *Level 1*
- *Level 2*
- *Level 3*
- *Level 4*

← Cut Score

← Cut Score

← Cut Score

Factors that Influence Selection of Standard-Setting Method

- Prior usage/history
- Recommendation/requirement by policy-making authority
- Type of assessment

↓

Bookmark method chosen

Important Terms to Know

- Test items
- Achievement Level Descriptors
- Knowledge, skills, and abilities (KSAs) needed to answer each test question
- “Borderline” students
- Cut scores

What is the Bookmark Method and How Does It Work?

- A collection of test items is ordered from easiest to most difficult in an Ordered Item Book.
- Panelists place one or more “bookmarks” in that book of items to delineate the different achievement levels.
- For the eMPowerME assessments there will be 3 bookmarks/cuts placed.

The Process: Before You Place the Bookmarks

- **Take the test** to familiarize yourself with the test taking experience.
- Review and discuss the **Achievement Level Descriptors.**
- Review the **Ordered Item Book**.
- Complete an **Item Map Form**, which involves identifying the knowledge, skills, and abilities specific to each item.
- Using the Achievement Level Descriptors provided, refine the **definition of "borderline"** for each achievement level.

Review ALDs and Develop Borderline Descriptions

- Individual review of Achievement Level Descriptors.
- Group Discussion of what student achievement in each achievement level looks like.
  - Focus on the “borderline” students, i.e., students who just barely make it into Level 2, Level 3 and Level 4.

Review ALDs and Develop Borderline Descriptions

Create bulleted lists of

- The **knowledge, skills**, and **abilities** a student must demonstrate to be **just barely** classified in each achievement level.
- The **knowledge, skills,** and **abilities** that distinguish one achievement level from another.

You must reach consensus as a group about the KSAs that define borderline student achievement at each achievement level.

Bookmarking the Ordered Item Booklet: Practice Round

You will be given an ordered item book with approximately 5 items to **practice** the bookmark placement for the cut score between Level 2 and Level 3 ALDs.

Materials

Your facilitator will review the use of all materials during the practice round, including:

- Ordered Item Book
- Item Map Form
- Rating Sheet
- Achievement Level Descriptors and Borderline Descriptors
- Training Evaluation Form

How to Place a Bookmark

- Start at the beginning of the ordered item booklet.
- Evaluate whether 50% of students who demonstrate knowledge and skills at the borderline of Level 2 would correctly answer the item: If Yes move on to the next item.
- Place the bookmark where you think Level 2 “borderline” students would no longer be 50% likely to answer the item correctly.
- Proceed through the Ordered Item Book and make this evaluation for each achievement level (Level 3 and Level 4).

How to Place a Bookmark

Item Number	Would 50% of students who demonstrate skills at the *Level 2-Level 3* "borderline" correctly answer this item?
…	Yes
12	Yes
13	Yes
14	Yes
15	Yes
16	Yes
17	Yes
18	Yes
19	No
20	Yes
21	Yes
22	No
23	No
24	No
25	No
…	No

How to Place a Bookmark

- In this example, the bookmark would go between items 21 and 22.
- You will have opportunities to discuss your bookmark placements and change them, if desired.
- Place one bookmark for each of the cut scores (between each achievement level).

Check for Understanding

- Your facilitator will check with you for understanding and answer any questions you may have during and after the practice round.

- You will then complete a training evaluation form.

Bookmarking: Three Rounds

Round 1 (Individual Work)

- The first cut that will be set will be the Borderline Achievement Level 2 cut.
- For this round, you will work individually, without consulting with your colleagues.
- Beginning with the first ordered item in the OIB evaluate each item in turn.

Bookmarking: Three Rounds

Round 1 (Individual Work)

- Gauge the level of difficulty of each of the items for those students who barely meet the definition of Level 2.
- Would 50% of students performing at the borderline of Level 2 answer the question correctly?
- Place the bookmark where you believe the answer of "yes" turns to "no."

Bookmarking: Three Rounds

Round 1 (Individual Work)

- The same process is then repeated for the Level 2/Level 3 and Level 3/Level 4 cuts.

Bookmarking: Three Rounds

Round 2

- Discuss the first-round bookmark placements (focus on the KSAs and borderline descriptions) as a group.
- Examine your cutpoints in relation to the room results.
- Review and revise placement of bookmarks as appropriate using the same process as described in Round 1.

Bookmarking: Three Rounds

Round 3

- Discuss the second-round bookmark placements (focus on the KSAs and borderline descriptions) as a whole group.
- Examine your cut points in relation to the whole group results and impact data.
- Review and revise placement of bookmarks as appropriate using the same process as described in Round 1.

Role of the Facilitators

- Lead and keep the group on track.
- Ensure that all panelists clearly understand the procedures.
- Ensure that the evaluation forms are completed.

A Few Reminders

- It is **not** necessary for panelists to reach consensus as to how the items should be categorized.
- You should be open-minded when listening to your colleagues' rationales for their ratings.
- You may or may not change your mind as a result of the discussions.
- We want each panelist to use his or her own **best judgment** in each round of rating.

After the Bookmark…

Evaluation

Your honest feedback is important!

Ground Rules

- The process is focused solely on recommending Achievement standards (cut scores).
- Role of facilitator is to lead and keep the group on track.
- The Achievement levels and their definitions are not open for debate.
- Panelists' recommendations are vital, but final cut score decisions will be made by the policy makers.
- Each panelist must complete an evaluation form at the end of the process.
- Each panelist must participate in the entire process or his/her judgments will be discounted.
- No cell phone use except during breaks and outside of the panel room.
- Please be sure to arrive on time each day.

Handling Secure Materials

- Do not remove secure materials from meeting rooms.
- Return secure materials to facilitators when work has finished.
- Please use cell phones only outside meeting rooms.
- You are free to discuss the standard setting process with others but not the content.

What's Next?

Panel	Room
Math Grades 3/4	Winter Harbor
Math Grades 5/6	Little River
Math Grades 7/8	Sebago
ELA Grades 3/4	Lighthouse B
ELA Grades 5/6	Cumberland
ELA Grades 7/8	**Monhegan**

And That's It…

Please make sure to ask your facilitators any questions you may have about the Bookmark procedure.

Good Luck!

APPENDIX H—INSTRUCTIONS FOR FACILITATORS

GENERAL INSTRUCTIONS FOR EMPOWER ME
STANDARD SETTING GROUP FACILITATORS

ELA/Literacy
Grades 3-8
August 16-19, 2016

Preliminaries

Introductions:

1. Welcome group, introduce yourself (name, affiliation, a little selected background information).
2. Have each participant introduce him/herself.

Review Panelist Folder Materials

Overview: To help set the context for the meeting and the materials that will be used, provide a brief review of what is in each panelist's folder.

Left Side

- Agenda
- Room Map
- Reimbursement Form
- Training Evaluation
- Process Evaluation (x2)
- Final Evaluation

Right Side

- Opening PowerPoint
- Achievement Level Descriptors
- Item Map Form
- Practice Round Rating Sheet
- 3 Round Rating Sheet

Take the Test

Overview: In order to establish an understanding of the test items and for panelists to gain an understanding of the experience of the students who take the test, each participant will take the test for their grade level and content area. Panelists may wish to discuss or take issue with the items in the test. Tell them we will gladly take their feedback to DOE. However, this is a portion of the actual assessment that students took and it is the set of items on which we must set standards.

Activities:

1. Introduce the assessment :

    a. Tell panelists that they are about to take a portion of the actual eMPower ME assessment for both Reading and Writing/Language Use. While these are separate assessments they are combined into ELA for reporting purposes. We are just setting standards on the combined ELA score.

    b. The purpose of the exercise is to help them establish a good understanding of the test items and to gain an understanding of the experience of the students who take the assessment. Let panelists know they do not need to completely answer the constructed-response questions; they can just jot down a few notes.

2. Tell panelists to try to take on the perspective of a student as they complete the test.

3. When the majority of the panelists have finished, pass out answer key/scoring rubrics.

Review and Discuss Achievement Level Descriptors (ALDs)

Overview: The primary purpose of this activity is for panelists to familiarize themselves with the Achievement Level Descriptors for the grade and content area. This will provide a level of context prior to reviewing the Ordered Item Booklets and filling out the Item Map Form.

***Activities*:**

1. Have panelists take out the ALDs from their folders.

2. Have panelists review the documents individually, taking notes and marking up the documents with any details and/or questions they may have.

3. After individually reviewing the descriptors, have panelists discuss each one as a whole group, starting with [Level 1], and provide clarification. The goal here is for the panelists to have a collegial discussion in which to bring up/clarify any issues or questions and to come to a common understanding of what it means to be in each achievement level. It is not unusual for panelists to disagree with the Descriptors they will see; almost certainly there will be some panelists who will want to change them. However, the task at hand is for panelists to have a common understanding of what knowledge, skills, and abilities (KSAs) are described by each ALD.

4. Once panelists have a solid understanding of the ALDs, they will be ready to move to the next activity.

Fill Out Item Map Form

Overview: The primary purpose of this activity is for panelists to think about what knowledge, skills and abilities (KSAs) are measured by each item as well as what makes one question harder or easier than another. The notes panelists take here will be useful in helping them place their bookmarks and in discussions during the rounds of ratings.

Activities:

1. Pass out the Ordered Item Books, and have panelists take out the Item Map Form
   a. Have panelists record their book number on the sign out sheet and sign it
   b. Have panelists write their standard setting ID (on their nametags) in the upper right corner of the form.

2. Review the Ordered Item Book and Item Map Form with the panelists. Explain what each is, and point out the correspondence of the ordered items between the two. Explain that the items are ordered from easiest to hardest, based on student achievement from the most recent administration of the assessment. Note to panelists that for constructed response items:
   a. They will appear multiple times for each score point.
   b. At times a rubric will be repeated in a question due to formatting. However, the second rubric is the same and can be ignored.

3. Tell panelists they will work individually at first. After they have completed the Item Map Form, they will then discuss it as a whole group.

4. Starting with the first item, they will record for each item:
   a. The knowledge, skills and abilities (KSAs) the item measures, and
   b. their thoughts about what makes that question harder than the previous question.

5. Panelists should not agonize over these decisions. It may be that the second item is only slightly harder than the first. Panelists should keep in mind that the purpose of the task is to record notes that will be useful to them in completing their ratings and not necessarily to fill in every space on the form.

6. Once panelists have completed the Item Map Form, they should discuss them as a whole group.

7. Based on the whole group discussion, the panelists should modify their own Item Map Form (make additional notes, cross things out, etc.).

Discuss Achievement Level Descriptors (ALDs) and Describe Characteristics of the "Borderline" Student

Overview: In order to establish an understanding of the expected achievement of borderline students on the test, panelists must have a clear understanding of:

1) The definition of the four achievement levels, and

2) Characteristics of students who are "just able enough" to be classified into each level. These students will be referred to as borderline students, since they are right on the border between levels.

The purpose of this activity is for the panelists to obtain an understanding of the ALDs with an emphasis on characteristics that describe students at the borderline--both what these students can and cannot do.

This activity is critical since the ratings that panelists will be making will be based on these understandings.

Preparation:

1. Use 3 sheets of chart paper and label the top of each one: [Level 2], [Level 3], and [Level 4].

Activities:

1) Introduce the task. In this activity they will:
   a. individually review the Achievement Level Descriptors again as needed;

   b. generate whole group descriptions of borderline [Level 2], [Level 3], and [Level 4] students.

   The facilitator should compile the descriptions as bulleted lists on chart paper; the chart paper will then be posted so the panelists can refer to the lists as they go through the bookmark process.

2) Check to see if panelists want to discuss the achievement levels again. Once they have a solid understanding of the ALDs, have them focus their discussion on the knowledge, skills, and abilities of students who are in the [Level 2] category, but just barely. The focus should be on those characteristics and KSAs that best describe the lowest level of achievement necessary to warrant [Level 2] classification.

3) After discussing [Level 2] have the panelists discuss characteristics of the borderline [Level 3] and [Level 4] student. Panelists should be made aware of the importance of the [Level 3] cut. This is the cut from non- proficient to just barely proficient.

4) Using chart paper, generate a bulleted list of characteristics for each of the borderline definitions. Post these on the wall of the room. Make sure that panelists agree on the bulleted characteristics and have a common understanding.

Practice Round (First Grade only)

Overview of Practice Round: The primary purpose of the Practice Round is for panelists to become familiar with the task of placing the bookmarks. The facilitator will walk the panelists through the [Level 3] bookmark placement on the practice set, engage the panelists in a readiness discussion and check for understanding. If any of the panelists indicate an incomplete understanding of the practice rating task, then the facilitator will continue to work with the panelists to clarify any misconceptions before proceeding to Round 1.

Activities:

1. Make sure panelists have the following materials:
    a. Practice ordered item set
    b. Achievement Level Descriptors
    c. Item Map Form

2. Orient panelists to the practice ordered item set. Point out the following:
    a. items are organized by difficulty from easiest to hardest;
    b. the items represent the full range of difficulty included on the test.

3. Give the panelists time to read through the items.

4. The facilitator leads the group through a discussion of the [Level 3] bookmark placement in the practice OIB.
    a. Referring to the five ordered items in the practice set, the ALDs and the bulleted lists of characteristics posted on chart paper, the facilitator will lead a discussion about the placement of the [Level 3] bookmark.

    b. Panelists should consider the question:
    Would 50% of the students performing at the borderline of [Level 2] answer the item correctly?
    Or in the case of open-response questions, panelists should ask:
    Would 50% of the students performing at the borderline of [Level 2] get this score point or higher?

    c. Where the answer changes from yes to no is where the bookmark should be placed. Note that panelists may find that they have a yes, no, yes… they should place the bookmark at the preponderance of no. They will need to make a judgment.

Readiness Discussion

After the panelists have placed bookmarks in the practice ordered item set, lead a readiness discussion by posing the following five questions.

The purpose of this discussion is to determine how well each panelist understands the bookmark task, to correct any misunderstandings, and if necessary, to identify panelists whose ratings should be excluded from the standard setting if their understanding doesn't improve.

The "correct" answers for each of the questions are listed directly under each question. Some common misunderstandings are also listed for questions one and two. Please watch for these typical misunderstandings, and if they arise, redirect the panelists to the correct responses. **Make sure any questions or concerns are resolved prior to moving on.**

1. What questions should you ask for each item?
    - Would 50% of the borderline students get this item correct?
    - Would 50% of the students who just barely fall in the achievement level of interest get this item correct?

    Please watch for and correct the following responses.
    - Omission of 50% (<50%, all students)
    - Omission of borderline (all students, all students in the achievement level of interest)

2. What is meant by the 50% rule?
    - 50% of the borderline students would get items like this correct

    Please watch for and correct the following responses.
    - All students falling in the achievement level of interest have a 50% chance of getting this item correct.

3. What population of students should you consider for each item?
    - Borderline students
    - Students who just barely fall in the achievement level of interest

    a. Does this population change as I progress through the items for the first bookmark? (NO)
    b. Does this population change as I progress to the next bookmark? (YES)

4. As you approach a bookmark, how do answers change?
    - The answer to "Would 50% of the borderline students get this item correct" should change from a "yes" to a "no."
    - The confidence the panelist has in the yes/no answer will decrease as he/she approaches the bookmark placement.

5. How should your confidence in the answers affect your bookmark placement?
    - As you become less confident in a "yes" answer, the bookmark placement should be approaching.
    - Where you are least confident in your answers is typically where the bookmark will be placed.

Training Evaluation (First Grade Only)

After the panelists have placed the bookmark in the practice ordered item set and you've answered any questions, have panelists fill out the training evaluation form. Before you start the Round 1 activities, scan the completed evaluations to see if there are any problems, concerns, or questions that need to be addressed before proceeding. **Make sure any questions or concerns are resolved prior to moving on.** Return the completed evaluations to the data analysis work room at the next convenient opportunity.

Round 1

Overview of Round 1: The primary purpose of Round 1 is to ask the panelists to make their initial judgments as to where the bookmark should be placed for each cut. The first cut that will be set will be the [Level 2] cut. For this round, panelists will work individually, without consulting with their colleagues. Beginning with the first ordered item in the OIB, panelists will evaluate each item in turn. The panelists will gauge the level of difficulty of each of the items for those students who barely meet the definition of [Level 2]. The task that panelists are asked to do is to estimate whether a student performing at the borderline of [Level 2], would answer each question correctly. More specifically, panelists should answer:

- Would *50%* of the students performing at the borderline of [Level 2] answer the question correctly?

The same process is then repeated for the [Level 3] and [Level 4] cuts.

In the case of open-response questions, panelists should ask:

- Would 50% of students performing at the borderline get this score point *or higher*?

Activities:

1. Panelists should have their Ordered Item Books, Item Map Forms, and ALDs. Pass out one Rating Sheet to each panelist.

2. Have panelists write their ID number, content area, and grade on the Rating Sheet. The ID number is on the back of their name tags.

3. Provide an overview of Round 1, covering each of the following:
    a. Orient panelists to the Ordered Item Book. Remind them that the items are presented in order of difficulty, from easiest to hardest.

    b. The primary purpose of this activity is for the panelists to make their initial determination as to whether 50% of students whose achievement is barely [Level 2] would correctly answer each item, and to place their bookmark where they believe the answer of "yes" turns to "no." Remind panelists that they should be thinking about 50% of the borderline students. Once they have completed the process for the [Level 2], they will proceed to the remaining cut points [Level 3] and [Level 4].

    c. Each panelist needs to base his/her judgments on his/her experience with the content, understanding of students, and the definitions of the borderline students generated previously.

d. One bookmark will be placed for each cut point.

e. If panelists are struggling with placing a particular bookmark, they should use their best judgment and move on. They will have an opportunity to discuss their ratings and make revisions in Rounds 2 and 3.

4. Tell panelists that they will be discussing each cut point with the other panelists, but that they will be placing the bookmarks individually. **It is not necessary for the panelists to come to consensus about where the bookmarks should be placed.**

5. Go over the rating form with panelists.
   a. Lead panelists through a step-by-step demonstration of how to fill in the rating form.

   b. Answer questions the panelists may have about the work in Round 1.

   c. Once everyone understands what they are to do in Round 1, tell them to begin.

6. Starting with the first ordered item in the OIB and the [Level 2] cut, the panelists will work through the OIB item by item and make their initial bookmark placements.

7. As panelists complete the task, ask them to carefully inspect their rating forms to ensure they are filled out properly.
   a. **The content area, grade, and ID number must be filled in**.

   b. **The item numbers identifying each cut score must be adjacent**.

   c. Check each panelist's rating form before you allow them to leave for a short break.

   d. When all the rating forms have been collected, the group will take a break. Immediately bring the rating forms to the data analysis work room for tabulation.

Tabulation of Round 1 Results

Tabulation of Round 1 results will be completed by the data analysis team as quickly as possible after receipt of the rating forms.

Round 2

Overview of Round 2: In Round 2, the panelists will discuss their Round 1 placements as a group and then revise their ratings on the basis of that discussion. They will discuss their ratings in the context of the ratings made by other members of the group. The panelists with the highest and lowest ratings should comment on why they gave the ratings they did. The group should get a sense of how much variation there is in the ratings. Panelists should also consider the question, "How tough or easy a rater are you?" The purpose here is to allow panelists to examine their individual expectations (in terms of their experiences) and to share these expectations and experiences in order to attain a better understanding of how their experiences impact their decision-making.

To aid with the discussion, the panelists will be provided with the median Round 1 bookmark placements for their group.

Once panelists have reviewed and discussed their bookmark placements, they will be given the opportunity to change or revise their Round 1 ratings.

Activities:

1. Make sure the panelists have their ordered item booklets, item map forms, and ALDs. Return the rating form to each panelist.

2. A psychometrician will explain how the group median cuts were calculated and talk about how the panelists will use that information as they complete the Round 2 discussions. Based on their Round 1 rating form, panelists will know where they fall relative to the group's median. This information is provided so panelists can get a sense of whether they are more stringent or more lenient than the other panelists in the group.

3. Provide an overview of Round 2. Round 2 begins with a brief review of the ALDs and borderline descriptions. Panelists will be encouraged to seek clarifications from the facilitator. Remind panelists of the following:
    a. As in Round 1, the primary purpose is to place bookmarks where you feel the achievement levels are best distinguished, considering the additional information and discussion.

    b. Each panelist needs to base his/her judgments on his/her experience with the content area, understanding of students; the definitions of the borderline students generated previously; discussions with other panelists; and the knowledge, skills, and abilities required to answer each item.

4. The panelists will discuss their Round 1 ratings as a group, beginning with the first cut point. The discussion will be facilitated by the Facilitator.
    a. The discussion should focus on differences in where individual panelists in the group placed their bookmarks.

    b. Panelists should be encouraged to listen to their colleagues as well as express their own points of view.

    c. If the panelists hear a logic/rationale/argument that they did not consider and that they feel is compelling, then they may adjust their ratings to incorporate that information.

    d. On the basis of the discussions, panelists should make a second round of ratings.

    e. When placing their Round 2 bookmarks, panelists should not feel compelled to change their ratings.

    f. The individuals do not have to achieve consensus. If panelists honestly disagree, that is fine. We are trying to get the best judgment of each panelist. Panelists should not feel compelled or coerced into making a rating they disagree with.

    Encourage the panelists to use the discussion and feedback to assess how stringent or lenient a judge they are. If a panelist is consistently higher or lower than the group, they may have a different understanding of the borderline student than the rest of the group, or a different understanding of the Achievement Level Descriptors, or both. **It is okay for panelists to**

disagree, but that disagreement should be based on a common understanding of the borderline Achievement Level Descriptors.

5. When all panelists have completed their second ratings, collect the rating forms. When you collect the rating forms, **carefully inspect them** to ensure they are filled out properly.
    a. **The content area, grade, and ID number must be filled in**.

    b. **The item numbers identifying each cut score must be adjacent**.

    c. Check each panelist's rating form before you allow them to leave for a short break.

    d. When all the rating forms have been collected, the group will take a break. Immediately bring the rating forms to the data analysis work room for tabulation.

Round 3

Overview of Round 3: The primary purpose of Round 3 is to ask the panelists to discuss their Round 2 placements as a whole group and to give them one last opportunity to revise their ratings on the basis of that discussion. As in Round 2, they will discuss their ratings in the context of the ratings made by other members of the group.

To aid with the discussion, a psychometrician will present the following information to the panelists:

1. The group median Round 2 bookmark placements, and

2. impact data, showing the approximate percentage of students in Maine that would be classified into each achievement level category based on the median bookmark placements from Round 2.

Once panelists have reviewed and discussed their bookmark placements and the impact data, they will be given the opportunity to change or revise their Round 2 ratings.

Activities:

1. Make sure the panelists have their ordered item booklets, item map forms, and Achievement Level Descriptors. Return the rating form to each panelist.

2. A psychometrician will present and explain the following information to the panelists:
    a. The median bookmark placements for the group based on the Round 2 ratings. Based on their Round 2 rating form, panelists will know where they fall relative to the room median. This information is provided so panelists can get a sense of whether they are more stringent or more lenient than other panelists.

    b. Impact data, showing the approximate percentage of students in Maine that would be classified into each achievement level category based on the room median bookmark placements. Panelists will use this information as a "reasonableness check." In other words, they will discuss whether the percentages in each level seem reasonable, based on their knowledge of the test and the current status of students across the state relative to the Achievement Level Descriptors. If the answer is no, panelists may choose to make adjustments to one or more of their bookmark placements.

3. Provide an overview of Round 3. Remind panelists of the following:

a. As in Round 2, the primary purpose is to place bookmarks where you feel the achievement levels are best distinguished, considering the additional information and further discussion.

b. Each panelist needs to base his/her judgments on his/her experience with the content area, understanding of students, the definitions of the borderline students generated previously, discussions with other panelists and the knowledge, skills, and abilities required to answer each item.

4. The panelists will discuss their Round 2 ratings as a whole group, beginning with the first cut point.
   a. The discussion should focus on differences in where individual panelists placed their bookmarks.

   b. Panelists should be encouraged to listen to their colleagues as well as express their own points of view.

   c. If the panelists hear a logic/rationale/argument that they did not consider and that they feel is compelling, then they may adjust their ratings to incorporate that information.

   d. On the basis of the discussions, panelists should make a final round of ratings.

   e. When placing their Round 3 bookmarks, panelists should not feel compelled to change their ratings.

   f. The group does not have to achieve consensus. If panelists honestly disagree, that is fine. We are trying to get the best judgment of each panelist. Panelists should not feel compelled or coerced into making a rating they disagree with.

5. When the group has completed their final ratings, collect the rating forms. When you collect the rating forms, **carefully inspect them** to ensure they are filled out properly.
   a. **The content area, grade, and ID number must be filled in**.
   b. **The item numbers identifying each cut score must be adjacent**.
   c. Immediately provide the completed rating forms to the data analysis team.

Complete Procedural Evaluation Form for the Grade

Make sure panelists fill out the procedural evaluation for the grade. Emphasize that their honest feedback is important. Return the completed evaluations to the data analysis work room at the next convenient opportunity.

Collect the materials from the grade and mark them off on the Materials Tracking sheet.

Complete Second Grade Standard Setting Activities

Begin the standard setting process for the second grade assigned to the panel. Follow the same steps with the exception of the Practice Round and Training Evaluation steps.

Complete Final Evaluation Form

Make sure panelists fill out the final evaluation. Emphasize that their honest feedback is important. Return the completed evaluations to the data analysis work room at the next convenient opportunity.

Organization of Materials

Collect and mark of materials on the tracking sheet. Please sort materials in the following fashion:

1. Place OIBs/reference books for each grade level together--these will be used for the Articulation Activity.
2. Collect the ALDs and place them with the Articulation materials.
3. Collect the rest of the panelist materials and place them in a box for shredding.

GENERAL INSTRUCTIONS FOR EMPOWER ME
STANDARD SETTING GROUP FACILITATORS

Mathematics
Grades 3-8
August 16-19, 2016

Preliminaries

Introductions:

1. Welcome group, introduce yourself (name, affiliation, a little selected background information).
2. Have each participant introduce him/herself.

Review Panelist Folder Materials

Overview: To help set the context for the meeting and the materials that will be used, provide a brief review of what is in each panelist's folder.

Left Side

- Agenda
- Room Map
- Reimbursement Form
- Training Evaluation
- Process Evaluation (x2)
- Final Evaluation

Right Side

- Opening PowerPoint
- Achievement Level Descriptors
- Item Map Form
- Practice Round Rating Sheet
- 3 Round Rating Sheet

Take the Test

Overview: In order to establish an understanding of the test items and for panelists to gain an understanding of the experience of the students who take the test, each participant will take the test for their grade level and content area. Panelists may wish to discuss or take issue with the items in the test. Tell them we will gladly take their feedback to DOE. However, this is a portion of the actual assessment that students took and it is the set of items on which we must set standards.

Activities:

1. Introduce the assessment :

    a. Tell panelists that they are about to take a portion of the actual eMPower ME assessment.

    b. The purpose of the exercise is to help them establish a good understanding of the test items and to gain an understanding of the experience of the students who take the assessment. Let panelists know they do not need to completely answer the constructed-response questions; they can just jot down a few notes.

2. Tell panelists to try to take on the perspective of a student as they complete the test.

3. When the majority of the panelists have finished, pass out answer key/scoring rubrics.

Review and Discuss Achievement Level Descriptors (ALDs)

Overview: The primary purpose of this activity is for panelists to familiarize themselves with the Achievement Level Descriptors for the grade and content area. This will provide a level of context prior to reviewing the Ordered Item Booklets and filling out the Item Map Form.

***Activities*:**

1. Have panelists take out the ALDs from their folders.

2. Have panelists review the documents individually, taking notes and marking up the documents with any details and/or questions they may have.

3. After individually reviewing the descriptors, have panelists discuss each one as a whole group, starting with [Basic/Approaching Standard], and provide clarification. The goal here is for the panelists to have a collegial discussion in which to bring up/clarify any issues or questions and to come to a common understanding of what it means to be in each achievement level. It is not unusual for panelists to disagree with the Descriptors they will see; almost certainly there will be some panelists who will want to change them. However, the task at hand is for panelists to have a common understanding of what knowledge, skills, and abilities (KSAs) are described by each ALD.

4. Once panelists have a solid understanding of the ALDs, they will be ready to move to the next activity.

Fill Out Item Map Form

Overview: The primary purpose of this activity is for panelists to think about what knowledge, skills and abilities (KSAs) are measured by each item as well as what makes one question harder or easier than another. The notes panelists take here will be useful in helping them place their bookmarks and in discussions during the rounds of ratings.

Activities:

1. Pass out the Ordered Item Books, and have panelists take out the Item Map Form
   a. Have panelists record their book number on the sign out sheet and sign it
   b. Have panelists write their standard setting ID (on their nametags) in the upper right corner of the form.

2. Review the Ordered Item Book and Item Map Form with the panelists. Explain what each is, and point out the correspondence of the ordered items between the two. Explain that the items are ordered from easiest to hardest, based on student achievement from the most recent administration of the assessment. Note to panelists that for constructed response items:
   a. They will appear multiple times for each score point.
   b. Each item was scored according to two rubrics (Concepts & Procedures and Mathematical Practice). These are separate in the OIB. Panelists should consider them separately according to the rubrics.

3. Tell panelists they will work individually at first. After they have completed the Item Map Form, they will then discuss it as a whole group.

4. Starting with the first item, they will record for each item:
   a. The knowledge, skills and abilities (KSAs) the item measures, and
   b. their thoughts about what makes that question harder than the previous question.

5. Panelists should not agonize over these decisions. It may be that the second item is only slightly harder than the first. Panelists should keep in mind that the purpose of the task is to record notes that will be useful to them in completing their ratings and not necessarily to fill in every space on the form.

6. Once panelists have completed the Item Map Form, they should discuss them as a whole group.

7. Based on the whole group discussion, the panelists should modify their own Item Map Form (make additional notes, cross things out, etc.).

Discuss Achievement Level Descriptors (ALDs) and Describe Characteristics of the "Borderline" Student

Overview: In order to establish an understanding of the expected achievement of borderline students on the test, panelists must have a clear understanding of:

1) The definition of the four achievement levels and three threshold descriptors, and

2) Characteristics of students who are "just able enough" to be classified into each level. These students will be referred to as borderline students, since they are right on the border between levels.

The purpose of this activity is for the panelists to obtain an understanding of the ALDs with an emphasis on characteristics that describe students at the borderline--both what these students can and cannot do.

This activity is critical since the ratings that panelists will be making will be based on these understandings.

Preparation:

1. Use 3 sheets of chart paper and label the top of each one: [Basic/Approaching Standard], [Proficient/Meets Standard], and [Advanced/Exceeds Standard].

Activities:

1) Introduce the task. In this activity they will:
   a. individually review the Achievement Level Descriptors again as needed;

   b. generate whole group descriptions of borderline [Basic/Approaching Standard], [Proficient/Meets Standard], and [Advanced/Exceeds Standard] students.

   The facilitator should compile the descriptions as bulleted lists on chart paper; the chart paper will then be posted so the panelists can refer to the lists as they go through the bookmark process.

2) Check to see if panelists want to discuss the achievement levels again. Once they have a solid understanding of the ALDs, have them focus their discussion on the knowledge, skills, and abilities of students who are in the [Basic/Approaching Standard] category, but just barely. The focus should be on those characteristics and KSAs that best describe the lowest level of achievement necessary to warrant [Basic/Approaching Standard] classification. Since the threshold ALDs are highly detailed attempt to condense them into holistic descriptions of the borderline student.

3) After discussing [Basic/Approaching Standard] have the panelists discuss characteristics of the borderline [Proficient/Meets Standard] and [Advanced/Exceeds Standard] student. Panelists should be made aware of the importance of the [Proficient/Meets Standard] cut. This is the cut from non- proficient to just barely proficient.

4) Using chart paper, generate a bulleted list of characteristics for each of the borderline definitions. Post these on the wall of the room. Make sure that panelists agree on the bulleted characteristics and have a common understanding.

Practice Round (First Grade only)

Overview of Practice Round: The primary purpose of the Practice Round is for panelists to become familiar with the task of placing the bookmarks. The facilitator will walk the panelists through the [Proficient/Meets Standard] bookmark placement on the practice set, engage the panelists in a readiness discussion and check for understanding. If any of the panelists indicate an incomplete understanding of the practice rating task, then the facilitator will continue to work with the panelists to clarify any misconceptions before proceeding to Round 1.

Activities:

1. Make sure panelists have the following materials:
    a. Practice ordered item set
    b. Achievement Level Descriptors
    c. Item Map Form

2. Orient panelists to the practice ordered item set. Point out the following:
    a. items are organized by difficulty from easiest to hardest;
    b. the items represent the full range of difficulty included on the test.

3. Give the panelists time to read through the items.

4. The facilitator leads the group through a discussion of the [Proficient/Meets Standard] bookmark placement in the practice OIB.
    a. Referring to the five ordered items in the practice set, the ALDs and the bulleted lists of characteristics posted on chart paper, the facilitator will lead a discussion about the placement of the [Proficient/Meets Standard] bookmark.

    b. Panelists should consider the question:
    Would 50% of the students performing at the borderline of [Proficient/Meets Standard] **answer the item correctly?**
    Or in the case of open-response questions, panelists should ask:
    Would 50% of the students performing at the borderline of [Proficient/Meets Standard] **get this score point or higher?**

c. Where the answer changes from yes to no is where the bookmark should be placed. Note that panelists may find that they have a yes, no, yes… they should place the bookmark at the preponderance of no. They will need to make a judgment.

Readiness Discussion

After the panelists have placed bookmarks in the practice ordered item set, lead a readiness discussion by posing the following five questions.

The purpose of this discussion is to determine how well each panelist understands the bookmark task, to correct any misunderstandings, and if necessary, to identify panelists whose ratings should be excluded from the standard setting if their understanding doesn't improve.

The "correct" answers for each of the questions are listed directly under each question. Some common misunderstandings are also listed for questions one and two. Please watch for these typical misunderstandings, and if they arise, redirect the panelists to the correct responses. **Make sure any questions or concerns are resolved prior to moving on.**

1. What questions should you ask for each item?
   - Would 50% of the borderline students get this item correct?
   - Would 50% of the students who just barely fall in the achievement level of interest get this item correct?

   Please watch for and correct the following responses.
   - Omission of 50% (<50%, all students)
   - Omission of borderline (all students, all students in the achievement level of interest)

2. What is meant by the 50% rule?
   - 50% of the borderline students would get items like this correct

   Please watch for and correct the following responses.
   - All students falling in the achievement level of interest have a 50% chance of getting this item correct.

3. What population of students should you consider for each item?
   - Borderline students
   - Students who just barely fall in the achievement level of interest

   a. Does this population change as I progress through the items for the first bookmark? (NO)
   b. Does this population change as I progress to the next bookmark? (YES)

4. As you approach a bookmark, how do answers change?
   - The answer to "Would 50% of the borderline students get this item correct" should change from a "yes" to a "no."
   - The confidence the panelist has in the yes/no answer will decrease as he/she approaches the bookmark placement.

5. How should your confidence in the answers affect your bookmark placement?
   - As you become less confident in a "yes" answer, the bookmark placement should be approaching.
   - Where you are least confident in your answers is typically where the bookmark will be placed.

Training Evaluation (First Grade Only)

After the panelists have placed the bookmark in the practice ordered item set and you've answered any questions, have panelists fill out the training evaluation form. Before you start the Round 1 activities, scan the completed evaluations to see if there are any problems, concerns, or questions that need to be addressed before proceeding. **Make sure any questions or concerns are resolved prior to moving on.** Return the completed evaluations to the data analysis work room at the next convenient opportunity.

Round 1

Overview of Round 1: The primary purpose of Round 1 is to ask the panelists to make their initial judgments as to where the bookmark should be placed for each cut. The first cut that will be set will be the [Basic/Approaching Standard] cut. For this round, panelists will work individually, without consulting with their colleagues. Beginning with the first ordered item in the OIB, panelists will evaluate each item in turn. The panelists will gauge the level of difficulty of each of the items for those students who barely meet the definition of [Basic/Approaching Standard]. The task that panelists are asked to do is to estimate whether a student performing at the borderline of [Basic/Approaching Standard], would answer each question correctly. More specifically, panelists should answer:

Would *50%* of the students performing at the borderline of [Basic/Approaching Standard] answer the question correctly?

The same process is then repeated for the [Proficient/Meets Standard] and [Advanced/Exceeds Standard] cuts.

In the case of open-response questions, panelists should ask:

- Would 50% of students performing at the borderline get this score point *or higher*?

Activities:

1. Panelists should have their Ordered Item Books, Item Map Forms, and ALDs. Pass out one Rating Sheet to each panelist.

2. Have panelists write their ID number, content area, and grade on the Rating Sheet. The ID number is on the back of their name tags.

3. Provide an overview of Round 1, covering each of the following:
    a. Orient panelists to the Ordered Item Book. Remind them that the items are presented in order of difficulty, from easiest to hardest.

    b. The primary purpose of this activity is for the panelists to make their initial determination as to whether 50% of students whose achievement is barely [Basic/Approaching Standard] would correctly answer each item, and to place their bookmark where they believe the answer of "yes" turns to "no." Remind panelists that they should be thinking about 50% of the borderline students. Once they have completed the process for the [Basic/Approaching Standard], they will proceed to the remaining cut points [Proficient/Meets Standard] and [Advanced/Exceeds Standard].

c. Each panelist needs to base his/her judgments on his/her experience with the content, understanding of students, and the definitions of the borderline students generated previously.

d. One bookmark will be placed for each cut point.

e. If panelists are struggling with placing a particular bookmark, they should use their best judgment and move on. They will have an opportunity to discuss their ratings and make revisions in Rounds 2 and 3.

4. Tell panelists that they will be discussing each cut point with the other panelists, but that they will be placing the bookmarks individually. **It is not necessary for the panelists to come to consensus about where the bookmarks should be placed.**

5. Go over the rating form with panelists.
   a. Lead panelists through a step-by-step demonstration of how to fill in the rating form.

   b. Answer questions the panelists may have about the work in Round 1.

   c. Once everyone understands what they are to do in Round 1, tell them to begin.

6. Starting with the first ordered item in the OIB and the [Basic/Approaching Standard] cut, the panelists will work through the OIB item by item and make their initial bookmark placements.

7. As panelists complete the task, ask them to carefully inspect their rating forms to ensure they are filled out properly.
   a. **The content area, grade, and ID number must be filled in**.

   b. **The item numbers identifying each cut score must be adjacent**.

   c. Check each panelist's rating form before you allow them to leave for a short break.

   d. When all the rating forms have been collected, the group will take a break. Immediately bring the rating forms to the data analysis work room for tabulation.

Tabulation of Round 1 Results

Tabulation of Round 1 results will be completed by the data analysis team as quickly as possible after receipt of the rating forms.

Round 2

Overview of Round 2: In Round 2, the panelists will discuss their Round 1 placements as a group and then revise their ratings on the basis of that discussion. They will discuss their ratings in the context of the ratings made by other members of the group. The panelists with the highest and lowest ratings should comment on why they gave the ratings they did. The group should get a sense of how much variation there is in the ratings. Panelists should also consider the question, "How tough or easy a rater are you?" The purpose here is to allow panelists to examine their individual expectations (in terms of their experiences) and to share these expectations and experiences in order to attain a better understanding of how their experiences impact their decision-making.

To aid with the discussion, the panelists will be provided with the median Round 1 bookmark placements for their group.

Once panelists have reviewed and discussed their bookmark placements, they will be given the opportunity to change or revise their Round 1 ratings.

Activities:

1. Make sure the panelists have their ordered item booklets, item map forms, and ALDs. Return the rating form to each panelist.

2. A psychometrician will explain how the group median cuts were calculated and talk about how the panelists will use that information as they complete the Round 2 discussions. Based on their Round 1 rating form, panelists will know where they fall relative to the group's median. This information is provided so panelists can get a sense of whether they are more stringent or more lenient than the other panelists in the group.

3. Provide an overview of Round 2. Round 2 begins with a brief review of the ALDs and borderline descriptions. Panelists will be encouraged to seek clarifications from the facilitator. Remind panelists of the following:
    a. As in Round 1, the primary purpose is to place bookmarks where you feel the achievement levels are best distinguished, considering the additional information and discussion.

    b. Each panelist needs to base his/her judgments on his/her experience with the content area, understanding of students; the definitions of the borderline students generated previously; discussions with other panelists; and the knowledge, skills, and abilities required to answer each item.

4. The panelists will discuss their Round 1 ratings as a group, beginning with the first cut point. The discussion will be facilitated by the Facilitator.
    a. The discussion should focus on differences in where individual panelists in the group placed their bookmarks.

    b. Panelists should be encouraged to listen to their colleagues as well as express their own points of view.

    c. If the panelists hear a logic/rationale/argument that they did not consider and that they feel is compelling, then they may adjust their ratings to incorporate that information.

    d. On the basis of the discussions, panelists should make a second round of ratings.

    e. When placing their Round 2 bookmarks, panelists should not feel compelled to change their ratings.

    f. The individuals do not have to achieve consensus. If panelists honestly disagree, that is fine. We are trying to get the best judgment of each panelist. Panelists should not feel compelled or coerced into making a rating they disagree with.

Encourage the panelists to use the discussion and feedback to assess how stringent or lenient a judge they are. If a panelist is consistently higher or lower than the group, they may have a different understanding of the borderline student than the rest of the group, or a different understanding of the Achievement Level Descriptors, or both. **It is okay for panelists to disagree, but that disagreement should be based on a common understanding of the borderline Achievement Level Descriptors.**

5. When all panelists have completed their second ratings, collect the rating forms. When you collect the rating forms, **carefully inspect them** to ensure they are filled out properly.
    a. **The content area, grade, and ID number must be filled in**.

    b. **The item numbers identifying each cut score must be adjacent**.

    c. Check each panelist's rating form before you allow them to leave for a short break.

    d. When all the rating forms have been collected, the group will take a break. Immediately bring the rating forms to the data analysis work room for tabulation.

Round 3

Overview of Round 3: The primary purpose of Round 3 is to ask the panelists to discuss their Round 2 placements as a whole group and to give them one last opportunity to revise their ratings on the basis of that discussion. As in Round 2, they will discuss their ratings in the context of the ratings made by other members of the group.

To aid with the discussion, a psychometrician will present the following information to the panelists:

1. The group median Round 2 bookmark placements, and

2. impact data, showing the approximate percentage of students in Maine that would be classified into each achievement level category based on the median bookmark placements from Round 2.

Once panelists have reviewed and discussed their bookmark placements and the impact data, they will be given the opportunity to change or revise their Round 2 ratings.

Activities:

1. Make sure the panelists have their ordered item booklets, item map forms, and Achievement Level Descriptors. Return the rating form to each panelist.

2. A psychometrician will present and explain the following information to the panelists:
    a. The median bookmark placements for the group based on the Round 2 ratings. Based on their Round 2 rating form, panelists will know where they fall relative to the room median. This information is provided so panelists can get a sense of whether they are more stringent or more lenient than other panelists.

    b. Impact data, showing the approximate percentage of students in Maine that would be classified into each achievement level category based on the room median bookmark placements. Panelists will use this information as a "reasonableness check." In other words, they will discuss whether the percentages in each level seem reasonable, based on their knowledge of the test and the current status of students across the state relative to the Achievement Level Descriptors. If the answer is no, panelists may choose to make adjustments to one or more of their bookmark placements.

3. Provide an overview of Round 3. Remind panelists of the following:
    a. As in Round 2, the primary purpose is to place bookmarks where you feel the achievement levels are best distinguished, considering the additional information and further discussion.

    b. Each panelist needs to base his/her judgments on his/her experience with the content area, understanding of students, the definitions of the borderline students generated previously, discussions with other panelists and the knowledge, skills, and abilities required to answer each item.

4. The panelists will discuss their Round 2 ratings as a whole group, beginning with the first cut point.
    a. The discussion should focus on differences in where individual panelists placed their bookmarks.

    b. Panelists should be encouraged to listen to their colleagues as well as express their own points of view.

    c. If the panelists hear a logic/rationale/argument that they did not consider and that they feel is compelling, then they may adjust their ratings to incorporate that information.

    d. On the basis of the discussions, panelists should make a final round of ratings.

    e. When placing their Round 3 bookmarks, panelists should not feel compelled to change their ratings.

    f. The group does not have to achieve consensus. If panelists honestly disagree, that is fine. We are trying to get the best judgment of each panelist. Panelists should not feel compelled or coerced into making a rating they disagree with.

5. When the group has completed their final ratings, collect the rating forms. When you collect the rating forms, **carefully inspect them** to ensure they are filled out properly.
    a. **The content area, grade, and ID number must be filled in**.
    b. **The item numbers identifying each cut score must be adjacent**.
    c. Immediately provide the completed rating forms to the data analysis team.

Complete Procedural Evaluation Form for the Grade

Make sure panelists fill out the procedural evaluation for the grade. Emphasize that their honest feedback is important. Return the completed evaluations to the data analysis work room at the next convenient opportunity.

Collect the materials from the grade and mark them off on the Materials Tracking sheet.

Complete Second Grade Standard Setting Activities

Begin the standard setting process for the second grade assigned to the panel. Follow the same steps with the exception of the Practice Round and Training Evaluation steps.

Complete Final Evaluation Form

Make sure panelists fill out the final evaluation. Emphasize that their honest feedback is important. Return the completed evaluations to the data analysis work room at the next convenient opportunity.

Organization of Materials

Collect and mark of materials on the tracking sheet. Please sort materials in the following fashion:

1. Place OIBs/reference books for each grade level together--these will be used for the Articulation Activity.
2. Collect the ALDs and place them with the Articulation materials.
3. Collect the rest of the panelist materials and place them in a box for shredding.

APPENDIX I—PANELISTS

Table I-1. eMPowerME ELA/Literacy and Mathematics Standard Setting: ELA Panelists

Grade Range	Name
3-4	JoDell Warren
	Deborah Melvin
	Janet Murakami
	Joanne Johnson-Hajduk
	Morgan Pullen
	Karen Stockman
	Lori Sheive
5-6	Sandip LeeAnne Wilson
	Heidi Goodwin
	Kelly Labonte
	Melanie Stevens
	Chris DiSalvatore
	Elizabeth Hartung-Cole
	Katie Wuori
	Melissa Biehn
7-8	Carol Bibeau
	Rebecca Perez
	Linda Haskell
	Wendy Dunbar
	Kathy Kauffman
	Kim McBride
	Anne Kreyssig
	Kate Stroman

Table I-2. eMPowerME ELA/Literacy and Mathematics Standard Setting: Math Panelists

Grade Range	Name
3-4	Stacy DelGallo
	Sheree Lynn Granger
	Deborah Cook
	Andrea Mercado
	Susan Flory
	Renee Charette
	Laurie Rule
5-6	Lori Small
	Nancy Philbrick
	Cindy Nilsen
	Myla Kreider
	Nancy Watson
	Paula Giles
	Linda Hoffman
	Melinda Thibeault

continued

Grade Range	Name
	Mary Belisle
	Sherri Simmons
	Rachel Larrabee
7-8	Barbara Benjamin-McManus
	Tom Menendez
	Marielle Edgecomb
	Lisa Gordon

APPENDIX J—EVALUATION RESULTS

Math Final Evaluation Results
Grade 3/4

Panelist Demographics	Count (N=7)	%
Gender:		
Male	0	0.00%
Female	7	100.00%
Race/Ethnicity:		
Black	0	0.00%
Hispanic	1	14.29%
Asian	0	0.00%
Pacific Islander	0	0.00%
American Indian	1	14.29%
Years of Experience:		
0-5	0	0.00%
5-10	0	0.00%
10-15	1	14.29%
More than 15	6	85.71%
Professional Experience:		
Students with Disabilities	3	42.86%
Students with Limited English Proficiency	2	28.57%
Economically Disadvantaged Students	4	57.14%
Gifted and Talented Students	1	14.29%
General Education	5	71.43%

Please rate the usefulness of each of the following:	N	Mean	Not Useful at All 1	2	3	4	Extremely Useful 5
The opening session.	7	3.57	0.00%	0.00%	57.14%	28.57%	14.29%
The small group activities.	7	4.71	0.00%	0.00%	0.00%	28.57%	71.43%
Becoming familiar with the assessment.	7	5.00	0.00%	0.00%	0.00%	0.00%	100.00%
Completing the Item Map Form.	7	4.00	0.00%	14.29%	14.29%	28.57%	42.86%
Articulating the borderline differences between the achievement levels.	7	4.71	0.00%	0.00%	0.00%	28.57%	71.43%
Discussions with other participants.	7	4.86	0.00%	0.00%	0.00%	14.29%	85.71%
Impact data.	7	4.14	0.00%	0.00%	0.00%	85.71%	14.29%

Please mark the appropriate box for each statement.	N	Mean	% SD	% D	% A	% SA
I understood the goals of the standard setting meeting.	7	3.86	0.00%	0.00%	14.29%	85.71%
I understood the procedures we used to set standards.	7	3.86	0.00%	0.00%	14.29%	85.71%
The facilitator helped me understand the process.	7	3.86	0.00%	0.00%	14.29%	85.71%
The materials contained the information needed to set standards.	7	3.86	0.00%	0.00%	14.29%	85.71%
I understood how to use the materials provided.	7	3.86	0.00%	0.00%	14.29%	85.71%
The borderline achievement level definitions were clear.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understood how to make the cut score judgments.	7	3.86	0.00%	0.00%	14.29%	85.71%
I understood how to use the feedback provided after each round.	7	3.86	0.00%	0.00%	14.29%	85.71%
I understood how to use the impact data.	7	3.57	0.00%	0.00%	42.86%	57.14%
I understood how the cut scores were calculated.	7	3.86	0.00%	0.00%	14.29%	85.71%
The facilitator was able to get answers to my questions.	7	3.86	0.00%	0.00%	14.29%	85.71%
Sufficient time was allotted for training on the standard setting tasks.	7	3.86	0.00%	0.00%	14.29%	85.71%
Sufficient time was allotted to complete the standard setting tasks.	7	3.86	0.00%	0.00%	14.29%	85.71%

The facilitator helped the standard setting process run smoothly.	7	4.00	0.00%	0.00%	0.00%	100.00%
Overall the standard setting process produced credible results.	7	3.71	0.00%	0.00%	28.57%	71.43%

Please provide any additional comments about the standard setting process or suggestions as to how the training and process could be improved.

-Although the process seemed tedious at first, I now see how helpful it was to go through both the achievement level descriptors and the borderline descriptors. I gained a lot of knowledge about the grade level expectations in math for grades 3 and 4.
-Elizabeth Garcia did an excellent job facilitating. She was able to clarify any questions, keep us on track and guide us.
-Liz Garcia was awesome!
-Elizabeth did a great job!

Math Final Evaluation Results
Grade 5/6

Panelist Demographics	Count (N=8)	%
Gender:		
Male	0	0.00%
Female	8	100.00%
Race/Ethnicity:		
Black	0	0.00%
Hispanic	0	0.00%
Asian	0	0.00%
Pacific Islander	0	0.00%
American Indian	0	0.00%
Years of Experience:		
0-5	0	0.00%
5-10	1	12.50%
10-15	0	0.00%
More than 15	7	87.50%
Professional Experience:		
Students with Disabilities	4	50.00%
Students with Limited English Proficiency	1	12.50%
Economically Disadvantaged Students	5	62.50%
Gifted and Talented Students	3	37.50%
General Education	7	87.50%

Please rate the usefulness of each of the following:	N	Mean	Not Useful at All 1	2	3	4	Extremely Useful 5
The opening session.	8	3.50	0.00%	25.00%	25.00%	25.00%	25.00%
The small group activities.	8	4.88	0.00%	0.00%	0.00%	12.50%	87.50%
Becoming familiar with the assessment.	8	4.88	0.00%	0.00%	0.00%	12.50%	87.50%
Completing the Item Map Form.	8	4.63	0.00%	0.00%	0.00%	37.50%	62.50%
Articulating the borderline differences between the achievement levels.	8	3.88	0.00%	12.50%	12.50%	50.00%	25.00%
Discussions with other participants.	8	4.63	0.00%	0.00%	0.00%	37.50%	62.50%
Impact data.	8	3.50	0.00%	25.00%	25.00%	25.00%	25.00%

Please mark the appropriate box for each statement.	N	Mean	% SD	% D	% A	% SA
I understood the goals of the standard setting meeting.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understood the procedures we used to set standards.	8	3.50	0.00%	0.00%	50.00%	50.00%
The facilitator helped me understand the process.	8	3.63	0.00%	0.00%	37.50%	62.50%
The materials contained the information needed to set standards.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understood how to use the materials provided.	8	3.63	0.00%	0.00%	37.50%	62.50%
The borderline achievement level definitions were clear.	8	3.13	0.00%	12.50%	62.50%	25.00%
I understood how to make the cut score judgments.	8	3.38	0.00%	0.00%	62.50%	37.50%
I understood how to use the feedback provided after each round.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understood how to use the impact data.	8	3.13	0.00%	25.00%	37.50%	37.50%
I understood how the cut scores were calculated.	8	3.63	0.00%	0.00%	37.50%	62.50%
The facilitator was able to get answers to my questions.	8	3.75	0.00%	0.00%	25.00%	75.00%
Sufficient time was allotted for training on the standard setting tasks.	8	3.75	0.00%	0.00%	25.00%	75.00%
Sufficient time was allotted to complete the standard setting tasks.	8	3.63	0.00%	0.00%	37.50%	62.50%

The facilitator helped the standard setting process run smoothly.	8	3.63	0.00%	0.00%	37.50%	62.50%
Overall the standard setting process produced credible results.	8	3.50	0.00%	0.00%	50.00%	50.00%

Please provide any additional comments about the standard setting process or suggestions as to how the training and process could be improved.

-I felt some others influenced others with their thinking and had a harder time agreeing to disagree :)

-I really enjoyed being a part of this process.

-This was a valuable experience. I gained great insight into the entire process. Thank you.

-Very Helpful. Math Immersion Course - I learned a lot. Good to kick start us for the school year 1 week away. Thank You

-Information about some materials was not always presented clearly. However with further inquiry it was clarified.

-Thanks! Great group! Wow. Very informative. Has shaped my thinking :) It worked. :)

Math Final Evaluation Results
Grade 7/8

Panelist Demographics	Count (N=7)	%
Gender:		
Male	7	100.00%
Female	0	0.00%
Race/Ethnicity:		
Black	7	100.00%
Hispanic	7	100.00%
Asian	7	100.00%
Pacific Islander	7	100.00%
American Indian	7	100.00%
Years of Experience:		
0-5	0	0.00%
5-10	1	14.29%
10-15	2	28.57%
More than 15	4	57.14%
Professional Experience:		
Students with Disabilities	3	42.86%
Students with Limited English Proficiency	1	14.29%
Economically Disadvantaged Students	2	28.57%
Gifted and Talented Students	3	42.86%
General Education	7	100.00%

Please rate the usefulness of each of the following:	N	Mean	Not Useful at All 1	2	3	4	Extremely Useful 5
The opening session.	7	3.71	0.00%	14.29%	14.29%	57.14%	14.29%
The small group activities.	7	4.57	0.00%	0.00%	0.00%	42.86%	57.14%
Becoming familiar with the assessment.	7	4.57	0.00%	0.00%	0.00%	42.86%	57.14%
Completing the Item Map Form.	7	3.57	14.29%	0.00%	14.29%	57.14%	14.29%
Articulating the borderline differences between the achievement levels.	7	4.14	0.00%	0.00%	14.29%	57.14%	28.57%
Discussions with other participants.	7	4.71	0.00%	0.00%	0.00%	28.57%	71.43%
Impact data.	7	4.00	0.00%	0.00%	14.29%	71.43%	14.29%

Please mark the appropriate box for each statement.	N	Mean	% SD	% D	% A	% SA
I understood the goals of the standard setting meeting.	7	3.29	0.00%	0.00%	71.43%	28.57%
I understood the procedures we used to set standards.	7	3.57	0.00%	0.00%	42.86%	57.14%
The facilitator helped me understand the process.	7	4.00	0.00%	0.00%	0.00%	100.00%
The materials contained the information needed to set standards.	7	3.86	0.00%	0.00%	14.29%	85.71%
I understood how to use the materials provided.	7	3.71	0.00%	0.00%	28.57%	71.43%
The borderline achievement level definitions were clear.	7	3.14	0.00%	0.00%	85.71%	14.29%
I understood how to make the cut score judgments.	7	3.57	0.00%	14.29%	14.29%	71.43%
I understood how to use the feedback provided after each round.	7	3.57	0.00%	0.00%	42.86%	57.14%
I understood how to use the impact data.	7	3.14	0.00%	14.29%	57.14%	28.57%
I understood how the cut scores were calculated.	7	3.57	0.00%	0.00%	42.86%	57.14%
The facilitator was able to get answers to my questions.	7	4.00	0.00%	0.00%	0.00%	100.00%
Sufficient time was allotted for training on the standard setting tasks.	7	3.86	0.00%	0.00%	14.29%	85.71%
Sufficient time was allotted to complete the standard setting tasks.	7	3.86	0.00%	0.00%	14.29%	85.71%

The facilitator helped the standard setting process run smoothly.	7	4.00	0.00%	0.00%	0.00%	100.00%
Overall the standard setting process produced credible results.	7	3.71	0.00%	0.00%	28.57%	71.43%

Please provide any additional comments about the standard setting process or suggestions as to how the training and process could be improved.

* Please don't tell me that I will not understand what you are presenting. (1st 5 min. of the 1st day during powerpoint).
-We need language for level 1 not just 2 up. Jake was excellent making the process clear and task oriented.

ELA Final Evaluation Results
Grade 3/4

Panelist Demographics	Count (N=7)	%
Gender:		
Male	0	0.00%
Female	7	100.00%
Race/Ethnicity:		
Black	0	0.00%
Hispanic	0	0.00%
Asian	0	0.00%
Pacific Islander	0	0.00%
American Indian	0	0.00%
Years of Experience:		
0-5	0	0.00%
5-10	1	14.29%
10-15	0	0.00%
More than 15	6	85.71%
Professional Experience:		
Students with Disabilities	2	28.57%
Students with Limited English Proficiency	0	0.00%
Economically Disadvantaged Students	3	42.86%
Gifted and Talented Students	1	14.29%
General Education	6	85.71%

Please rate the usefulness of each of the following:	N	Mean	Not Useful at All 1	2	3	4	Extremely Useful 5
The opening session.	7	3.71	0.00%	14.29%	28.57%	28.57%	28.57%
The small group activities.	7	4.86	0.00%	0.00%	0.00%	14.29%	85.71%
Becoming familiar with the assessment.	7	4.71	0.00%	0.00%	0.00%	28.57%	71.43%
Completing the Item Map Form.	7	4.57	0.00%	0.00%	0.00%	42.86%	57.14%
Articulating the borderline differences between the achievement levels.	7	4.29	0.00%	0.00%	14.29%	42.86%	42.86%
Discussions with other participants.	7	4.86	0.00%	0.00%	0.00%	14.29%	85.71%
Impact data.	6	2.83	16.67%	16.67%	33.33%	33.33%	0.00%

Please mark the appropriate box for each statement.	N	Mean	% SD	% D	% A	% SA
I understood the goals of the standard setting meeting.	7	3.86	0.00%	0.00%	14.29%	85.71%
I understood the procedures we used to set standards.	7	3.86	0.00%	0.00%	14.29%	85.71%
The facilitator helped me understand the process.	7	3.43	0.00%	0.00%	57.14%	42.86%
The materials contained the information needed to set standards.	7	3.14	0.00%	14.29%	57.14%	28.57%
I understood how to use the materials provided.	7	3.43	0.00%	0.00%	57.14%	42.86%
The borderline achievement level definitions were clear.	7	3.14	0.00%	14.29%	57.14%	28.57%
I understood how to make the cut score judgments.	7	3.57	0.00%	0.00%	42.86%	57.14%
I understood how to use the feedback provided after each round.	7	3.71	0.00%	0.00%	28.57%	71.43%
I understood how to use the impact data.	7	3.14	0.00%	14.29%	57.14%	28.57%
I understood how the cut scores were calculated.	7	3.29	0.00%	0.00%	71.43%	28.57%
The facilitator was able to get answers to my questions.	7	3.43	0.00%	0.00%	57.14%	42.86%
Sufficient time was allotted for training on the standard setting tasks.	7	3.57	0.00%	0.00%	42.86%	57.14%
Sufficient time was allotted to complete the standard setting tasks.	7	3.57	0.00%	0.00%	42.86%	57.14%

The facilitator helped the standard setting process run smoothly.	7	3.43	0.00%	0.00%	57.14%	42.86%
Overall the standard setting process produced credible results.	7	3.57	0.00%	0.00%	42.86%	57.14%

Please provide any additional comments about the standard setting process or suggestions as to how the training and process could be improved.

-Great discussions with all participants. As always, a learning experience

-I don't think we had the best explanations of how to write boarderline descriptions - ours were more on-level! I don't think those should have had to be developed - perhaps provided.

-Impact Data (was neat to see!) this was such a great process. I was glad to be a part of it. Well done! :)

ELA Final Evaluation Results
Grade 5/6

Panelist Demographics	Count (N=8)	%
Gender:		
Male	1	12.50%
Female	7	87.50%
Race/Ethnicity:		
Black	0	0.00%
Hispanic	0	0.00%
Asian	0	0.00%
Pacific Islander	0	0.00%
American Indian	0	0.00%
Years of Experience:		
0-5	0	0.00%
5-10	1	12.50%
10-15	0	0.00%
More than 15	7	87.50%
Professional Experience:		
Students with Disabilities	3	37.50%
Students with Limited English Proficiency	2	25.00%
Economically Disadvantaged Students	5	62.50%
Gifted and Talented Students	3	37.50%
General Education	7	87.50%

Please rate the usefulness of each of the following:	N	Mean	Not Useful at All 1	2	3	4	Extremely Useful 5
The opening session.	8	4.00	0.00%	0.00%	12.50%	75.00%	12.50%
The small group activities.	8	4.75	0.00%	0.00%	0.00%	25.00%	75.00%
Becoming familiar with the assessment.	8	4.63	0.00%	0.00%	0.00%	37.50%	62.50%
Completing the Item Map Form.	8	4.75	0.00%	0.00%	0.00%	25.00%	75.00%
Articulating the borderline differences between the achievement levels.	8	4.63	0.00%	0.00%	12.50%	12.50%	75.00%
Discussions with other participants.	8	4.88	0.00%	0.00%	0.00%	12.50%	87.50%
Impact data.	8	4.00	0.00%	12.50%	0.00%	62.50%	25.00%

Please mark the appropriate box for each statement.	N	Mean	% SD	% D	% A	% SA
I understood the goals of the standard setting meeting.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understood the procedures we used to set standards.	8	3.63	0.00%	0.00%	37.50%	62.50%
The facilitator helped me understand the process.	8	3.75	0.00%	0.00%	25.00%	75.00%
The materials contained the information needed to set standards.	7	3.57	0.00%	0.00%	42.86%	57.14%
I understood how to use the materials provided.	8	3.50	0.00%	0.00%	50.00%	50.00%
The borderline achievement level definitions were clear.	8	3.25	0.00%	0.00%	75.00%	25.00%
I understood how to make the cut score judgments.	8	3.50	0.00%	0.00%	50.00%	50.00%
I understood how to use the feedback provided after each round.	8	3.38	0.00%	0.00%	62.50%	37.50%
I understood how to use the impact data.	8	3.31	0.00%	0.00%	50.00%	37.50%
I understood how the cut scores were calculated.	8	3.38	0.00%	0.00%	62.50%	37.50%
The facilitator was able to get answers to my questions.	8	3.63	0.00%	0.00%	37.50%	62.50%
Sufficient time was allotted for training on the standard setting tasks.	8	3.50	0.00%	0.00%	50.00%	50.00%
Sufficient time was allotted to complete the standard setting tasks.	8	3.50	0.00%	0.00%	50.00%	50.00%

The facilitator helped the standard setting process run smoothly.	8	3.63	0.00%	0.00%	37.50%	62.50%
Overall the standard setting process produced credible results.	8	3.50	0.00%	0.00%	50.00%	50.00%

Please provide any additional comments about the standard setting process or suggestions as to how the training and process could be improved.

-Thanks to Pamela for her great job in facilitating and keeping us on task

-Hard won results, much deliberation

ELA Final Evaluation Results
Grade 7/8

Panelist Demographics	Count (N=7)	%
Gender:		
Male	0	0.00%
Female	7	100.00%
Race/Ethnicity:		
Black	0	0.00%
Hispanic	1	14.29%
Asian	0	0.00%
Pacific Islander	0	0.00%
American Indian	1	14.29%
Years of Experience:		
0-5	0	0.00%
5-10	0	0.00%
10-15	0	0.00%
More than 15	7	100.00%
Professional Experience:		
Students with Disabilities	1	14.29%
Students with Limited English Proficiency	1	14.29%
Economically Disadvantaged Students	2	28.57%
Gifted and Talented Students	2	28.57%
General Education	4	57.14%

Please rate the usefulness of each of the following:	N	Mean	Not Useful at All 1	2	3	4	Extremely Useful 5
The opening session.	7	3.14	0.00%	0.00%	85.71%	14.29%	0.00%
The small group activities.	7	4.43	0.00%	0.00%	0.00%	57.14%	42.86%
Becoming familiar with the assessment.	7	4.71	0.00%	0.00%	0.00%	28.57%	71.43%
Completing the Item Map Form.	7	3.86	0.00%	0.00%	28.57%	57.14%	14.29%
Articulating the borderline differences between the achievement levels.	7	4.14	0.00%	0.00%	14.29%	57.14%	28.57%
Discussions with other participants.	7	5.00	0.00%	0.00%	0.00%	0.00%	100.00%
Impact data.	7	4.14	0.00%	0.00%	14.29%	57.14%	28.57%

Please mark the appropriate box for each statement.	N	Mean	% SD	% D	% A	% SA
I understood the goals of the standard setting meeting.	7	3.57	0.00%	0.00%	42.86%	57.14%
I understood the procedures we used to set standards.	7	3.57	0.00%	0.00%	42.86%	57.14%
The facilitator helped me understand the process.	7	3.57	0.00%	0.00%	42.86%	57.14%
The materials contained the information needed to set standards.	7	3.57	0.00%	0.00%	42.86%	57.14%
I understood how to use the materials provided.	7	3.57	0.00%	0.00%	42.86%	57.14%
The borderline achievement level definitions were clear.	7	3.29	0.00%	0.00%	71.43%	28.57%
I understood how to make the cut score judgments.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understood how to use the feedback provided after each round.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understood how to use the impact data.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understood how the cut scores were calculated.	7	3.57	0.00%	0.00%	42.86%	57.14%
The facilitator was able to get answers to my questions.	7	3.57	0.00%	0.00%	42.86%	57.14%
Sufficient time was allotted for training on the standard setting tasks.	7	3.57	0.00%	0.00%	42.86%	57.14%
Sufficient time was allotted to complete the standard setting tasks.	7	3.57	0.00%	0.00%	42.86%	57.14%

The facilitator helped the standard setting process run smoothly.	7	3.57	0.00%	0.00%	42.86%	57.14%
Overall the standard setting process produced credible results.	7	3.71	0.00%	0.00%	28.57%	71.43%

Please provide any additional comments about the standard setting process or suggestions as to how the training and process could be improved.

-Understanding the CR writing scores and cut points. That we could have written "NOT" to help.

-Make sure participants clearly understand how to interpret CR question scores: "can 50% of borderline level 2 students produce a 1-pt response?"

-It would help to have more time to eat lunch. :)

Math Procedural Evaluation Results
Grade 3

Please rate the usefulness of each of the following:	N	Mean	% SD	% D	% A	% SA
I understood how to make the cut score judgments.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understood how to use the materials provided.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understood how to record my judgments.	8	3.50	0.00%	0.00%	50.00%	50.00%
I think the procedures make sense.	8	3.38	0.00%	12.50%	37.50%	50.00%
I am sufficiently familiar with the assessment.	8	3.75	0.00%	0.00%	25.00%	75.00%
I understand the differences between the achievement levels.	8	3.38	0.00%	0.00%	62.50%	37.50%

Please rate the influence of the following when setting standards.	N	Mean	Not at all Influential-1	2	3	4	Extremely Influential -5
The achievement level descriptors.	8	4.75	0.00%	0.00%	0.00%	25.00%	75.00%
The borderline achievement level details.	8	4.56	0.00%	0.00%	0.00%	37.50%	50.00%
My expectations of students.	8	3.94	0.00%	0.00%	25.00%	50.00%	12.50%
The difficulty of the test materials.	8	4.56	0.00%	0.00%	0.00%	37.50%	50.00%
My experience in the field.	8	4.25	0.00%	0.00%	12.50%	50.00%	37.50%
Discussions with other participants.	8	4.31	0.00%	0.00%	12.50%	37.50%	37.50%
Cut scores of other participants.	8	3.94	0.00%	0.00%	25.00%	50.00%	12.50%
Impact data.	8	3.00	0.00%	37.50%	25.00%	37.50%	0.00%

Do you believe the final recommended cut score for each of the achievement levels is too low, about right, or too high?	N	Mean	Too Low - 1	Somewhat Low	About Right	Somewhat High	Too High - 5
Level 4/Level 3	7	3.00	0.00%	0.00%	100.00%	0.00%	0.00%
Level 3/Level 2	7	3.00	0.00%	0.00%	100.00%	0.00%	0.00%
Level 2/Level 1	7	3.14	0.00%	0.00%	85.71%	14.29%	0.00%

What materials, information, or procedures were most influential in your placement of the cut scores? Why?

Diff of test materials; achieve descr.; achievement details

Having the experience of working with students (all-not just regular ed, sped, or ESOL) really helped me when I pictured how students might do - and then lining this up with the ALD's. and then the impact! I do think we should be high for advanced % but... content doesn't really show we should change :(

Discussion on why each cut off was chosen; practicing and going through each round again to recalibrate

ALD, borderline-defined where cuts should or shouldn't be; what students would be included, skills they had etc.

The borderline achievement level details - they helped me remember what we thought 50% of the kids at that level could do/could not do

ALD's, Item Map, Booklet & borderline achievement level details

Math Procedural Evaluation Results

Grade 4

Please rate the usefulness of each of the following:	N	Mean	% SD	% D	% A	% SA
I understood how to make the cut score judgments.	7	3.86	0.00%	0.00%	14.29%	85.71%
I understood how to use the materials provided.	7	3.86	0.00%	0.00%	14.29%	85.71%
I understood how to record my judgments.	7	3.86	0.00%	0.00%	14.29%	85.71%
I think the procedures make sense.	7	3.86	0.00%	0.00%	14.29%	85.71%
I am sufficiently familiar with the assessment.	7	4.00	0.00%	0.00%	0.00%	100.00%
I understand the differences between the achievement levels.	7	3.50	0.00%	0.00%	42.86%	42.86%

Please rate the influence of the following when setting standards.	N	Mean	Not at all Influential-1	2	3	4	Extremely Influential -5
The achievement level descriptors.	7	4.71	0.00%	0.00%	0.00%	28.57%	71.43%
The borderline achievement level details.	7	4.43	0.00%	0.00%	0.00%	57.14%	42.86%
My expectations of students.	7	3.86	0.00%	0.00%	14.29%	85.71%	0.00%
The difficulty of the test materials.	7	4.00	0.00%	0.00%	0.00%	100.00%	0.00%
My experience in the field.	7	4.14	0.00%	0.00%	14.29%	57.14%	28.57%
Discussions with other participants.	7	4.57	0.00%	0.00%	0.00%	42.86%	57.14%
Cut scores of other participants.	7	4.14	0.00%	0.00%	0.00%	85.71%	14.29%
Impact data.	7	4.00	0.00%	0.00%	0.00%	100.00%	0.00%

Do you believe the final recommended cut score for each of the achievement levels is too low, about right, or too high?	N	Mean	Too Low - 1	Somewhat Low	About Right	Somewhat High	Too High - 5
Level 4/Level 3	7	3.29	0.00%	0.00%	71.43%	28.57%	0.00%
Level 3/Level 2	7	3.00	0.00%	0.00%	100.00%	0.00%	0.00%
Level 2/Level 1	7	3.14	0.00%	0.00%	85.71%	14.29%	0.00%

What materials, information, or procedures were most influential in your placement of the cut scores? Why?

The borderline achievement level details- I would refer back to them if I was on the fence about a certain question.
The ALD's and the discussions with participants- We all saw different things that were brought up about the problems & that was helpful.

Conversations/discussion justifying cut scores and ALD details

Combo of all discussion of the differences in the answers of the problems helped a lot

ALD and borderline - these were the bible of what we were doing

Math Procedural Evaluation Results
Grade 5

Please rate the usefulness of each of the following:	N	Mean	% SD	% D	% A	% SA
I understood how to make the cut score judgments.	8	3.13	0.00%	12.50%	62.50%	25.00%
I understood how to use the materials provided.	8	3.38	0.00%	0.00%	62.50%	37.50%
I understood how to record my judgments.	8	3.38	0.00%	0.00%	62.50%	37.50%
I think the procedures make sense.	8	3.25	0.00%	0.00%	37.50%	37.50%
I am sufficiently familiar with the assessment.	8	3.38	0.00%	0.00%	62.50%	37.50%
I understand the differences between the achievement levels.	8	3.50	0.00%	0.00%	50.00%	50.00%

Please rate the influence of the following when setting standards.	N	Mean	Not at all Influential-1	2	3	4	Extremely Influential -5
The achievement level descriptors.	8	4.50	0.00%	0.00%	0.00%	50.00%	50.00%
The borderline achievement level details.	8	3.00	25.00%	0.00%	25.00%	50.00%	0.00%
My expectations of students.	8	3.50	12.50%	0.00%	25.00%	50.00%	12.50%
The difficulty of the test materials.	8	3.88	0.00%	0.00%	37.50%	37.50%	25.00%
My experience in the field.	8	3.88	0.00%	12.50%	12.50%	50.00%	25.00%
Discussions with other participants.	8	4.50	0.00%	0.00%	12.50%	25.00%	62.50%
Cut scores of other participants.	8	3.50	0.00%	12.50%	37.50%	37.50%	12.50%
Impact data.	8	2.63	25.00%	12.50%	50.00%	0.00%	12.50%

Do you believe the final recommended cut score for each of the achievement levels is too low, about right, or too high?	N	Mean	Too Low - 1	Somewhat Low	About Right	Somewhat High	Too High - 5
Level 3/Level 2	8	3.13	0.00%	12.50%	62.50%	25.00%	0.00%
Level 3/Level 2	8	3.00	0.00%	12.50%	75.00%	12.50%	0.00%
Level 2/Level 1	8	3.25	0.00%	0.00%	75.00%	25.00%	0.00%

What materials, information, or procedures were most influential in your placement of the cut scores? Why?

ALD's - CCSS resources - because it served as a guide and was concrete. Discussions with Peers - Clarification of procedures and consistencies

Talk with peers - seeing other perspectives matching tasks to ALD's.

I relied heavily on the ALDs and filtered out my biases based on my personal knowledge of students' performance. The discussions within our panel were really helpful.

ALDs and Borderline "Students"

ALD's helped determine quest expectations

ALD's Discussions with other participants, 3 rounds of scoring. Although we did not see this data. This is based on assumptions

50%, borderline students, ALD packet, taking test, discussion, 3 rounds of cut scores

Math Procedural Evaluation Results
Grade 6

Please rate the usefulness of each of the following:	N	Mean	% SD	% D	% A	% SA
I understood how to make the cut score judgments.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understood how to use the materials provided.	8	3.75	0.00%	0.00%	25.00%	75.00%
I understood how to record my judgments.	8	3.63	0.00%	0.00%	37.50%	62.50%
I think the procedures make sense.	8	3.63	0.00%	0.00%	37.50%	62.50%
I am sufficiently familiar with the assessment.	8	3.38	0.00%	0.00%	62.50%	37.50%
I understand the differences between the achievement levels.	8	3.25	0.00%	0.00%	75.00%	25.00%

Please rate the influence of the following when setting standards.	N	Mean	Not at all Influential-1	2	3	4	Extremely Influential -5
The achievement level descriptors.	8	4.38	0.00%	0.00%	12.50%	37.50%	50.00%
The borderline achievement level details.	8	3.75	0.00%	0.00%	37.50%	50.00%	12.50%
My expectations of students.	8	3.50	0.00%	12.50%	50.00%	12.50%	25.00%
The difficulty of the test materials.	8	3.88	0.00%	12.50%	12.50%	50.00%	25.00%
My experience in the field.	8	4.38	0.00%	0.00%	12.50%	37.50%	50.00%
Discussions with other participants.	8	4.50	0.00%	0.00%	0.00%	50.00%	50.00%
Cut scores of other participants.	8	3.63	0.00%	12.50%	12.50%	75.00%	0.00%
Impact data.	8	3.25	12.50%	12.50%	37.50%	12.50%	25.00%

Do you believe the final recommended cut score for each of the achievement levels is too low, about right, or too high?	N	Mean	Too Low - 1	Somewhat Low	About Right	Somewhat High	Too High - 5
Level 4/Level 3	8	2.88	0.00%	12.50%	87.50%	0.00%	0.00%
Level 3/Level 2	8	3.13	0.00%	0.00%	87.50%	12.50%	0.00%
Level 2/Level 1	8	2.88	0.00%	12.50%	87.50%	0.00%	0.00%

What materials, information, or procedures were most influential in your placement of the cut scores? Why?

Taking the test, ALD
ALD expectations of students discussions
All that was given to us to use as resources
The ALDs and the group discussions
ALDs and borderline "Just Barely"
Having 1st round and then discussion to get others views.

Math Procedural Evaluation Results
Grade 7

Please rate the usefulness of each of the following:	N	Mean	% SD	% D	% A	% SA
I understood how to make the cut score judgments.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understood how to use the materials provided.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understood how to record my judgments.	7	3.43	0.00%	0.00%	57.14%	42.86%
I think the procedures make sense.	7	3.00	0.00%	28.57%	42.86%	28.57%
I am sufficiently familiar with the assessment.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understand the differences between the achievement levels.	7	3.43	0.00%	0.00%	57.14%	42.86%

Please rate the influence of the following when setting standards.	N	Mean	Not at all Influential-1	2	3	4	Extremely Influential -5
The achievement level descriptors.	7	4.29	0.00%	0.00%	0.00%	71.43%	28.57%
The borderline achievement level details.	7	4.29	0.00%	0.00%	0.00%	71.43%	28.57%
My expectations of students.	7	3.43	0.00%	14.29%	42.86%	28.57%	14.29%
The difficulty of the test materials.	7	4.00	14.29%	0.00%	0.00%	42.86%	42.86%
My experience in the field.	7	3.71	0.00%	14.29%	14.29%	57.14%	14.29%
Discussions with other participants.	7	4.29	0.00%	0.00%	28.57%	14.29%	57.14%
Cut scores of other participants.	7	3.14	0.00%	28.57%	42.86%	14.29%	14.29%
Impact data.	7	3.00	14.29%	0.00%	57.14%	28.57%	0.00%

Do you believe the final recommended cut score for each of the achievement levels is too low, about right, or too high?	N	Mean	Too Low - 1	Somewhat Low	About Right	Somewhat High	Too High - 5
Level 4/Level 3	7	3.43	0.00%	0.00%	71.43%	14.29%	14.29%
Level 3/Level 2	7	3.14	0.00%	0.00%	85.71%	14.29%	0.00%
Level 2/Level 1	7	2.86	0.00%	14.29%	85.71%	0.00%	0.00%

What materials, information, or procedures were most influential in your placement of the cut scores? Why?

Descriptors; assisted with threshold/borderline levels
personal knowledge & professional discussion's
ALD/Borderline descriptions
achievement level descriptors and defining on posters where skills fall; discussion with group
Discussions with other participants; achievement level descriptors; borderline ach. Details

Math Procedural Evaluation Results
Grade 8

Please rate the usefulness of each of the following:	N	Mean	% SD	% D	% A	% SA
I understood how to make the cut score judgments.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understood how to use the materials provided.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understood how to record my judgments.	7	3.29	0.00%	14.29%	42.86%	42.86%
I think the procedures make sense.	7	3.29	0.00%	14.29%	42.86%	42.86%
I am sufficiently familiar with the assessment.	7	3.57	0.00%	0.00%	42.86%	57.14%
I understand the differences between the achievement levels.	7	3.43	0.00%	0.00%	57.14%	42.86%

Please rate the influence of the following when setting standards.	N	Mean	Not at all Influential-1	2	3	4	Extremely Influential -5
The achievement level descriptors.	7	4.43	0.00%	0.00%	0.00%	57.14%	42.86%
The borderline achievement level details.	7	4.29	0.00%	0.00%	0.00%	71.43%	28.57%
My expectations of students.	7	3.86	0.00%	14.29%	28.57%	14.29%	42.86%
The difficulty of the test materials.	7	3.71	0.00%	0.00%	42.86%	42.86%	14.29%
My experience in the field.	7	4.29	0.00%	0.00%	14.29%	42.86%	42.86%
Discussions with other participants.	7	4.86	0.00%	0.00%	0.00%	14.29%	85.71%
Cut scores of other participants.	7	4.00	0.00%	14.29%	14.29%	28.57%	42.86%
Impact data.	7	3.43	14.29%	0.00%	42.86%	14.29%	28.57%

Do you believe the final recommended cut score for each of the achievement levels is too low, about right, or too high?	N	Mean	Too Low - 1	Somewhat Low	About Right	Somewhat High	Too High - 5
Level 4/Level 3	7	3.29	0.00%	0.00%	85.71%	0.00%	14.29%
Level 3/Level 2	7	3.14	0.00%	0.00%	85.71%	14.29%	0.00%
Level 2/Level 1	7	3.14	0.00%	0.00%	85.71%	14.29%	0.00%

What materials, information, or procedures were most influential in your placement of the cut scores? Why?

ALD discussions rubric
Discussion
discussion with colleagues using materials

ELA Procedural Evaluation Results
Grade 3

Please rate the usefulness of each of the following:	N	Mean	% SD	% D	% A	% SA
I understood how to make the cut score judgments.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understood how to use the materials provided.	7	3.57	0.00%	0.00%	42.86%	57.14%
I understood how to record my judgments.	7	3.57	0.00%	0.00%	42.86%	57.14%
I think the procedures make sense.	7	3.14	0.00%	14.29%	57.14%	28.57%
I am sufficiently familiar with the assessment.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understand the differences between the achievement levels.	7	3.29	0.00%	0.00%	71.43%	28.57%

Please rate the influence of the following when setting standards.	N	Mean	Not at all Influential-1	2	3	4	Extremely Influential -5
The achievement level descriptors.	7	4.14	0.00%	0.00%	14.29%	57.14%	28.57%
The borderline achievement level details.	7	4.14	0.00%	0.00%	28.57%	28.57%	42.86%
My expectations of students.	7	3.71	0.00%	0.00%	42.86%	42.86%	14.29%
The difficulty of the test materials.	7	4.29	0.00%	0.00%	0.00%	71.43%	28.57%
My experience in the field.	7	4.00	0.00%	0.00%	28.57%	42.86%	28.57%
Discussions with other participants.	7	5.00	0.00%	0.00%	0.00%	0.00%	100.00%
Cut scores of other participants.	7	3.86	0.00%	0.00%	42.86%	28.57%	28.57%
Impact data.	7	3.00	14.29%	14.29%	28.57%	42.86%	0.00%

Do you believe the final recommended cut score for each of the achievement levels is too low, about right, or too high?	N	Mean	Too Low - 1	Somewhat Low	About Right	Somewhat High	Too High -5
Level 4/Level 3	7	2.86	0.00%	14.29%	85.71%	0.00%	0.00%
Level 3/Level 2	7	3.29	0.00%	0.00%	71.43%	28.57%	0.00%
Level 2/Level 1	7	3.29	0.00%	0.00%	71.43%	28.57%	0.00%

What materials, information, or procedures were most influential in your placement of the cut scores? Why?

Discussions, discussions discussions helped calibrate us. Being able to refer to the test Reading pieces.

Achievement level descriptors, discussions with supportive participants

Discussion of borderline achievement was most influential because through our discussion, a lot was clarified for me. I came to cleaner understanding of the process, and the differences between levels 2, 3, 4.

Borderline achievement level details because it helped to stay focused on students who were "just" there. The 2 questions would 50% … ? For multiple choice and for CR -Open

The discussion with other participants was the most influential. Achievement level descriptors played a small part in my decision making. The impact data was interesting but it did not influence my decision making.

Conversations. These helped "regulate" my thinking. It turned my thinking to global rather than "local".

The group conversations and borderline achievement levels as well as the complexity of the questions that measured the standards.

ELA Procedural Evaluation Results
Grade 4

Please rate the usefulness of each of the following:	N	Mean	% SD	% D	% A	% SA
I understood how to make the cut score judgments.	7	3.57	0.00%	0.00%	42.86%	57.14%
I understood how to use the materials provided.	7	3.57	0.00%	0.00%	42.86%	57.14%
I understood how to record my judgments.	7	3.57	0.00%	0.00%	42.86%	57.14%
I think the procedures make sense.	7	3.43	0.00%	14.29%	28.57%	57.14%
I am sufficiently familiar with the assessment.	7	3.57	0.00%	0.00%	42.86%	57.14%
I understand the differences between the achievement levels.	7	3.43	0.00%	0.00%	57.14%	42.86%

Please rate the influence of the following when setting standards.	N	Mean	Not at all Influential-1	2	3	4	Extremely Influential -5
The achievement level descriptors.	7	4.57	0.00%	0.00%	0.00%	42.86%	57.14%
The borderline achievement level details.	7	4.29	0.00%	0.00%	0.00%	71.43%	28.57%
My expectations of students.	7	3.57	0.00%	14.29%	14.29%	71.43%	0.00%
The difficulty of the test materials.	7	4.43	0.00%	0.00%	0.00%	57.14%	42.86%
My experience in the field.	7	4.14	0.00%	0.00%	28.57%	28.57%	42.86%
Discussions with other participants.	7	5.00	0.00%	0.00%	0.00%	0.00%	100.00%
Cut scores of other participants.	7	4.29	0.00%	0.00%	14.29%	42.86%	42.86%
Impact data.	7	3.00	28.57%	0.00%	28.57%	28.57%	14.29%

Do you believe the final recommended cut score for each of the achievement levels is too low, about right, or too high?	N	Mean	Too Low - 1	Somewhat Low	About Right	Somewhat High	Too High -5
Level 4/Level 3	7	3.14	0.00%	0.00%	85.71%	14.29%	0.00%
Level 3/Level 2	7	3.00	0.00%	0.00%	100.00%	0.00%	0.00%
Level 2/Level 1	7	2.71	0.00%	28.57%	71.43%	0.00%	0.00%

What materials, information, or procedures were most influential in your placement of the cut scores? Why?

I found the second day much easier and clearly to me. I understand the process and the material much better today. The impact data I dismissed I take my answer back. It was interesting and it did make me revisit my cut line for the level.
Discussions with other professionals was most influential in my placement of the cut scores because we could explain our thinking and rationale for where we placed the cut scores. Listening to others thinking helped to expand my own thinking about the different levels of achievement.
The descriptions of achievement levels, as well as the borderline descriptors were most beneficial. This was because of the different viewpoints on the descriptors and questions. These conversations let to a stronger understanding of each.

Achievement level descriptors; discussions;, the cut scores of my colleagues

The conversations were invaluable.
Achievement level were hard to determine using the ALD alone, but combined with understanding of the standards and our discussions it helped to bring it into better focus
Discussions, hearing others point of view and intuputation of question. The standard test booklets to refer to when needed. The CC standards when distinguishing between cuts 3 & 4 in a few cases (the description and/or examples). Thanks You

ELA Procedural Evaluation Results
Grade 5

Please rate the usefulness of each of the following:	N	Mean	% SD	% D	% A	% SA
I understood how to make the cut score judgments.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understood how to use the materials provided.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understood how to record my judgments.	8	3.63	0.00%	0.00%	37.50%	62.50%
I think the procedures make sense.	8	3.75	0.00%	0.00%	25.00%	75.00%
I am sufficiently familiar with the assessment.	8	3.75	0.00%	0.00%	25.00%	75.00%
I understand the differences between the achievement levels.	8	3.50	0.00%	0.00%	50.00%	50.00%

Please rate the influence of the following when setting standards.	N	Mean	Not at all Influential-1	2	3	4	Extremely Influential -5
The achievement level descriptors.	8	4.00	0.00%	0.00%	12.50%	75.00%	12.50%
The borderline achievement level details.	8	4.19	0.00%	0.00%	0.00%	62.50%	25.00%
My expectations of students.	8	3.75	0.00%	0.00%	25.00%	75.00%	0.00%
The difficulty of the test materials.	8	3.88	0.00%	12.50%	0.00%	75.00%	12.50%
My experience in the field.	8	4.00	0.00%	12.50%	0.00%	62.50%	25.00%
Discussions with other participants.	8	4.63	0.00%	0.00%	0.00%	37.50%	62.50%
Cut scores of other participants.	8	3.75	0.00%	12.50%	25.00%	37.50%	25.00%
Impact data.	8	3.38	0.00%	37.50%	0.00%	50.00%	12.50%

Do you believe the final recommended cut score for each of the achievement levels is too low, about right, or too high?	N	Mean	Too Low - 1	Somewhat Low	About Right	Somewhat High	Too High -5
Level 4/Level 3	8	3.00	0.00%	12.50%	75.00%	12.50%	0.00%
Level 3/Level 2	8	3.00	0.00%	25.00%	50.00%	25.00%	0.00%
Level 2/Level 1	8	3.63	0.00%	0.00%	37.50%	62.50%	0.00%

What materials, information, or procedures were most influential in your placement of the cut scores? Why?

Discussion with peers sharing the "why" of their thoughts and reasons with their student population.
Item maps has been helpful. OIBs are helpful with the rubric
Please indicate which items on the map (gray page) are worth more than one point
My understanding of the differences between the achievement levels proved most influential. I guess the martials and instructions and discussions aided my understanding.

ELA Procedural Evaluation Results
Grade 6

Please rate the usefulness of each of the following:	N	Mean	% SD	% D	% A	% SA
I understood how to make the cut score judgments.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understood how to use the materials provided.	8	3.88	0.00%	0.00%	12.50%	87.50%
I understood how to record my judgments.	8	3.88	0.00%	0.00%	12.50%	87.50%
I think the procedures make sense.	8	3.38	0.00%	25.00%	12.50%	62.50%
I am sufficiently familiar with the assessment.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understand the differences between the achievement levels.	8	3.25	0.00%	0.00%	75.00%	25.00%

Please rate the influence of the following when setting standards.	N	Mean	Not at all Influential-1	2	3	4	Extremely Influential -5
The achievement level descriptors.	8	4.13	0.00%	0.00%	12.50%	62.50%	25.00%
The borderline achievement level details.	8	4.13	0.00%	0.00%	12.50%	62.50%	25.00%
My expectations of students.	8	3.88	0.00%	12.50%	12.50%	50.00%	25.00%
The difficulty of the test materials.	8	4.00	0.00%	0.00%	12.50%	75.00%	12.50%
My experience in the field.	8	3.88	0.00%	12.50%	0.00%	75.00%	12.50%
Discussions with other participants.	8	4.25	0.00%	0.00%	0.00%	75.00%	25.00%
Cut scores of other participants.	8	3.50	0.00%	12.50%	25.00%	62.50%	0.00%
Impact data.	8	3.38	12.50%	12.50%	0.00%	75.00%	0.00%

Do you believe the final recommended cut score for each of the achievement levels is too low, about right, or too high?	N	Mean	Too Low - 1	Somewhat Low	About Right	Somewhat High	Too High -5
Level 4/Level 3	8	2.88	0.00%	12.50%	87.50%	0.00%	0.00%
Level 3/Level 2	7	3.00	0.00%	14.29%	71.43%	14.29%	0.00%
Level 2/Level 1	7	2.86	0.00%	14.29%	85.71%	0.00%	0.00%

What materials, information, or procedures were most influential in your placement of the cut scores? Why?

I would like some conversation of cuts between 2-3. I see what I need to expect of my students. Should be ok 6th grade?

Discussions

AIDs and cut scores; borderline posters plus my notes

Before making first round cuts not everyone was contributing to the conversation so it gave the temperature of the room so that we could move our discussion along

Notes made on questions and discussions. Because peer input is important and process with thinking is good to bounce off of.

ELA Procedural Evaluation Results
Grade 7

Please rate the usefulness of each of the following:	N	Mean	% SD	% D	% A	% SA
I understood how to make the cut score judgments.	8	3.13	0.00%	0.00%	87.50%	12.50%
I understood how to use the materials provided.	8	3.25	0.00%	0.00%	75.00%	25.00%
I understood how to record my judgments.	8	3.38	0.00%	0.00%	62.50%	37.50%
I think the procedures make sense.	8	3.13	0.00%	0.00%	87.50%	12.50%
I am sufficiently familiar with the assessment.	8	3.25	0.00%	0.00%	75.00%	25.00%
I understand the differences between the achievement levels.	8	3.13	0.00%	0.00%	87.50%	12.50%

Please rate the influence of the following when setting standards.	N	Mean	Not at all Influential-1	2	3	4	Extremely Influential -5
The achievement level descriptors.	8	4.00	0.00%	0.00%	25.00%	50.00%	25.00%
The borderline achievement level details.	8	4.25	0.00%	0.00%	25.00%	25.00%	50.00%
My expectations of students.	7	3.71	0.00%	0.00%	42.86%	42.86%	14.29%
The difficulty of the test materials.	8	4.25	0.00%	0.00%	12.50%	50.00%	37.50%
My experience in the field.	8	4.13	0.00%	0.00%	12.50%	62.50%	25.00%
Discussions with other participants.	8	4.50	0.00%	0.00%	0.00%	50.00%	50.00%
Cut scores of other participants.	8	3.63	0.00%	0.00%	50.00%	37.50%	12.50%
Impact data.	8	3.63	0.00%	0.00%	37.50%	62.50%	0.00%

Do you believe the final recommended cut score for each of the achievement levels is too low, about right, or too high?	N	Mean	Too Low - 1	Somewhat Low	About Right	Somewhat High	Too High -5
Level 4/Level 3	8	3.38	0.00%	0.00%	75.00%	12.50%	12.50%
Level 3/Level 2	8	3.25	0.00%	0.00%	87.50%	0.00%	12.50%
Level 2/Level 1	8	3.25	0.00%	0.00%	87.50%	0.00%	12.50%

What materials, information, or procedures were most influential in your placement of the cut scores? Why?

Group discussions
borderline achievement details; discussion with other participants
the difficulty of the passages and my own experience. Had to get out of my own head!!
Discussion among the group; grade level borderline achievement descriptors.

ELA Procedural Evaluation Results
Grade 8

Please rate the usefulness of each of the following:	N	Mean	% SD	% D	% A	% SA
I understood how to make the cut score judgments.	7	3.29	0.00%	0.00%	71.43%	28.57%
I understood how to use the materials provided.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understood how to record my judgments.	7	3.43	0.00%	0.00%	57.14%	42.86%
I think the procedures make sense.	7	3.29	0.00%	0.00%	71.43%	28.57%
I am sufficiently familiar with the assessment.	7	3.29	0.00%	0.00%	71.43%	28.57%
I understand the differences between the achievement levels.	7	3.29	0.00%	0.00%	71.43%	28.57%

Please rate the influence of the following when setting standards.	N	Mean	Not at all Influential-1	2	3	4	Extremely Influential -5
The achievement level descriptors.	7	4.14	0.00%	0.00%	14.29%	57.14%	28.57%
The borderline achievement level details.	7	4.14	0.00%	0.00%	14.29%	57.14%	28.57%
My expectations of students.	7	3.86	0.00%	0.00%	42.86%	28.57%	28.57%
The difficulty of the test materials.	7	4.57	0.00%	0.00%	0.00%	42.86%	57.14%
My experience in the field.	7	4.29	0.00%	0.00%	0.00%	71.43%	28.57%
Discussions with other participants.	7	4.71	0.00%	0.00%	0.00%	28.57%	71.43%
Cut scores of other participants.	7	4.00	0.00%	0.00%	0.00%	100.00%	0.00%
Impact data.	7	3.71	0.00%	0.00%	28.57%	71.43%	0.00%

Do you believe the final recommended cut score for each of the achievement levels is too low, about right, or too high?	N	Mean	Too Low - 1	Somewhat Low	About Right	Somewhat High	Too High -5
Level 4/Level 3	5	3.00	0.00%	0.00%	100.00%	0.00%	0.00%
Level 3/Level 2	5	3.00	0.00%	0.00%	100.00%	0.00%	0.00%
Level 2/Level 1	5	3.00	0.00%	0.00%	100.00%	0.00%	0.00%

What materials, information, or procedures were most influential in your placement of the cut scores? Why?

Conversation with peers was important

Previous days' experience with the process! :)

Difficulty of test materials and discussions with other participants

Math Training Evaluation
Results
Grade 3/4

	N	Mean	% SD	% D	% A	% SA
I understand the goals of the standard setting meeting.	8	3.75	0.00%	0.00%	25.00%	75.00%
I understand the procedures we are using to set standards.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understand how to use the standard setting materials.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understand the differences between the achievement levels.	8	3.38	0.00%	0.00%	62.50%	37.50%
I understand how to make the cut score judgment.	8	3.38	0.00%	0.00%	62.50%	37.50%
I am confident in my conceptualization of better than 50% of the borderline students answering questions correctly.	8	2.94	0.00%	25.00%	37.50%	25.00%
I know what tasks to expect for the remainder of the meeting.	8	3.88	0.00%	0.00%	12.50%	87.50%
I am confident in my understanding of the standard setting task.	8	3.25	0.00%	0.00%	75.00%	25.00%

	N	Yes	No
I am ready to proceed with the standard setting process.	8	100.00%	0.00%

Please indicate any areas in which you would like more information before you continue.

Are the ALD's 9for proficient/meets) at the 50% level or something we should expect 100% of proficient.meets students should know?

Math Training Evaluation
Results
Grade 5/6

	N	Mean	% SD	% D	% A	% SA
I understand the goals of the standard setting meeting.	8	3.75	0.00%	0.00%	25.00%	75.00%
I understand the procedures we are using to set standards.	8	3.75	0.00%	0.00%	25.00%	75.00%
I understand how to use the standard setting materials.	8	3.50	0.00%	0.00%	50.00%	50.00%
I understand the differences between the achievement levels.	8	3.50	0.00%	0.00%	50.00%	50.00%
I understand how to make the cut score judgment.	8	3.38	0.00%	0.00%	62.50%	37.50%
I am confident in my conceptualization of better than 50% of the borderline students answering questions correctly.	8	3.38	0.00%	0.00%	62.50%	37.50%
I know what tasks to expect for the remainder of the meeting.	8	3.50	0.00%	0.00%	50.00%	50.00%
I am confident in my understanding of the standard setting task.	8	3.50	0.00%	0.00%	50.00%	50.00%

	N	Yes	No
I am ready to proceed with the standard setting process.	8	100.00%	0.00%

Please indicate any areas in which you would like more information before you continue.

I think I just need practice

I am ready ! :)

What are our samples?

Please indicate any questions you may have about the remainder of the standard setting meeting.

None so far

3 rounds?

The process has been somewhat confusing. I'm sure some of that is that our intended faciliatator is not here. I feel that some of our task directions changed throughout the individual tasks. However, the process and my understanding have evolved and come together now that we have completed the training.

Math Training Evaluation
Results
Grade 7/8

	N	Mean	% SD	% D	% A	% SA
I understand the goals of the standard setting meeting.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understand the procedures we are using to set standards.	7	3.43	0.00%	0.00%	57.14%	42.86%
I understand how to use the standard setting materials.	7	3.29	0.00%	0.00%	71.43%	28.57%
I understand the differences between the achievement levels.	7	3.57	0.00%	0.00%	42.86%	57.14%
I understand how to make the cut score judgment.	7	3.57	0.00%	0.00%	42.86%	57.14%
I am confident in my conceptualization of better than 50% of the borderline students answering questions correctly.	7	3.57	0.00%	0.00%	42.86%	57.14%
I know what tasks to expect for the remainder of the meeting.	7	3.43	0.00%	0.00%	57.14%	42.86%
I am confident in my understanding of the standard setting task.	7	3.43	0.00%	0.00%	57.14%	42.86%

	N	Yes	No
I am ready to proceed with the standard setting process.	7	100.00%	0.00%

ELA Training Evaluation
Results
Grade 3/4

	N	Mean	% SD	% D	% A	% SA
I understand the goals of the standard setting meeting.	8	3.50	0.00%	0.00%	50.00%	50.00%
I understand the procedures we are using to set standards.	8	3.50	0.00%	0.00%	50.00%	50.00%
I understand how to use the standard setting materials.	8	3.25	0.00%	0.00%	75.00%	25.00%
I understand the differences between the achievement levels.	7	3.29	0.00%	0.00%	71.43%	28.57%
I understand how to make the cut score judgment.	8	3.25	0.00%	0.00%	75.00%	25.00%
I am confident in my conceptualization of better than 50% of the borderline students answering questions correctly.	8	3.00	0.00%	12.50%	75.00%	12.50%
I know what tasks to expect for the remainder of the meeting.	8	3.25	0.00%	0.00%	75.00%	25.00%
I am confident in my understanding of the standard setting task.	8	3.25	0.00%	0.00%	75.00%	25.00%

	N	Yes	No
I am ready to proceed with the standard setting process.	8	100.00%	0.00%

ELA Training Evaluation
Results
Grade 5/6

	N	Mean	% SD	% D	% A	% SA
I understand the goals of the standard setting meeting.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understand the procedures we are using to set standards.	8	3.63	0.00%	0.00%	37.50%	62.50%
I understand how to use the standard setting materials.	8	3.75	0.00%	0.00%	25.00%	75.00%
I understand the differences between the achievement levels.	8	3.50	0.00%	0.00%	50.00%	50.00%
I understand how to make the cut score judgment.	8	3.38	0.00%	0.00%	62.50%	37.50%
I am confident in my conceptualization of better than 50% of the borderline students answering questions correctly.	8	3.25	0.00%	0.00%	75.00%	25.00%
I know what tasks to expect for the remainder of the meeting.	8	3.75	0.00%	0.00%	25.00%	75.00%
I am confident in my understanding of the standard setting task.	8	3.50	0.00%	0.00%	50.00%	50.00%

	N	Yes	No
I am ready to proceed with the standard setting process.	8	100.00%	0.00%

Please indicate any areas in which you would like more information before you continue.

Perhaps information is less the need then practice/application and discussion to extend the information I have. The training experiences are excellent. I find I am learning and the criteria are clarifying.

Please indicate any questions you may have about the remainder of the standard setting meeting.

Doing the work helps clarify. I had a challenge getting going on the gray sheet.

ELA Training Evaluation
Results
Grade 7/8

	N	Mean	% SD	% D	% A	% SA
I understand the goals of the standard setting meeting.	8	3.38	0.00%	0.00%	62.50%	37.50%
I understand the procedures we are using to set standards.	8	3.50	0.00%	0.00%	50.00%	50.00%
I understand how to use the standard setting materials.	8	3.50	0.00%	0.00%	50.00%	50.00%
I understand the differences between the achievement levels.	8	3.25	0.00%	0.00%	75.00%	25.00%
I understand how to make the cut score judgment.	8	3.13	0.00%	0.00%	87.50%	12.50%
I am confident in my conceptualization of better than 50% of the borderline students answering questions correctly.	8	3.00	0.00%	0.00%	100.00%	0.00%
I know what tasks to expect for the remainder of the meeting.	8	3.38	0.00%	0.00%	62.50%	37.50%
I am confident in my understanding of the standard setting task.	8	3.13	0.00%	0.00%	87.50%	12.50%

	N	Yes	No
I am ready to proceed with the standard setting process.	8	100.00%	0.00%

Please indicate any areas in which you would like more information before you continue.

Review of practice items with others. Discussion
Margie helped with CR cut-score question.

Math Pre-Articulation
Do you believe the final recommended cut score for each of the performance levels is too low, about right, or too high?

Summary		3	4	5	6	7	8
Level 4/Level 3	Too High	0	0	0	0	0	33
	Somewhat High	0	0	0	0	0	44
	About Right	100	63	67	78	89	22
	Somewhat Low	0	25	22	22	11	0
	Too Low	0	13	11	0	0	0
Level 3/Level 2	Too High	11	13	0	11	0	11
	Somewhat High	44	13	0	22	0	0
	About Right	44	75	0	56	44	89
	Somewhat Low	0	0	78	11	44	0
	Too Low	0	0	22	0	11	0
Level 2/Level 1	Too High	0	13	0	0	0	0
	Somewhat High	0	50	0	44	0	0
	About Right	44	38	0	56	44	56
	Somewhat Low	33	0	67	0	44	44
	Too Low	22	0	33	0	11	0

Math Post-Articulation
Do you believe the final recommended cut score for each of the performance levels is too low, about right, or too high?

Summary		3	4	5	6	7	8
Level 4/Level 3	Too High	0	0	0	0	0	11
	Somewhat High	0	0	0	0	0	33
	About Right	89	89	89	89	100	22
	Somewhat Low	0	11	11	11	0	33
	Too Low	11	0	0	0	0	0
Level 3/Level 2	Too High	0	0	0	0	0	0
	Somewhat High	11	0	0	0	0	0
	About Right	89	89	22	89	100	100
	Somewhat Low	0	11	67	11	0	0
	Too Low	0	0	11	0	0	0
Level 2/Level 1	Too High	0	0	0	0	0	0
	Somewhat High	0	0	22	0	0	0
	About Right	100	100	78	100	100	100
	Somewhat Low	0	0	0	0	0	0
	Too Low	0	0	0	0	0	0

ELA/Literacy Pre-Articulation
Do you believe the final recommended cut score for each of the performance levels is too low, about right, or too high?

Summary		3	4	5	6	7	8
Level 4/Level 3	Too High	0	0	0	0	0	11
	Somewhat High	78	22	33	11	22	0
	About Right	22	67	11	78	67	89
	Somewhat Low	0	11	44	11	11	0
	Too Low	0	0	11	0	0	0
Level 3/Level 2	Too High	11	11	0	11	0	0
	Somewhat High	11	11	44	78	33	56
	About Right	78	67	22	0	44	33
	Somewhat Low	0	0	33	11	22	11
	Too Low	0	11	0	0	0	0
Level 2/Level 1	Too High	0	0	0	0	0	0
	Somewhat High	0	44	0	0	0	0
	About Right	0	56	11	89	22	89
	Somewhat Low	67	0	56	11	67	11
	Too Low	33	0	33	0	11	0

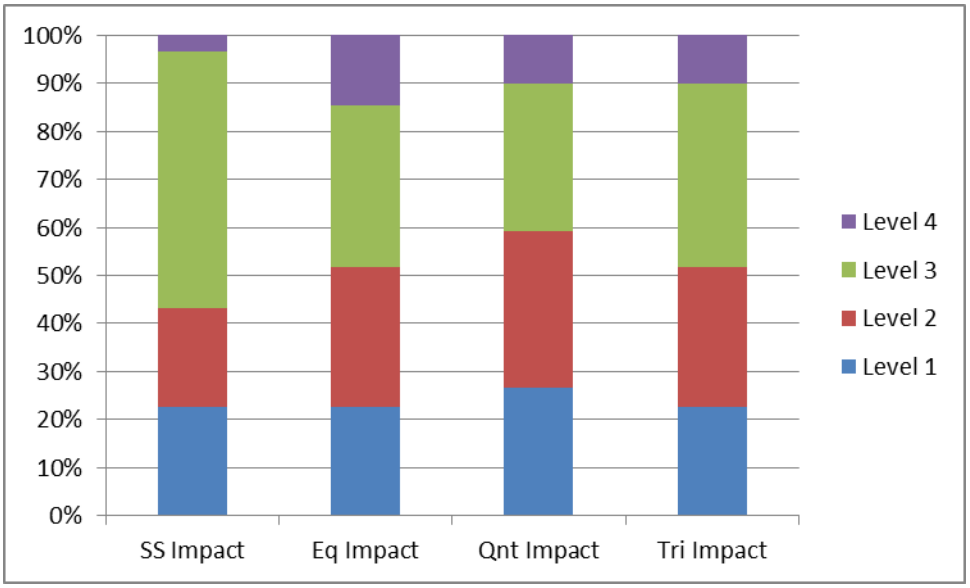
ELA/Literacy Post-Articulation
Do you believe the final recommended cut score for each of the performance levels is too low, about right, or too high?

Summary		3	4	5	6	7	8
Level 4/Level 3	Too High	0	0	0	0	0	0
	Somewhat High	33	0	0	0	0	0
	About Right	56	89	100	89	100	89
	Somewhat Low	11	11	0	11	0	11
	Too Low	0	0	0	0	0	0
Level 3/Level 2	Too High	0	0	0	0	0	0
	Somewhat High	11	44	0	67	0	44
	About Right	89	56	67	33	89	56
	Somewhat Low	0	0	33	0	11	0
	Too Low	0	0	0	0	0	0
Level 2/Level 1	Too High	0	0	0	0	0	0
	Somewhat High	0	0	0	11	0	11
	About Right	67	100	78	89	89	89
	Somewhat Low	33	0	22	0	11	0
	Too Low	0	0	0	0	0	0

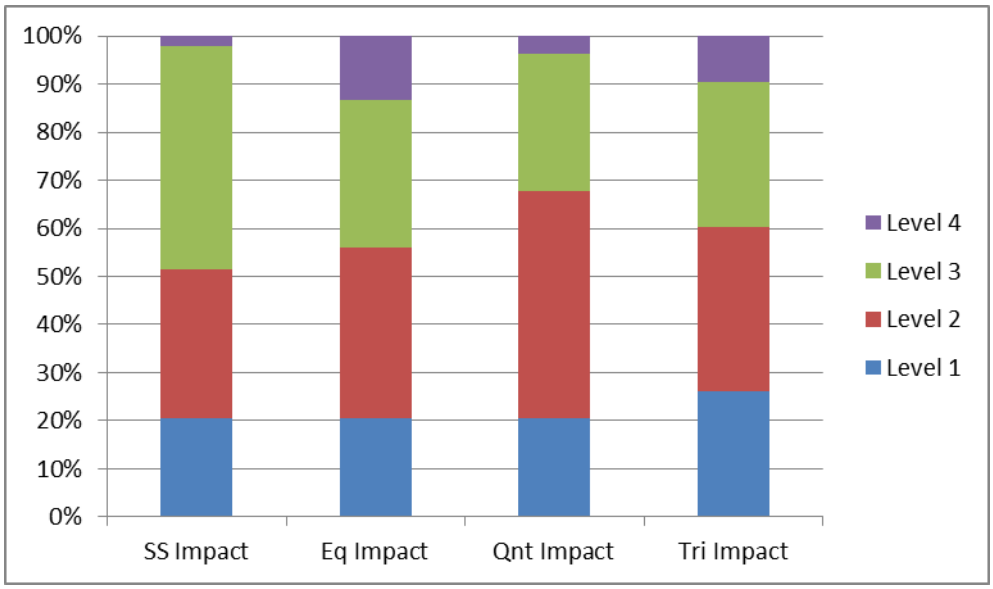
APPENDIX K—Results of Estimating Three Methods of Cut Scores

Teacher Standard Setting/Equipercentile/Quantile/Triangulation Impact Mathematics

Grade 3 Math

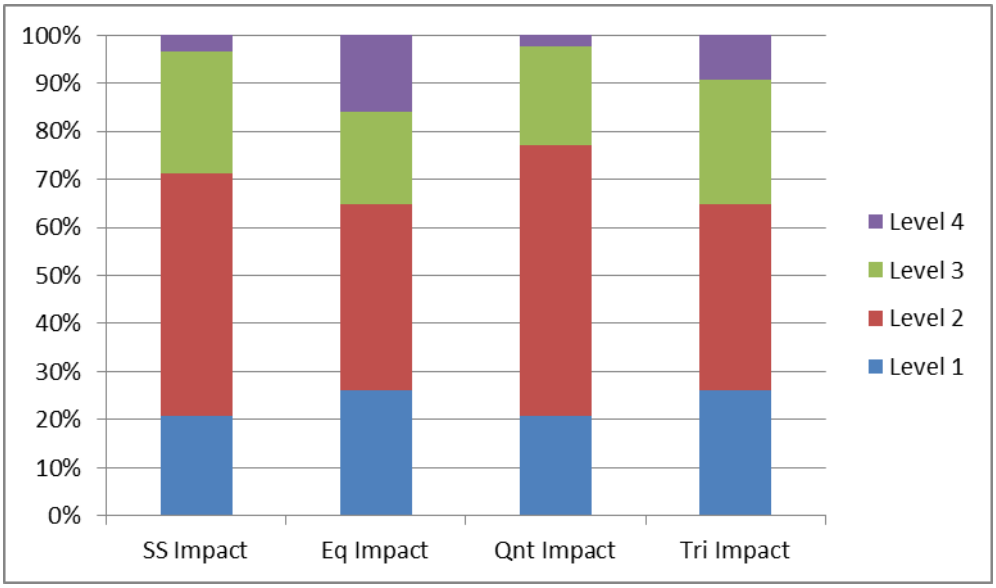


Grade 4 Math

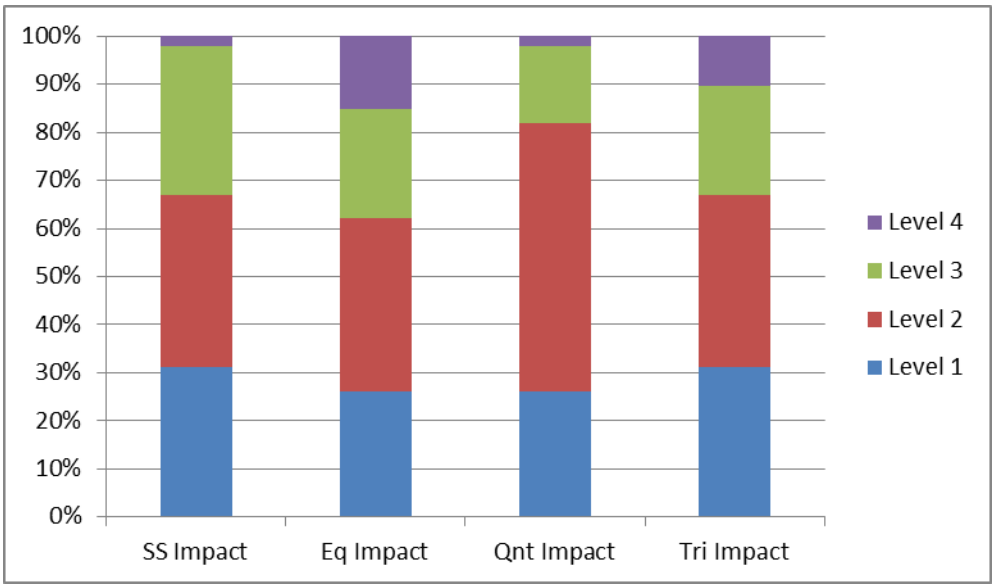


Teacher Standard Setting/Equipercentile/Quantile/Triangulation Impact Mathematics

Grade 5 Math

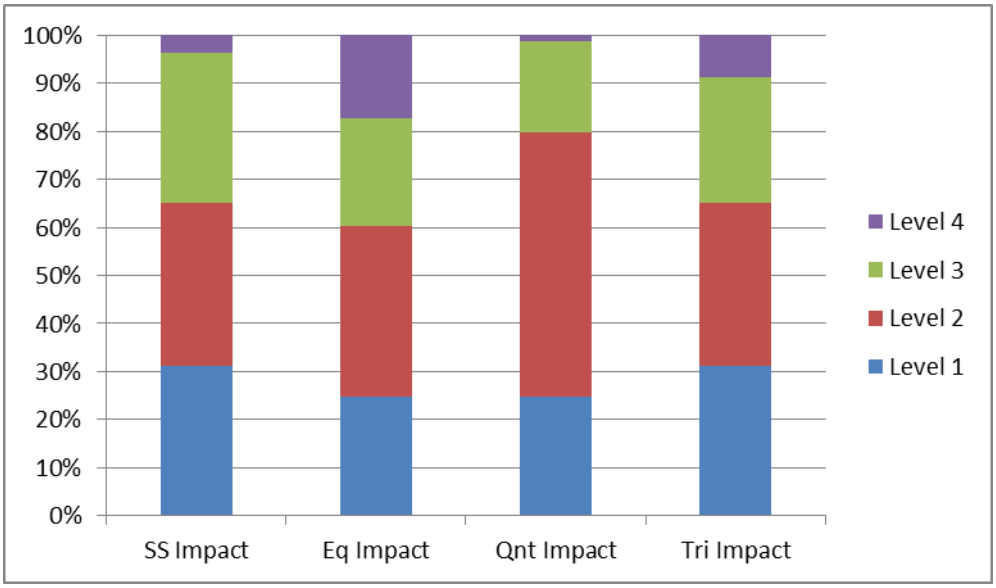


Grade 6 Math

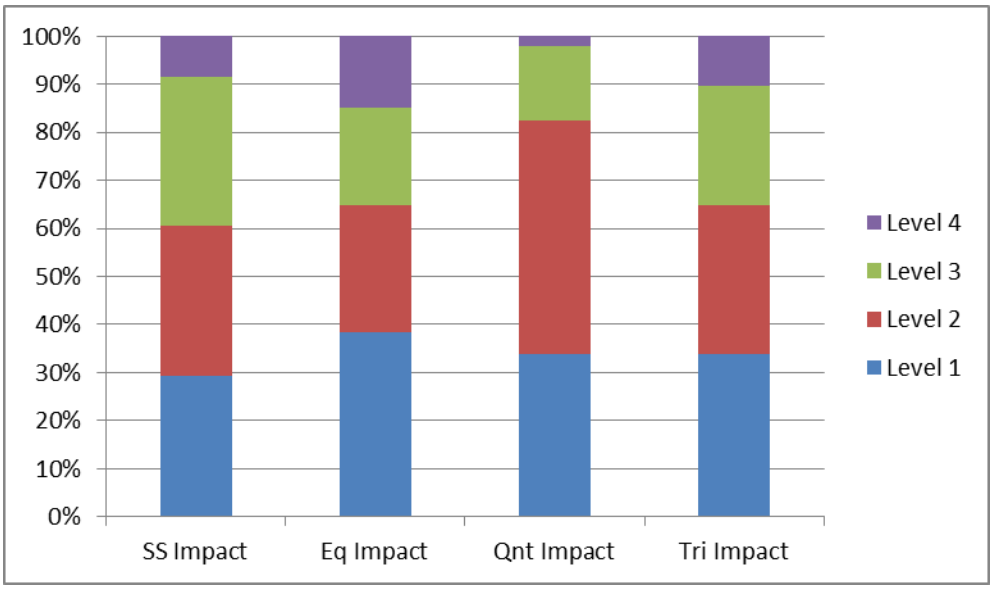


Teacher Standard Setting/Equipercentile/Quantile/Triangulation Impact Mathematics

Grade 7 Math

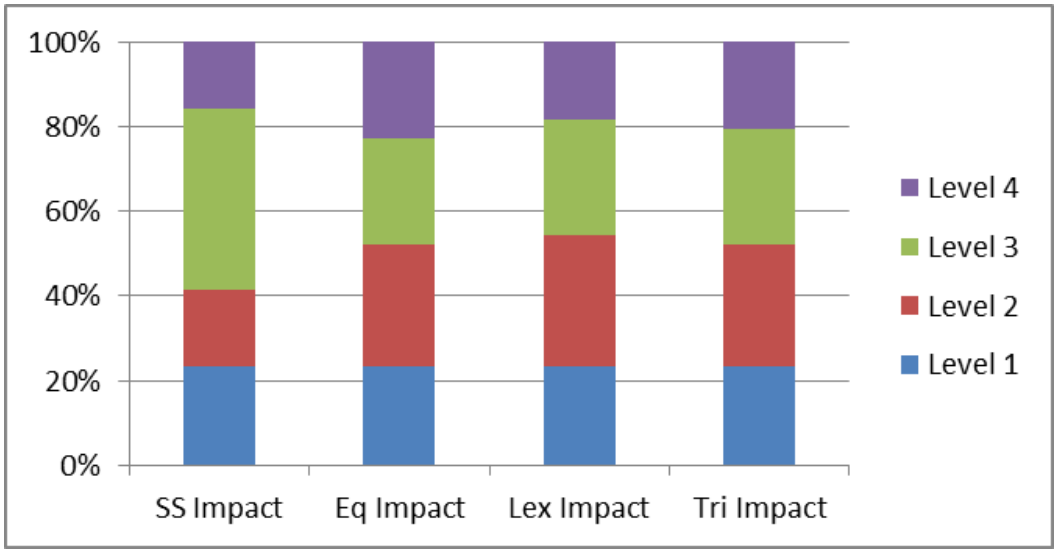


Grade 8 Math

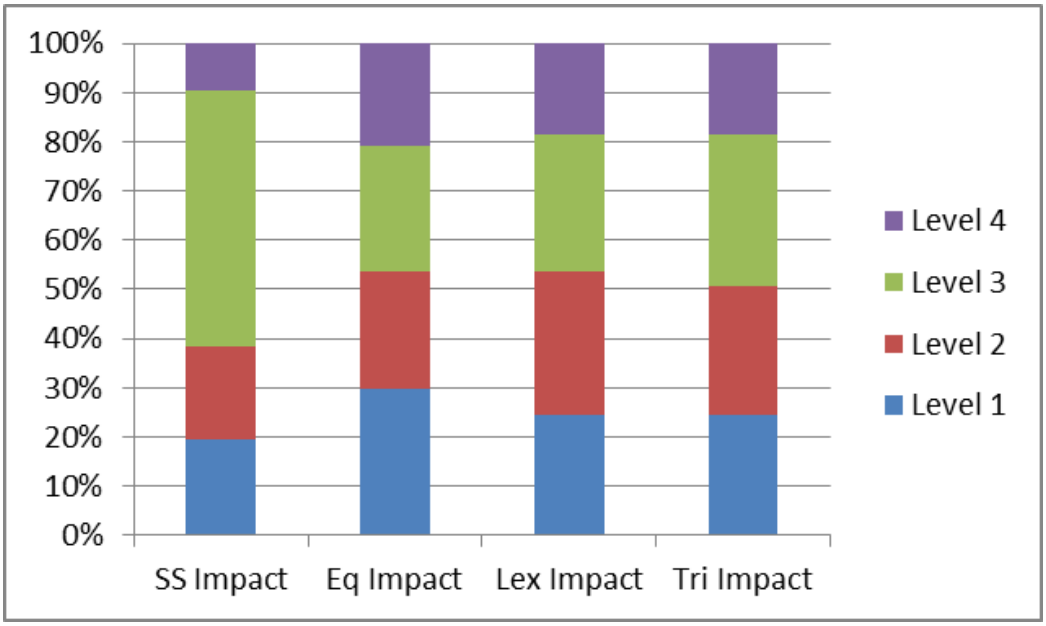


Teacher Standard Setting/Equipercentile/Lexile/Triangulation Impact ELA/Literacy

Grade 3 ELA/Literacy

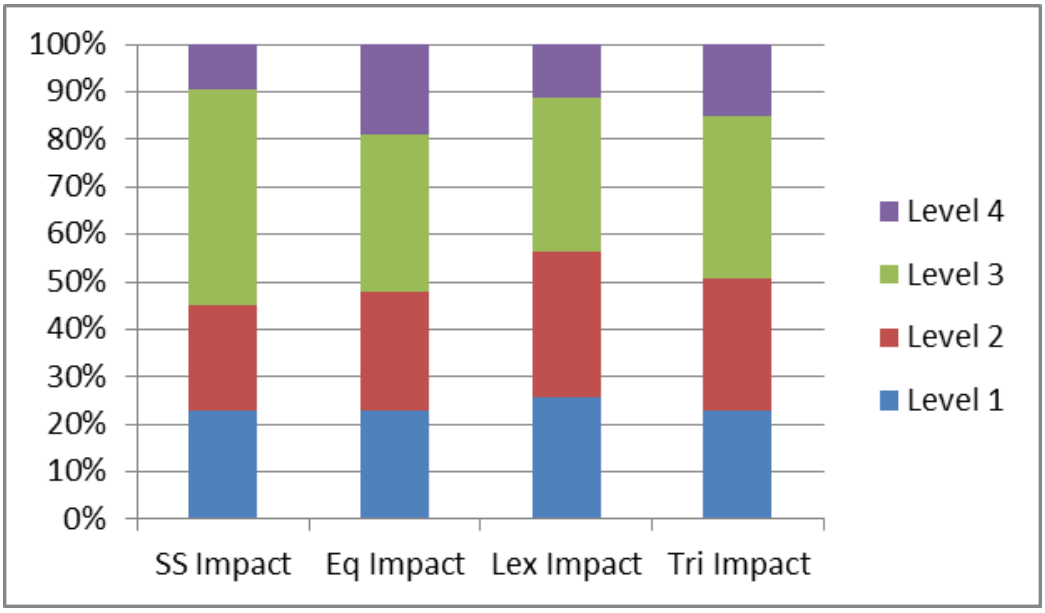


Grade 4 ELA/Literacy

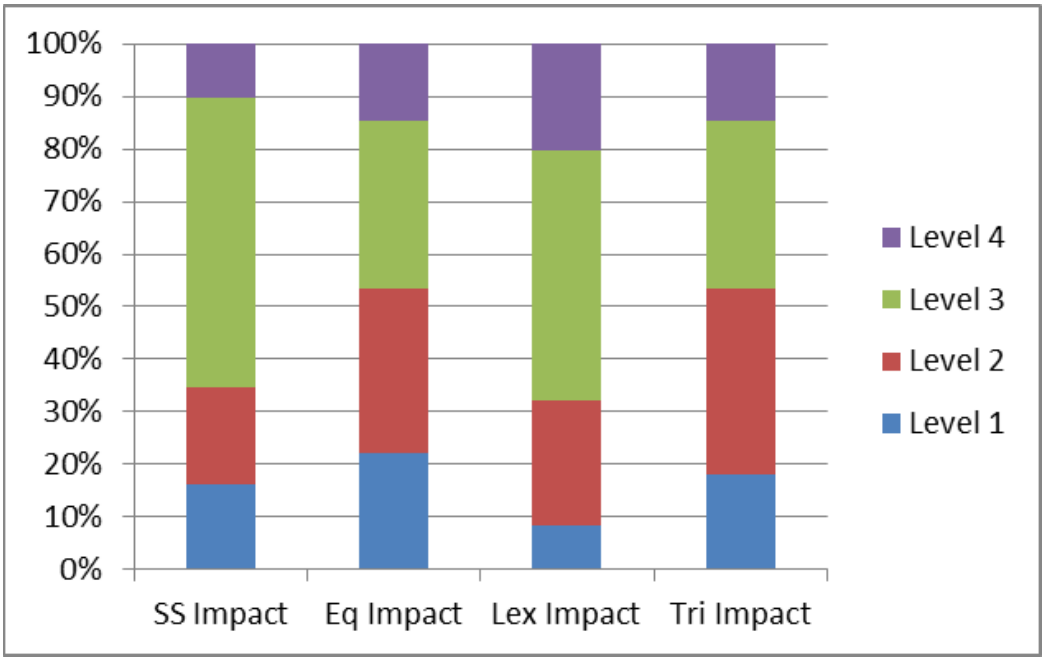


Teacher Standard Setting/Equipercentile/Lexile/Triangulation Impact ELA/Literacy

Grade 5 ELA/Literacy

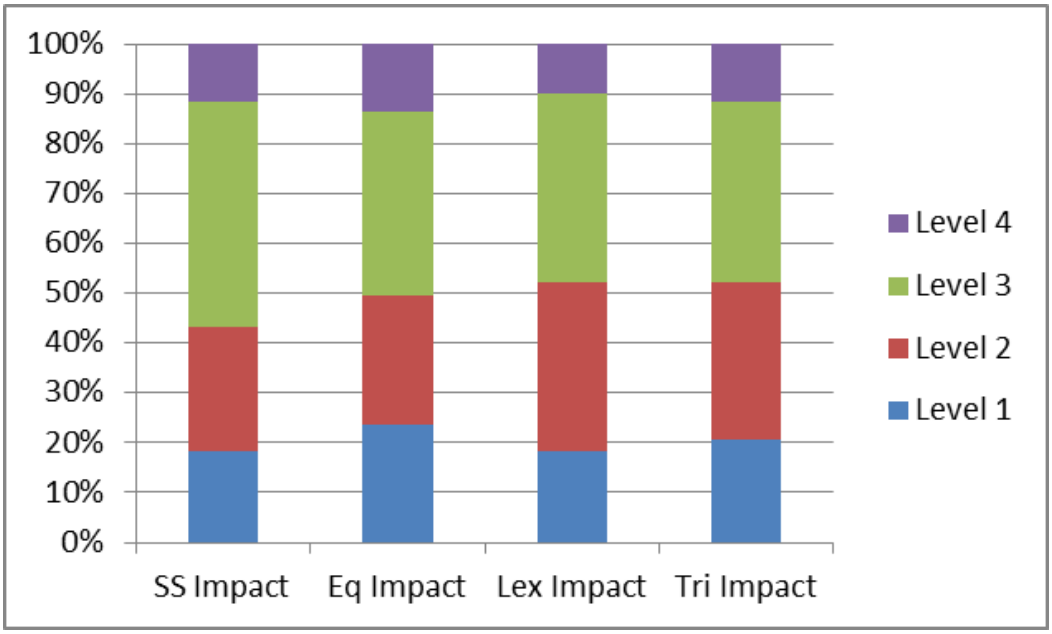


Grade 6 ELA/Literacy

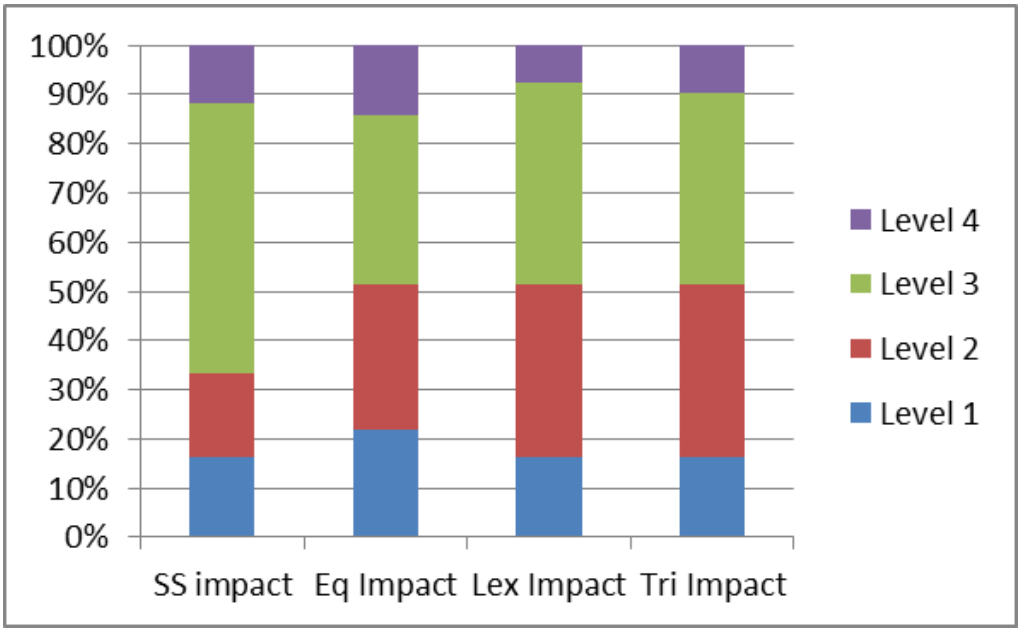


Teacher Standard Setting/Equipercentile/Lexile/Triangulation Impact ELA/Literacy

Grade 7 ELA/Literacy

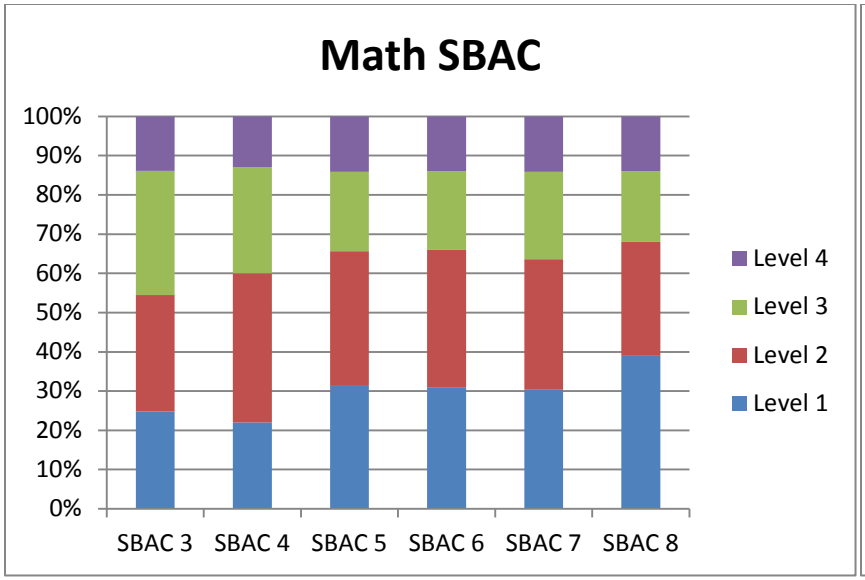


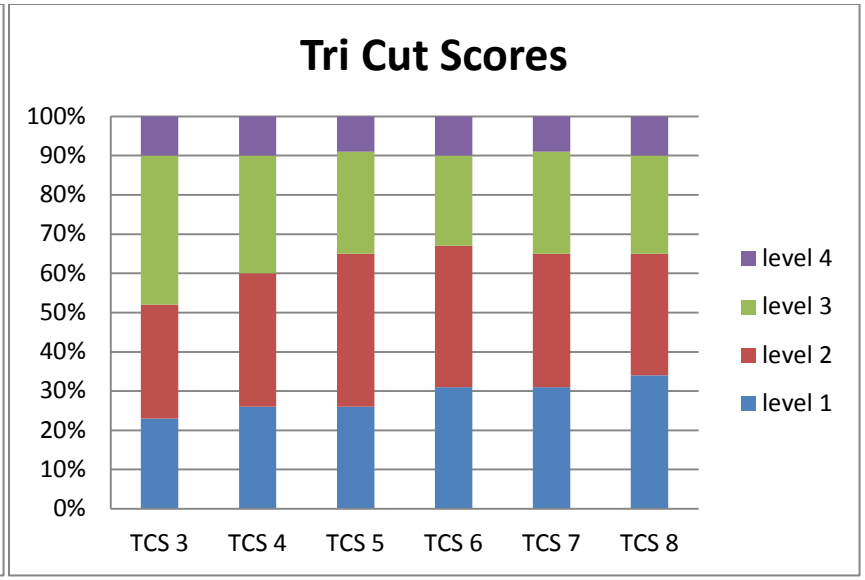
Grade 8 ELA/Literacy



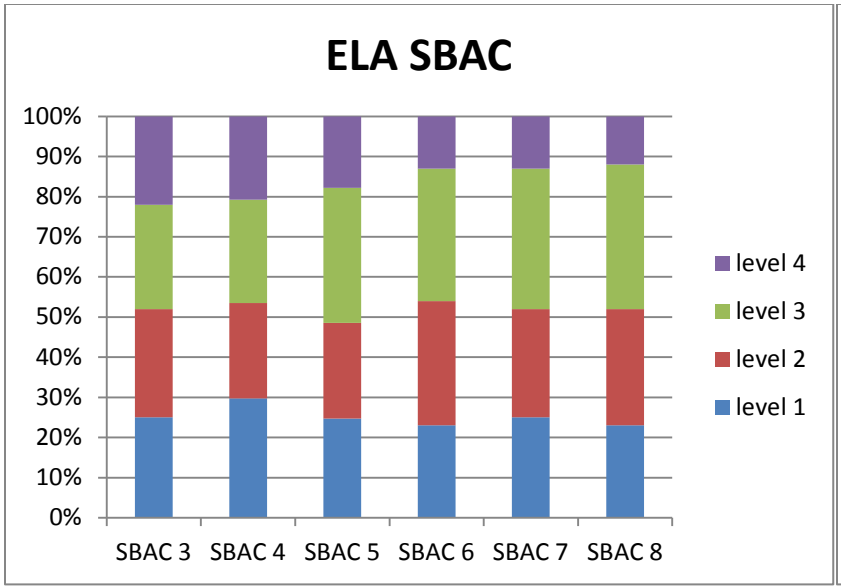
APPENDIX L—Triangulated Cut Scores

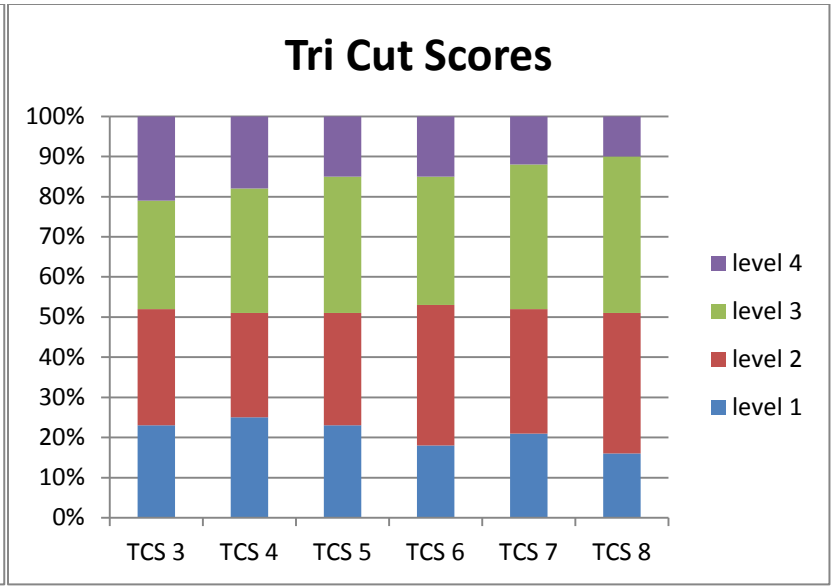
2014-15 SBAC Achievement Levels Compared to 2015-16 eMPower Mathematics





2014-15 SBAC Achievement Levels Compared to 2015-16 eMPower ELA/Literacy





APPENDIX M—APROVED CUTS

Table M-1. 2016 eMPowerME ELA/Literacy and Mathematics Standard Setting: Final Cuts—ELA

Grade	Achievement Levels	Median Theta Cut	Percent of Students
3	Level 1		23.7
	Level 2	-0.788	28.4
	Level 3	0.071	27.4
	Level 4	0.850	20.4
4	Level 1		24.7
	Level 2	-0.747	22.9
	Level 3	-0.015	31.7
	Level 4	0.906	20.6
5	Level 1		23.0
	Level 2	-0.784	25.2
	Level 3	-0.025	34.9
	Level 4	1.048	16.9
6	Level 1		16.6
	Level 2	-0.995	37.1
	Level 3	0.100	31.6
	Level 4	1.115	14.7
7	Level 1		18.6
	Level 2	-0.910	34.1
	Level 3	0.085	33.9
	Level 4	1.183	13.5
8	Level 1		15.2
	Level 2	-1.026	36.5
	Level 3	0.057	36.6
	Level 4	1.273	11.8

Table M-2. 2016 eMPowerME ELA/Literacy and Mathematics Standard Setting: Final Cuts—Mathematics

Grade	Achievement Levels	Median Theta Cut	Percent of Students
3	Level 1		22.6
	Level 2	-0.764	29.0
	Level 3	0.103	38.3
	Level 4	1.329	10.1
4	Level 1		20.5
	Level 2	-0.782	39.7
	Level 3	0.248	28.4
	Level 4	1.276	11.4
5	Level 1		20.8
	Level 2	-0.777	43.9
	Level 3	0.416	25.9
	Level 4	1.345	9.4
6	Level 1		31.2
	Level 2	-0.580	35.7
	Level 3	0.416	22.8
	Level 4	1.226	10.3
7	Level 1		31.1
	Level 2	-0.628	29.1
	Level 3	0.332	31.1
	Level 4	1.353	8.7
8	Level 1		33.8
	Level 2	-0.405	31.0
	Level 3	0.406	24.8
	Level 4	1.218	10.3