

**West Virginia Alternate**  
Performance Task Assessment

**APTA Standard Setting**  
**March 2006**

**Technical Report**

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# Table of Contents

## **Section A**

---

Executive Summary .....	7
-------------------------	---

## **Section B**

---

Overview of APTA Standard Setting .....	13
Modified Contrasting Groups Study.....	13
Profile Sorting.....	17
Synthesis Discussion.....	25

## **Section C**

---

Articulating Performance Standards.....	37
---	----

## **Section D**

---

Participant Agenda.....	49
-------------------------	----

## **Section E**

---

Workshop Training Materials .....	53
-----------------------------------	----

## **Section F**

---

Performance Level Descriptions.....	83
-------------------------------------	----

## **Section G**

---

Detailed Results from Profile Sorting.....	99
--	----

## **Section H**

---

Participant-recommended Revisions to Performance Level Descriptions .	171
---	-----



**Section A**

**Executive Summary**



## **West Virginia Alternate Performance Task Assessment (APTA) Standard Setting**

### **Executive Summary**

In March 2006, staff members from the West Virginia Department of Education (WVDE) and CTB/McGraw-Hill worked in collaboration to perform standard setting on the West Virginia Alternate Performance Task Assessment (APTA) tests in Reading and Mathematics. The purpose of the standard setting was to identify cut scores on the Pilot tests to divide students into four performance levels: *Novice*, *Partial Mastery*, *Mastery*, and *Above Mastery*.

The standard setting was divided into three phases. In the first phase, West Virginia special educators who participated in the APTA Pilot were invited to participate in a modified Contrasting Groups study, where they rated their students into one of the four performance levels.

In the second phase of the standard setting, a committee of special educators from across the state of West Virginia was convened to engage in a profile sorting workshop. During the workshop, held March 24–26, 2006, participants examined actual and simulated scored response profiles and classified them into performance levels.

In the third phase of the standard setting, a sample of participants from the profile sorting workshop came together to synthesize the results from both the modified Contrasting Groups study and the profile sorting workshop. This group identified trends in the data and recommended changes in the cut scores to promote grade-to-grade articulation.

Following the standard setting, WVDE made adjustments to the cut scores to account for the standard error of measurement. The final cut scores adopted for the APTA program are shown in Table 1. The impact data associated with these cut scores – the percentage of students classified in each performance level – are shown in Table 2. The ranges of student scores associated with each performance level, expressed in terms of raw score, are shown in Table 3. The ranges of student scores associated with each performance level, expressed in terms of percent-correct, are shown in Table 4.

This report presents the results from the standard setting for APTA Reading and Mathematics. Section B gives a synopsis of each phase of the standard setting process. A description of methods sometimes used to adjust cut scores, as well as their application to participant-recommended cut scores, is shown in Section C. Section D shows the agenda given to participants during the profile sorting workshop. Section E shows the training materials shown to participants during the profile sorting workshop. Section F shows the performance level descriptions provided to participants during the modified Contrasting Groups study and the profile sorting workshop. Section G shows detailed results from participants' ratings during the profile sorting workshop. Finally, participant-recommended revisions to the performance level descriptions are shown in Section H.

**Table 1. Final cut scores for the APTA program in Reading and Mathematics.**

Content Area	Grade	Cut Scores		
		Partial Mastery	Mastery	Above Mastery
Reading	3	3	50	72
	4	15	49	59
	5	21	43	52
	6	18	47	57
	7	9	53	80
	8	13	43	57
	10	24	47	63
Math	3	2	63	92
	4	4	63	95
	5	25	59	96
	6	9	46	70
	7	12	54	72
	8	18	54	87
	10	18	51	70

**Table 2. Impact data associated with the final cut scores in the APTA program.**

Content Area	Grade	Impact Data				Mastery & Above
		Novice	Partial Mastery	Mastery	Above Mastery	
Reading	3	6.8%	23.7%	20.3%	49.2%	69.5%
	4	6.2%	23.4%	22.2%	48.2%	70.4%
	5	6.5%	24.7%	19.5%	49.3%	68.8%
	6	6.1%	24.4%	17.1%	52.4%	69.5%
	7	6.6%	23.1%	20.9%	49.4%	70.3%
	8	7.1%	23.6%	20.0%	49.4%	69.4%
	10	6.3%	26.3%	20.0%	47.5%	67.5%
Math	3	1.4%	24.3%	27.0%	47.3%	74.4%
	4	3.1%	26.2%	30.8%	39.9%	70.7%
	5	3.4%	29.3%	32.7%	34.6%	67.3%
	6	4.8%	30.6%	33.8%	30.7%	64.6%
	7	5.6%	30.0%	37.8%	26.7%	64.5%
	8	6.0%	28.9%	36.1%	29.0%	65.1%
	10	4.8%	27.4%	32.1%	35.7%	67.9%

**Table 3. Score ranges associated with each APTA performance level, in terms of raw score.**

		<b>Score Ranges</b>			
<b>Content Area</b>	<b>Grade</b>	<b>Novice</b>	<b>Partial Mastery</b>	<b>Mastery</b>	<b>Above Mastery</b>
<b>Reading</b>	<b>3</b>	0 - 2	3 - 49	50 - 71	72 - 87
	<b>4</b>	0 - 14	15 - 48	49 - 58	59 - 72
	<b>5</b>	0 - 20	21 - 42	43 - 51	52 - 72
	<b>6</b>	0 - 17	18 - 46	47 - 56	57 - 72
	<b>7</b>	0 - 8	9 - 52	53 - 79	80 - 105
	<b>8</b>	0 - 12	13 - 42	43 - 56	57 - 75
	<b>10</b>	0 - 23	24 - 46	47 - 62	63 - 78
<b>Math</b>	<b>3</b>	0 - 1	2 - 62	63 - 91	92 - 117
	<b>4</b>	0 - 3	4 - 62	63 - 94	95 - 120
	<b>5</b>	0 - 24	25 - 58	59 - 95	96 - 123
	<b>6</b>	0 - 8	9 - 45	46 - 69	70 - 99
	<b>7</b>	0 - 11	12 - 53	54 - 71	72 - 96
	<b>8</b>	0 - 17	18 - 53	54 - 86	87 - 126
	<b>10</b>	0 - 17	18 - 50	51 - 69	70 - 102

**Table 4. Score ranges associated with each APTA performance level, in terms of percent-correct.**

		<b>Percent Correct Ranges</b>			
<b>Content Area</b>	<b>Grade</b>	<b>Novice</b>	<b>Partial Mastery</b>	<b>Mastery</b>	<b>Above Mastery</b>
<b>Reading</b>	<b>3</b>	0% - 2%	3% - 56%	57% - 82%	83% - 100%
	<b>4</b>	0% - 20%	21% - 67%	68% - 81%	82% - 100%
	<b>5</b>	0% - 28%	29% - 59%	60% - 71%	72% - 100%
	<b>6</b>	0% - 24%	25% - 64%	65% - 78%	79% - 100%
	<b>7</b>	0% - 8%	9% - 49%	50% - 75%	76% - 100%
	<b>8</b>	0% - 16%	17% - 56%	57% - 75%	76% - 100%
	<b>10</b>	0% - 30%	31% - 59%	60% - 80%	81% - 100%
<b>Math</b>	<b>3</b>	0% - 1%	2% - 53%	54% - 78%	79% - 100%
	<b>4</b>	0% - 2%	3% - 52%	53% - 78%	79% - 100%
	<b>5</b>	0% - 19%	20% - 47%	48% - 77%	78% - 100%
	<b>6</b>	0% - 8%	9% - 45%	46% - 70%	71% - 100%
	<b>7</b>	0% - 12%	13% - 55%	56% - 74%	75% - 100%
	<b>8</b>	0% - 13%	14% - 42%	43% - 68%	69% - 100%
	<b>10</b>	0% - 17%	18% - 49%	50% - 68%	69% - 100%



**Section B**

**Standard Setting Synopsis**



## West Virginia Alternate Performance Task Assessment (APTA) Standard Setting

### Synopsis

In March 2006, staff members from the West Virginia Department of Education (WVDE) and CTB/McGraw-Hill worked in collaboration on the standard setting for the West Virginia Alternate Performance Task Assessment (APTA) tests in Reading and Mathematics. The purpose of the standard setting was to identify cut scores on the Pilot tests to divide students into four performance levels: *Novice*, *Partial Mastery*, *Mastery*, and *Above Mastery*.

The standard setting was divided into three phases.

- 1. Modified Contrasting Groups.** A Contrasting Groups (Livingston & Zieky, 1982) was performed, using a modified analysis technique. Teacher-participants from the Pilot were asked to rate their students into the four performance levels via an online survey.
- 2. Profile Sorting.** On March 24–26, 2006, a profile sorting study was conducted, using real and simulated student score vectors (student profiles). Standard setting participants rated these student profiles into performance levels.
- 3. Synthesis Discussion.** The Table Leaders from the profile sorting workshop convened to examine the results from the modified Contrasting Groups and profile sorting activities. The group recommended adjustments to the percentage of students classified in each performance level.

This multi-phase standard setting method was developed for the APTA after consultation with WVDE and its technical advisory committee. The standard setting method involves many West Virginia educators who have experience with students receiving special education, and makes provisions for the small number of students who take the APTA at each level.

This section describes each of these three phases and includes information about the results from each phase.

### *Modified Contrasting Groups*

The first phase of the standard setting process for the West Virginia APTA Pilot was a modified Contrasting Groups study. The Contrasting Groups method (Livingston & Zieky, 1982) is one of the most-used methods in the group of student-centered standard setting methods.

*Participants.* All County Test Coordinators were contacted prior to the modified Contrasting Groups study. The County Test Coordinators were asked to provide information about the study to the teachers in their county who participated in the APTA Pilot. These teachers formed the standard setting committee for the modified Contrasting Groups study.

Most participants engaged in the modified Contrasting Groups study via a specialized website. Participants were able to read a description of the modified Contrasting Groups process on the website, as well as submit their standard setting ratings online.

Some participants were unable to or chose not to participate online. These participants were provided with hard copies of the modified Contrasting Groups instructions, performance level descriptions, and surveys. They submitted their standard setting ratings via fax. These ratings were transferred into the electronic system by hand.

*Performance level descriptions.* After reading background about the standard setting method, participants were given the opportunity to review performance level descriptions. These descriptions, written by WVDE prior to the standard setting, summarized the knowledge, skills, and abilities required of students in each grade and content area. Furthermore, the descriptions were subdivided by content standard: the descriptions described the knowledge, skills, and abilities of students in each performance level for each content standard.

The performance level descriptions provided to participants are shown in Section F. Participants were asked to study the performance level descriptions prior to making any ratings in the modified Contrasting Groups study.


*Rating students.* Participants were asked to list each of their students who took part in the APTA Pilot. Participants provided each student's name, birthdate, WVEIS identification number, and grade level.

Participants then considered which performance level best fit each student, as based on the performance level descriptions. Participants indicated each student's performance level on Reading, and then made a separate rating for Mathematics.

Figure 1 shows an example of the rating form. This particular rating form was used for participants who preferred to fax back their ratings. Similar rating forms were used for participants who participated online.

**Figure 1. Example of modified Contrasting Groups survey form.**

CONTRASTING GROUPS SURVEY  
Spring 2006 APTA Pilot



TEACHER'S LAST NAME: \_\_\_\_\_  
 SCHOOL NAME: \_\_\_\_\_  
 DISTRICT NAME: \_\_\_\_\_

As you rate each student, please use the  
 APTA Performance Level Descriptors as a guide.

---

**Student #1**

FIRST NAME: \_\_\_\_\_  
 LAST NAME: \_\_\_\_\_  
 Middle Initial: \_\_\_\_\_  
 GENDER:  Male  Female  
 BIRTH DATE: \_\_\_\_\_  
 GRADE LEVEL: \_\_\_\_\_  
 WVEIS #:

**Student #1 - Performance Level Ratings**

Check ONE rating for each content area:

READING:  Novice  
 Partial Mastery  
 Mastery  
 Above Mastery

MATH:  Novice  
 Partial Mastery  
 Mastery  
 Above Mastery

Table 1 shows the number of ratings which were made in the modified Contrasting Groups study, by grade and content area. Note that a single standard setting participant may have rated several students while participating in the study.

**Table 1. Number of ratings made in the modified Contrasting Groups study.**

Content Area	Grade						
	3	4	5	6	7	8	10
Reading	53	64	38	60	58	54	33
Mathematics	53	64	38	61	58	54	33

*Calculating cut scores.* The percentage of students classified in each performance level was first calculated for each grade and content area. For example, the percentage of students classified as *Novice* in Grade 3 Reading was calculated. The percentage of students in each performance level is known as *impact data*.

The method used to calculate the cut scores is the main modification to the Contrasting Groups procedure used for the West Virginia APTA program. Because such a small number of observations were expected per grade and content area – fewer than 100 students tested per grade in the Pilot – then conventional Contrasting Groups analyses were seen to have too little power. This method of cut score calculation was used to allow for fewer observations per grade.

The cut scores which most closely yielded these impact data were then found. These impact data are shown in Table 2. The cut scores from the modified Contrasting Groups workshops are shown in Table 3.

**Table 2. Impact data associated with the modified Contrasting Groups study.**

Content Area	Grade	Performance Level			
		Novice	Partial Mastery	Mastery	Above Mastery
Reading	3	41.5%	34.0%	20.8%	3.8%
	4	39.1%	25.0%	23.4%	12.5%
	5	57.9%	23.7%	15.8%	2.6%
	6	29.5%	36.1%	31.1%	1.6%
	7	43.1%	29.3%	22.4%	5.2%
	8	25.9%	44.4%	20.4%	9.3%
	10	42.4%	30.3%	27.3%	0.0%
Mathematics	3	35.8%	43.4%	18.9%	1.9%
	4	37.5%	31.3%	20.3%	10.9%
	5	60.5%	21.1%	15.8%	2.6%
	6	41.0%	32.8%	24.6%	1.6%
	7	43.1%	32.8%	22.4%	1.7%
	8	29.6%	50.0%	11.1%	9.3%
	10	36.4%	42.4%	21.2%	0.0%

**Table 3. Cut scores associated with the modified Contrasting Groups study.**

Content Area	Grade	Performance Level		
		Partial Mastery	Mastery	Above Mastery
Reading	3	65	80	84
	4	54	63	72
	5	56	63	72
	6	46	63	73
	7	66	93	105
	8	38	63	69
	10	53	72	79
Mathematics	3	81	105	118
	4	75	98	114
	5	89	105	120
	6	50	74	97
	7	60	72	87
	8	49	96	102
	10	57	82	100

### *Profile Sorting*

On March 24–26, 2006, the profile sorting workshop was held in Roanoke, West Virginia, for the APTA Pilot. Special educators from across the state of West Virginia were convened to participate in the workshop.

The profile sorting method used at the workshop was adapted from the Judgmental Policy Capturing method (Jaeger, 1995). In the method, participants examine scored response vectors (student profiles) and holistically rate them into performance levels.

*Participants.* Fifty-seven West Virginia educators participated in the profile sorting workshop. The groups were split evenly into tables, each table working on a different grade and content area. Table 4 shows the number of participants working at each table. Participants were invited by and divided into tables by WVDE.

**Table 4. Number of participants in each grade and content area.**

<b>Content Area</b>	<b>Grade Level</b>	<b>Number of Participants</b>
<b>Reading</b>	<b>3</b>	4
	<b>4</b>	4
	<b>5</b>	4
	<b>6</b>	4
	<b>7</b>	4
	<b>8</b>	4
	<b>10</b>	4
<b>Mathematics</b>	<b>3</b>	4
	<b>4</b>	4
	<b>5</b>	4
	<b>6</b>	5
	<b>7</b>	4
	<b>8</b>	4
	<b>10</b>	4

Prior to the workshop, WVDE compiled information regarding participants' educational backgrounds, professions, and years of service. This information is presented in Tables 5, 6, and 7.

**Table 5. Educational background of profile sorting participants.**

Content Area	Grade	N	Educational Level		
			Bachelor's	Master's	Doctorate
Reading	3	3	33%	67%	0%
	4	4	0%	100%	0%
	5	4	50%	50%	0%
	6	4	0%	100%	0%
	7	4	25%	75%	0%
	8	4	25%	75%	0%
	10	4	0%	75%	25%
Mathematics	3	4	25%	75%	0%
	4	4	25%	75%	0%
	5	4	0%	100%	0%
	6	4	25%	75%	0%
	7	4	25%	75%	0%
	8	4	0%	100%	0%
	10	4	25%	75%	0%

**Table 6. Profession of profile sorting participants.**

Content Area	Grade	N	Profession		
			Classroom Teacher	Education, Non-Teacher	Non-Education Professional
Reading	3	3	100%	0%	0%
	4	4	75%	25%	0%
	5	4	100%	0%	0%
	6	4	75%	25%	0%
	7	4	100%	0%	0%
	8	4	100%	0%	0%
	10	4	75%	25%	0%
Mathematics	3	4	75%	25%	0%
	4	4	75%	25%	0%
	5	3	100%	0%	0%
	6	5	80%	20%	0%
	7	4	75%	25%	0%
	8	4	75%	25%	0%
	10	4	75%	25%	0%

**Table 7. Years of service of profile sorting participants.**

Content Area	Grade	N	Years of Service			
			0 – 10	11 – 15	16 – 20	21+
Reading	3	3	33%	0%	67%	0%
	4	4	50%	0%	0%	50%
	5	4	50%	0%	25%	25%
	6	4	25%	25%	0%	50%
	7	4	0%	0%	25%	75%
	8	4	25%	0%	25%	50%
	10	4	0%	25%	0%	75%
Mathematics	3	4	0%	0%	25%	75%
	4	3	33%	33%	33%	0%
	5	3	0%	0%	33%	67%
	6	4	50%	0%	0%	50%
	7	4	0%	25%	0%	75%
	8	4	25%	25%	25%	25%
	10	4	0%	0%	25%	75%

*Table Leaders.* Participants in each grade and content area were led by a Table Leader, whose primary role was to monitor the group discourse. This included keeping the group focused on the tasks, facilitating discussions, and helping maintain the schedule. Table Leaders were selected by WVDE prior to the workshops and were full, voting members of their workshop committees. The numbers of participants shown in Table 4 include the Table Leaders.

*CTB Staff.* The CTB Standard Setting Team worked with staff from WVDE to design, organize, and conduct the West Virginia APTA Standard Setting. Ricardo Mercado, CTB Standard Setting Specialist, is the CTB Research Project Manager for the West Virginia APTA Standard Setting. Mr. Mercado facilitated the profile sorting and synthesis workshops for CTB. Mr. Mercado was also responsible for training participants on the process used for the profile sorting workshop.

Karen Barton, Ph.D., CTB Research Scientist, is the CTB Research Project Manager for the West Virginia APTA program. Dr. Barton assisted with facilitation of the standard setting. Kimberly Block is the CTB Program Manager for the West Virginia contract.

Karla Egan, Ph.D., CTB Research Manager; Michaela Gelin, Ph.D., CTB Research Scientist; and Adele Brandstrom, CTB Standard Setting Specialist, assisted in the creation of the materials presented at the workshop. Dorothy Tele'a, CTB Research Associate, assisted in data analysis following the workshop.

CTB staff were present to help facilitate the workshop. CTB staff members were non-voting members of the workshop staff.

*Schedule.* Table 8 shows the schedule for the West Virginia APTA Pilot standard setting. Note that Day “0” was devoted to Table Leader training: only Table Leaders attended that session.

**Table 8. Schedule of events for the APTA Profile Sorting Workshop and Synthesis Discussion.**

Day	Time	Activity
Day “0”	AM	<i>No activities.</i>
	PM	Table Leader Training
Day 1	AM	Participant orientation, review of performance level descriptors
	PM	Study of the test, profile sorting
Day 2	AM	Profile sorting
	PM	Synthesis discussion

*Table Leader training.* On the day before the profile sorting workshop, the Table Leaders were convened to engage in a training session on the profile sorting method.

Brenda West, Assistant Director of the Office of Student Assessment Services, opened the session for WVDE. The Department began the session by describing APTA and how it differed from the previous statewide alternate assessment. WVDE then discussed how the test would be used to measure the knowledge, skills, and abilities held by students with the most severe and profound cognitive disabilities. WVDE concluded the opening remarks with a discussion of how the recommendations made by the committee would be analyzed, reviewed, and possibly changed before they reached their final form.

Ricardo Mercado, CTB Standard Setting Specialist, then trained Table Leaders on the profile sorting method. Standard setting was first described in general terms, followed by explicit training on how participants would recommend cut scores for the APTA using the profile sorting method.

Throughout the Table Leader training, the Table Leaders were provided with sample materials, mirroring those actually to be used during the workshop. Descriptions of these materials follow:

- Test booklet. Participants were shown a sample test booklet, consisting of five questions from another assessment. These items were used only for training, to illustrate the profile sorting process.
- Scoring guide. The scoring guides detailed what must be demonstrated to achieve each score point.

- Item map. The item map provided information about the number of score points and the Extended Content Standard associated with each item. The item map provided space for participants to record the knowledge, skills, and abilities measured by each item.
- Student profiles. Scored response vectors (student profiles) were shown to participants. Examples of student profiles are shown in Figure 2. The rows at the top correspond to each item in the test booklet, followed by the number of score points possible for each item. For example, three score points are associated Item 5. Subsequent rows are identified by an ID number—in Figure 2, beginning with “T -” —and then show the score points earned by that student. For example, student “T - 001” earned 3 score points on Item 5.

**Figure 2. Example of student profiles used during the profile sorting workshop.**

SAMPLE Standard Setting Workshop Grade 4 Mathematics - Profiles						
Item & Part Score Points	1	2	3	4	5	Item & Part Score Points
	2	2	1	1	3	
Profile ID						Profile ID
T - 001	1	0	0	1	3	T - 001
T - 002	0	1	0	1	1	T - 002
T - 003	1	1	0	0	0	T - 003
T - 004	1	0	1	0	3	T - 004
T - 005	0	0	0	1	0	T - 005
T - 006	1	1	1	0	2	T - 006
T - 007	0	1	1	0	2	T - 007
T - 008	1	0	0	0	1	T - 008
T - 009	0	1	1	1	3	T - 009
T - 010	0	0	1	1	2	T - 010

*Student profiles.* The student profiles used in the standard setting were comprised of a combination of real and simulated data. Each student profile represented the scored responses of an actual or simulated student. A description of the simulation process follows.

To provide a realistic set of simulated profiles, real West Virginia item-response data from the APTA Pilot tests were used. Data for each grade and content area were simulated separately to represent data with the appropriate number of items, item score points, and the distributional properties of skewness and kurtosis.

For each grade and content area, a population covariance matrix was created from pre-specified factor loadings. The factor loadings from real data—as taken from the APTA Pilot administration—were used to reflect the range of item loadings found in each grade and content area. Next, continuous item response data for the simulated data were

generated. These normally distributed scores represent the (typically unobserved) latent scores from which responses are subsequently generated.

Lastly, the generated continuous data were divided into the appropriate number of score points. A check on the generated item-level characteristics revealed that the population data (i.e., all items for each grade and content area) showed skewness and kurtosis values close to the target levels.

*Participant orientation.* On the morning of the first full day of the APTA profile sorting workshop, WVDE began the session with a presentation similar to that given to Table Leaders on the previous day. The test, the reasons for standard setting, and the review process for the standard setting results were described to participants. Following this presentation, CTB oriented all participants to the profile sorting activity.

*Study of the test.* Participants were then divided into their pre-assigned grade and content area tables. Participants in the Reading groups worked in one large room, and participants in the Mathematics groups worked in another. At their tables, participants were given copies of the APTA Pilot. Participants worked in pairs to take the tests. As they studied the items, participants noted the knowledge, skills, and abilities measured by each item.

As described in the APTA *Technical Report* (CTB, 2006), each item was scored using a rubric that gave students credit both for correct answers and the level of independence with which they were able to answer the item. Participants studied the scoring guide for each item and explored the level of independence associated with each score point.

*Study of the performance level descriptions.* Participants then reviewed the APTA Extended Content Standards for their grade and content area, as well as the performance level descriptions. Participants were encouraged to discuss the performance level descriptions and to consider the differences between the performance levels. For example, participants were encouraged to consider the difference in test performance between students who were classified as *Novice* and as *Partial Mastery*.

*Profile sorting.* Participants were provided their first set of student profiles to rate. Each grade and content area was given 200 student profiles to rate throughout the workshop, divided into two versions of 100 profiles each. Two hundred profiles were recommended by Jaeger (1995) as being sufficient for the profile sorting process.

Participants were instructed to go through the first version of 100 profiles individually, focusing on one profile at a time. Participants were encouraged to consider the knowledge, skills, and abilities that were demonstrated by a student's score on each item. Participants were directed to rely on the performance level descriptions while making their ratings and not to compare one profile to another.

After each participant at the table rated all 100 profiles in the first version, the Table Leader led a discussion of the profiles for which there was disagreement at the table. The

participants were asked to share their rationales behind their ratings and to keep an open mind about their ratings. After this discussion, participants were free to keep their existing ratings or change one or more of them.

After participants completed discussion on the first version of the profiles, the table repeated the process with the next version of 100 profiles. Throughout the process, participants were instructed to keep in mind the knowledge, skills, and abilities demonstrated by students through their scores, and how these skills relate to the West Virginia APTA Extended Content Standards and performance level descriptions.

*Performance level description revision.* After groups completed their profile sorting, they were given an opportunity to recommend revisions to the performance level descriptions. Participants' recommendations are shown in Section H of this report.

*Participant evaluation.* Participants were asked to complete an evaluation of the profile sorting workshop to measure how satisfied they were with the process.

Due to an error in shipping, the evaluations completed by Reading participants were not received by CTB after the workshop. Those participants were contacted three weeks after the workshop to complete duplicate evaluations. The complete results of the participant evaluation can be found in an addendum to this report.

*Calculating cut scores for the profile sorting workshop.* After all participants completed their profile ratings, the impact data for each test was first estimated. The proportion of total observations within a grade and content area were then found.

For example, a grade and content area with four participants who each rated 200 profiles would have a total of 800 observations. The proportion of these observations that were rated as *Novice* was found, followed by the proportions for *Partial Mastery*, *Mastery*, and *Above Mastery*.

These proportions were then mapped onto the frequency distribution for the APTA Pilot. The cut scores that yielded the closest impact data to these proportions were found.

Table 9 shows the proportions of profiles classified into each performance level in the profile sorting workshop. The cut scores associated with these impact data are shown in Table 10.

**Table 9. Impact data associated with the profile sorting activity.**

Content Area	Grade	Performance Level			
		Novice	Partial Mastery	Mastery	Above Mastery
Reading	3	21.4%	47.0%	24.0%	7.6%
	4	4.5%	20.6%	36.8%	38.1%
	5	19.8%	63.6%	15.3%	1.4%
	6	4.0%	26.4%	37.4%	32.2%
	7	10.3%	40.3%	30.4%	19.0%
	8	12.1%	43.4%	27.5%	17.0%
	10	5.9%	36.7%	30.7%	26.8%
Mathematics	3	5.5%	26.4%	46.4%	21.7%
	4	7.6%	33.1%	44.5%	14.8%
	5	11.8%	45.4%	33.4%	9.5%
	6	7.6%	42.7%	39.3%	10.4%
	7	8.0%	34.4%	46.9%	10.8%
	8	9.3%	66.0%	21.4%	3.4%
	10	10.4%	38.1%	34.5%	17.0%

**Table 10. Cut scores associated with the profile sorting activity.**

Content Area	Grade	Performance Level		
		Partial Mastery	Mastery	Above Mastery
Reading	3	27	78	83
	4	9	45	63
	5	36	66	72
	6	17	47	65
	7	28	80	96
	8	24	59	65
	10	24	54	72
Mathematics	3	7	75	105
	4	20	78	111
	5	43	88	114
	6	18	60	86
	7	19	59	77
	8	29	93	107
	10	31	63	84

The method used to calculate cut scores for the profile sorting workshop is a modification from the method used by Jaeger (1995). In the Judgmental Policy Capturing method, weighting coefficients are calculated as based on participants' judgments, and students are classified into performance levels by forming a prediction function based on these weights. Due to the small number of students who take APTA, and in the interest of easily interpretable cut scores, this cut score calculation method was not used.

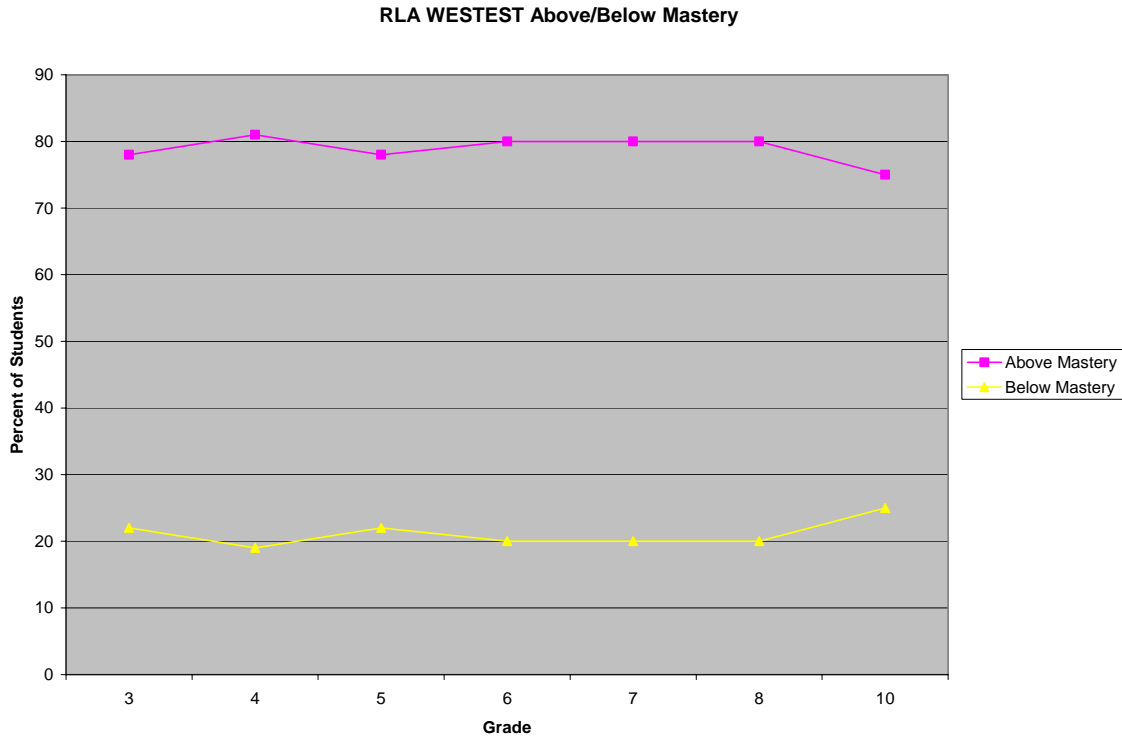
Instead, the same cut score calculation method as used in the modified Contrasting Groups study was used for the profile sorting activity. The results from both standard setting methods were presented to the Synthesis Discussion following the profile sorting workshop.

### *Synthesis Discussion*

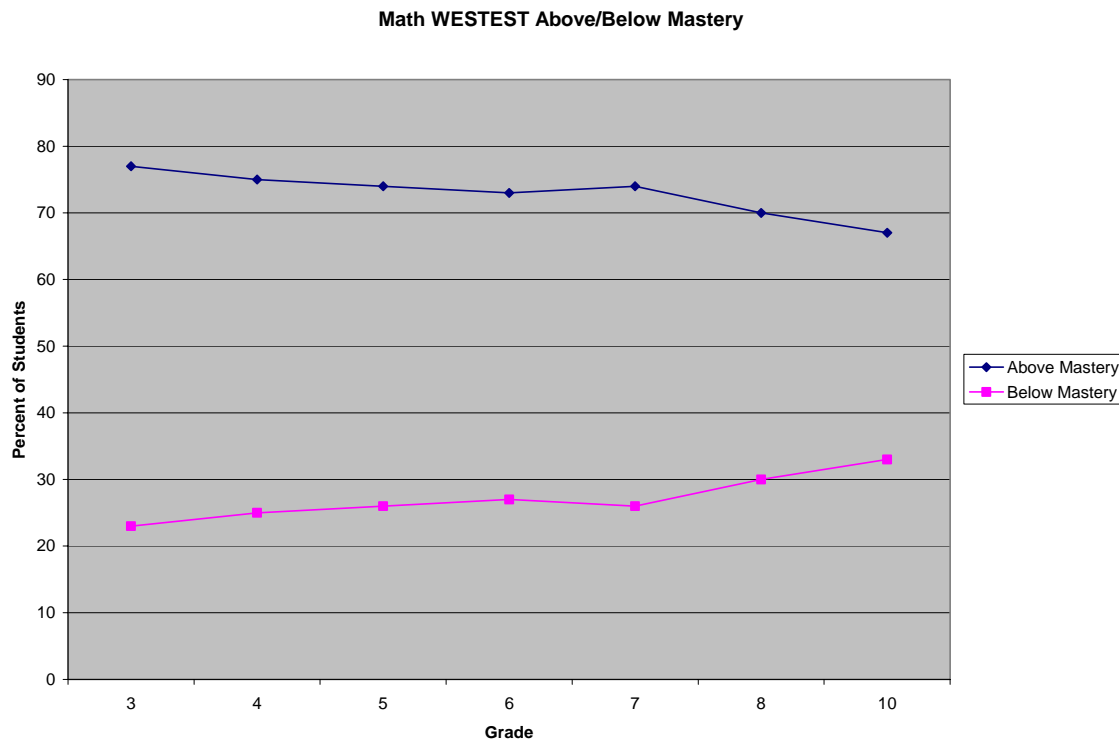
On the afternoon of March 26, 2006, the Table Leaders from the profile sorting workshop convened to examine the results from the modified Contrasting Groups study and the profile sorting workshop. This group was charged with resolving the two sets of results into a single recommendation.

*Examining WESTEST results.* The Synthesis Discussion participants were first shown impact data from the West Virginia Educational Standards Test (WESTEST). Specifically, participants were shown the percentage of students classified as *Mastery* and above on WESTEST Reading and Mathematics in each grade. The WESTEST impact data shown to participants for Reading and Mathematics are shown in Figures 3a and 3b.

**Figure 3a. Percent of students classified as *Mastery* and above on WESTEST Reading, as shown to Synthesis Discussion participants for comparison.**



**Figure 3b. Percent of students classified as *Mastery* and above on WESTEST Mathematics, as shown to Synthesis Discussion participants for comparison.**



Participants were reminded that the WESTEST is given to a different population of students. However, participants were also reminded that stakeholders may seek to draw parallels between the results for WESTEST and the results for APTA.

*Examining the modified Contrasting Groups results.* The Synthesis Discussion participants were then shown the results from the modified Contrasting Groups study. Some participants indicated that they also participated in the modified Contrasting Groups study, and others indicated that they had not. CTB described the modified Contrasting Groups process to all participants, and then showed the resultant cut scores and impact data, as shown in Tables 3 and 2, respectively.

Participants were directed to examine the trends in the impact data for the modified Contrasting Groups study. They saw that in the WESTEST impact data, the percentage of students classified as *Mastery* and above was roughly the same across grades, and that this trend was also present—albeit not as smooth—in the modified Contrasting Groups results. The group noted that this trend was reasonable: in their experience, about the same proportions of their students should be classified into each performance level in each grade.

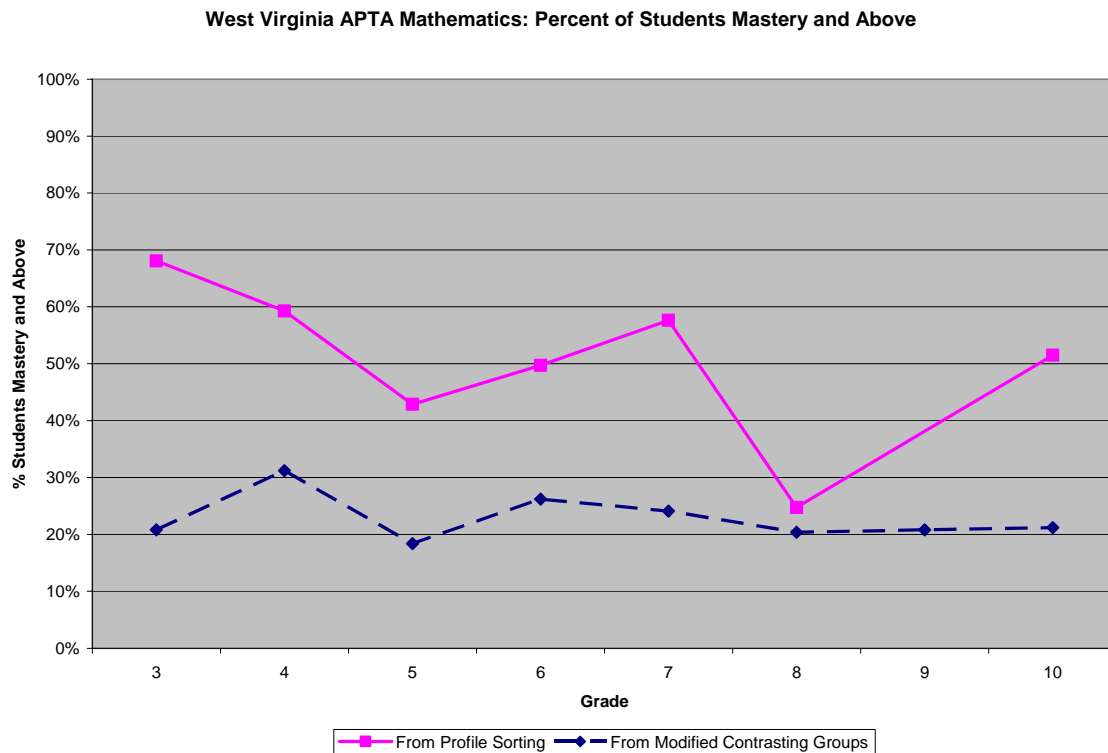
Participants also noted a slight declining trend in the WESTEST impact data: the percentage of students classified as *Mastery* and above on WESTEST declined as the grade level increased. Participants also noted that this trend was reasonable. They reported that the Mathematics standards are qualitatively more difficult in higher grades, such that fewer students would attain *Mastery* in the higher grades.

Participants indicated that the concept of “grade” was somewhat nebulous when referring to the population that takes APTA. They reported that students were placed into grade groups as a function of age and physical development, not necessarily skill. They did, however, note that the new Extended Content Standards would serve to focus instruction in each grade level in a manner theretofore unknown.

*Examining the profile sorting results.* Participants were then shown the cut scores and impact data associated with the profile sorting activity, as summarized in Tables 10 and 9, respectively. Participants focused on one content area at a time: first Mathematics, then Reading.

The group first focused on the presentation shown in Figure 4, the percentage of students classified as *Mastery* and above in each grade for Mathematics. In the figure, the results from the paper sorting are shown using a solid line, and a dashed line is used for the results from the modified Contrasting Groups study.

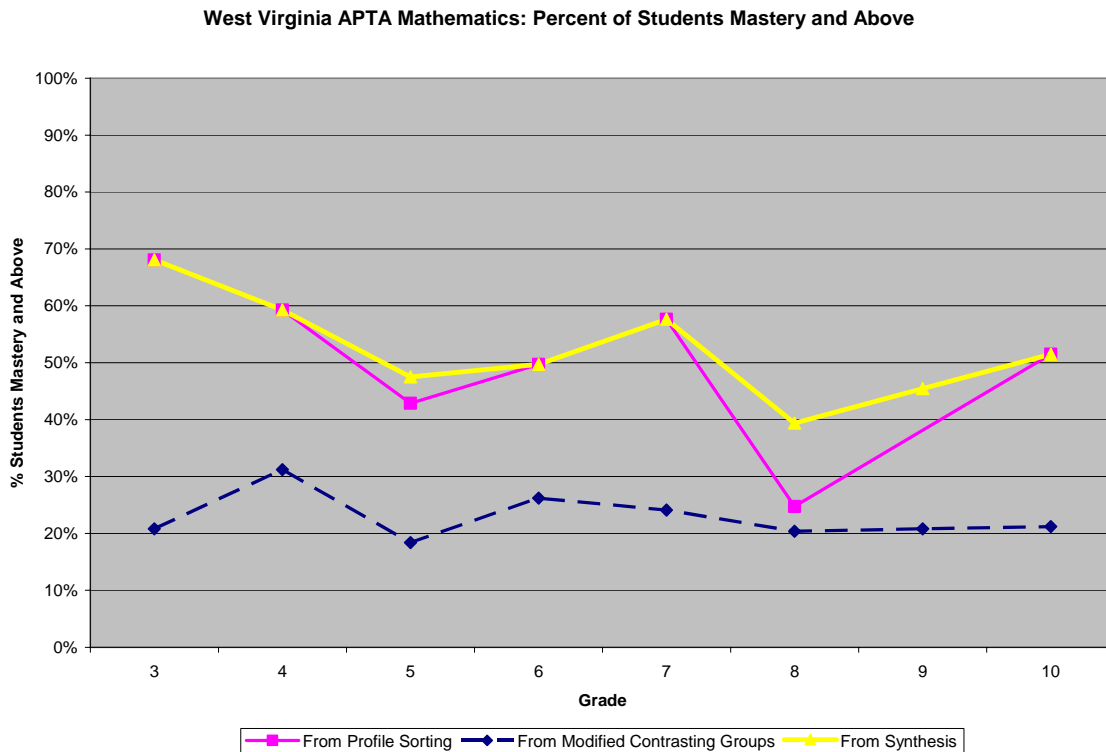
**Figure 4. Percentage of students classified as *Mastery* and above on the APTA Mathematics Pilot, by grade, for two standard setting methods.**



Participants observed a declining trend in the percentage of student classified as *Mastery* and above using the profile sorting results, similar to the results from the modified Contrasting Groups study. Additionally, participants indicated that the Extended Content Standards in Grades 5 and 8 are qualitatively harder than those in preceding grades, and this change in difficulty may account for some (but not all) the sudden change in the impact data in those grades.

The group indicated its desire to “flatten out” the impact data curve for *Mastery* and above, such that the percentage of students classified as such in each grade was more consistent. At the request of participants, a first-order line-of-best-fit was applied to the profile sorting results (as shown in Figure 4), and participants recommended changes to their own group’s impact data. No Synthesis Discussion participants recommended changes for a group other than their own. The results of the smoothing in the Synthesis Discussion are shown in Figure 5 using a bold line.

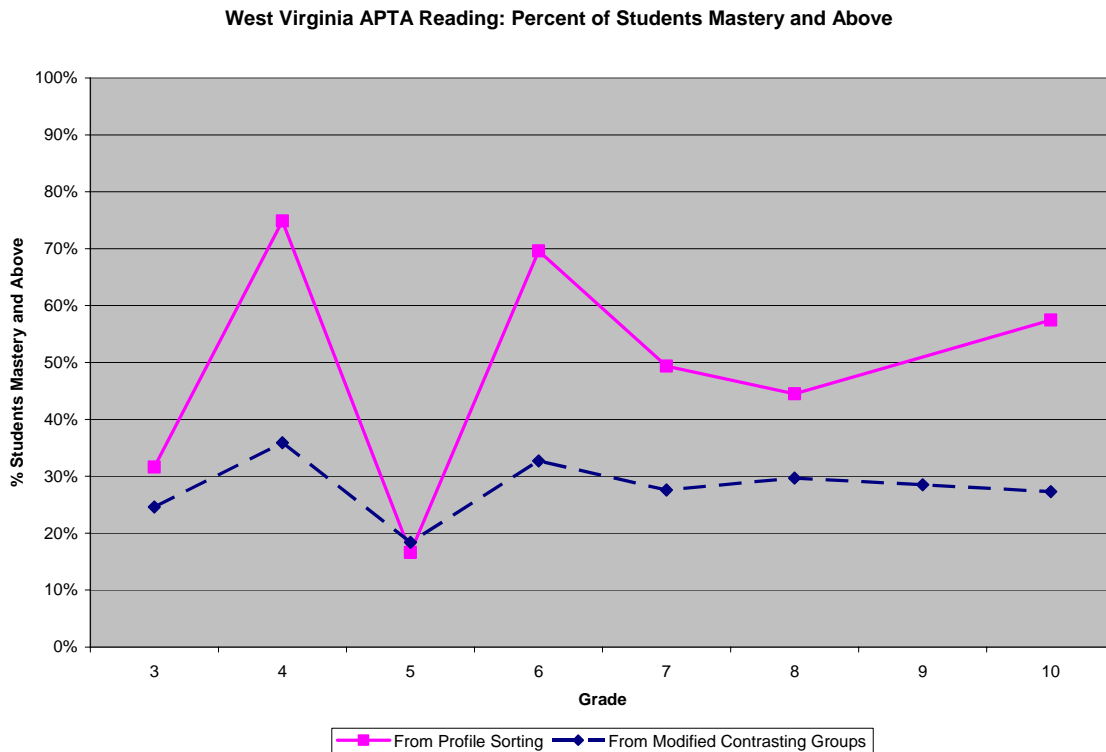
**Figure 5. Percentage of students classified as *Mastery* and above on the APTA Mathematics Pilot, by grade, for two standard setting methods and with recommendations from the Synthesis Discussion.**



Synthesis Discussion participants completed a similar discussion for the remaining two cut scores, *Partial Mastery* and *Above Mastery*. Participants made more modest modifications to the profile sorting results for those cut scores, ultimately yielding a single set of cut scores for Mathematics, shown later in this section..

The Synthesis Discussion participants then turned their attention to Reading. Participants were shown a display of the percentage of students classified as *Mastery* and above for all grades, similar to those displays made for Mathematics. Figure 6 shows the display of impact data for Reading. In the figure, the results of the profile sorting are shown using a solid line, and the results of the modified Contrasting Groups study are shown using a dashed line.

**Figure 6. Percentage of students classified as *Mastery* and above on the APTA Reading pilot, by grade, for two standard setting methods.**



Participants were, at first, struck by the lack of consistency in the judgments made by participants in Grades 3 through 6. The Reading participants noted that such discontinuity would be confusing in the system of APTA cut scores, and that such inconsistencies should be resolved.

Participants were directed to consider why the results for Grades 3 through 6 were dissimilar. Those participants from Grades 4 and 6 Reading—those groups with the least stringent performance standards—indicated that in their tables’ discussions, students who received partial physical assistance on items were assumed to possess the content knowledge measured by that item. That is, when participants in those grade levels encountered student profiles in which the student had received two score points out of three on certain items—the student made a correct response, but had received partial

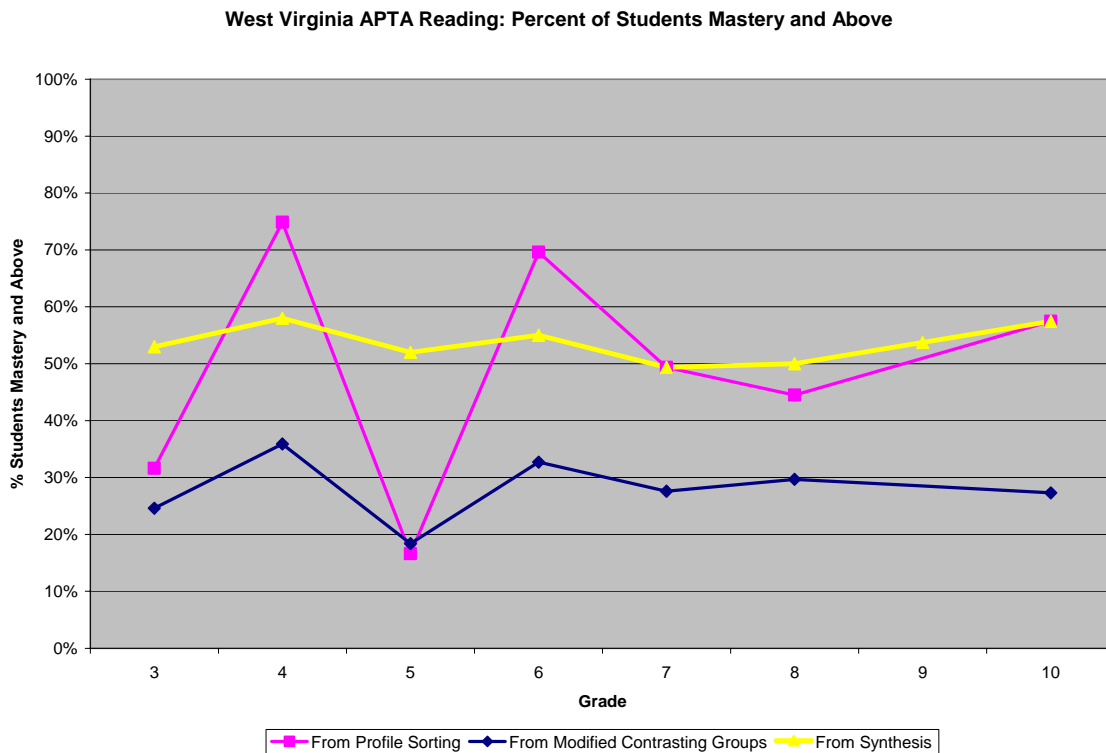
physical assistance by the test administrator—that the group gave them the benefit of the doubt.

In contrast, the participants from Grades 3 and 5 Reading indicated that they gave students who received partial physical assistance no such benefit. Indeed, these participants reported that in their tables’ deliberations, students who received two score points out of three on certain items were not assumed to possess the content knowledge measured by those items.

Moreover, the Table Leader of the Grade 5 Reading group reported that one participant at the table had decided that if a student received a score point of two on any item, then they could not attain *Mastery*. A single participant using such a stringent performance standard may have skewed the results for that group.

Similar to the process used for Mathematics, participants representing the Reading groups recommended changes to the impact data for their group. At the request of participants, a first-order line-of-best-fit was applied to the profile sorting results (as shown in Figure 6). Figure 7 shows the results of the smoothing by the Synthesis group, where the Synthesis Discussion recommendations are shown using a bold line.

**Figure 7. Percentage of students classified as *Mastery* and above on the APTA Reading Pilot, by grade, for two standard setting methods and with recommendations from the Synthesis Discussion.**



As seen in Figure 7, the impact data recommended by Synthesis Discussion participants for Reading *Mastery* and above lie on a much flatter curve than those observed from the profile sorting. The group then made similar, more minor adjustments to the cut scores for *Partial Mastery* and *Above Mastery*.

*Calculating Synthesis cut scores.* Following the deliberations of the Synthesis Discussion participants, cut scores were calculated. The cut scores that most closely yielded the impact data recommended by the Synthesis Discussion were identified. The impact data recommended by the Synthesis group are shown in Table 11. The cut scores associated with these impact data are shown in Table 12.

**Table 11. Impact data associated with the Synthesis Discussion.**

Content Area	Grade	Performance Level			
		Novice	Partial Mastery	Mastery	Above Mastery
Reading	3	15.0%	32.0%	38.0%	15.0%
	4	14.0%	27.0%	35.0%	23.0%
	5	18.0%	30.0%	37.0%	15.0%
	6	10.0%	30.0%	30.0%	25.0%
	7	10.3%	40.3%	30.4%	19.0%
	8	12.1%	38.0%	31.0%	19.0%
	10	5.9%	36.7%	30.7%	26.8%
Mathematics	3	5.5%	26.4%	46.4%	21.7%
	4	7.6%	33.1%	44.5%	14.8%
	5	11.8%	40.0%	38.0%	9.5%
	6	7.6%	42.7%	39.3%	10.4%
	7	8.0%	34.4%	46.9%	10.8%
	8	9.3%	51.0%	36.0%	3.4%
	10	10.4%	38.1%	34.5%	17.0%

**Table 12. Cut scores associated with the Synthesis Discussion.**

Content Area	Grade	Performance Level		
		Partial Mastery	Mastery	Above Mastery
Reading	3	14	71	82
	4	33	54	66
	5	32	52	66
	6	33	54	65
	7	28	80	96
	8	24	57	65
	10	24	54	72
Mathematics	3	7	75	105
	4	20	78	111
	5	43	86	114
	6	18	60	86
	7	19	59	77
	8	29	78	107
	10	31	63	84

Because the Synthesis Discussion was the only standard setting group to consider the results from both standard setting methods, the recommendations from the Synthesis Discussion are considered to be the final recommendation from the standard setting committee.

Following the standard setting, WVDE made further adjustments to the cut scores using techniques described in Section C. The final cut scores for the APTA program are summarized in Section A.

## References

CTB/McGraw-Hill. (2006). *West Virginia Alternate Performance Task (APTA) Technical Report*. Monterey, CA: Author.

Jaeger, R.M. (1995). Setting performance standards through two-stage judgmental policy capturing. *Applied Measurement in Education*, 8, 15-40.

Livingston, S.A. & Zieky, Michael J. (1982). *Passing scores: A manual for setting standards of performance on educational and occupational tests*. Princeton, New Jersey: Educational Testing Service.

**Section C**

**Articulating Performance Standards**



## Smoothing the Performance Standards for the West Virginia Alternate Performance Task Assessment (APTA) Pilot

In March 2006, special educators from across the State of West Virginia engaged in a multi-phase standard setting activity, culminating in cut score recommendations for the West Virginia Alternate Performance Task Assessment (APTA). Three different cut score recommendations came from the standard setting:

- Cut scores derived from the modified Contrasting Groups study, presented online to West Virginia special educators who participated in the Pilot.
- Cut scores calculated from the judgments of participants at the profile sorting workshop, held March 24–26, 2006.
- Cut scores associated with impact data recommended by the Synthesis committee, comprised of Table Leaders at the profile sorting workshop who examined each of the previous cut score recommendations and associated impact data.

Of these, the recommendations of the Synthesis group is considered the final recommendation from the entire standard setting committee, because that group was the only one to see information from both prior standard setting activities. The Synthesis group recommended impact data for the West Virginia APTA Pilot, based on the results of the modified Contrasting Groups study, the profile sorting workshop, and their own experience working as special educators. Cut scores were calculated to best fit these impact data recommendations.

The recommendations of the Synthesis group for the APTA Reading Pilot are shown in Tables 1 and 2. The impact data recommended by participants are shown in Table 1, and the cut scores associated with these recommendations are shown in Table 2.

**Table 1. Participant-recommended impact data from the Synthesis group following the profile sorting workshop.**

Content Area	Grade	Recommended Impact Data				Mastery & Above
		Novice	Partial Mastery	Mastery	Above Mastery	
Reading	3	15.0%	32.0%	38.0%	15.0%	53.0%
	4	14.0%	27.0%	35.0%	23.0%	58.0%
	5	18.0%	30.0%	37.0%	15.0%	52.0%
	6	10.0%	30.0%	30.0%	25.0%	55.0%
	7	10.3%	40.3%	30.4%	19.0%	49.4%
	8	12.1%	38.0%	31.0%	19.0%	50.0%
	10	5.9%	36.7%	30.7%	26.8%	57.4%
Math	3	5.5%	26.4%	46.4%	21.7%	68.1%
	4	7.6%	33.1%	44.5%	14.8%	59.3%
	5	11.8%	40.0%	38.0%	9.5%	47.5%
	6	7.6%	42.7%	39.3%	10.4%	49.7%
	7	8.0%	34.4%	46.9%	10.8%	57.6%
	8	9.3%	51.0%	36.0%	3.4%	39.4%
	10	10.4%	38.1%	34.5%	17.0%	51.5%

**Table 2. Cut scores calculated from impact data recommended by participants at the Synthesis group following the profile sorting workshop.**

Content Area	Grade	Cut Scores		
		<i>Partial Mastery</i>	<i>Mastery</i>	<i>Above Mastery</i>
Reading	3	14	71	82
	4	33	54	66
	5	32	52	66
	6	33	54	65
	7	28	80	96
	8	24	57	65
	10	24	54	72
Math	3	7	75	105
	4	20	78	111
	5	43	86	114
	6	18	60	86
	7	19	59	77
	8	29	78	107
	10	31	63	84

Following the Synthesis discussion, the West Virginia Department of Education (WVDE) and CTB discussed the results of the standard setting. WVDE requested that the cut scores and impact data be adjusted to address two main concerns. First, the impact data are not universally well-articulated; that is, the percentage of students classified in each performance level is not always consistent from grade to grade. Second, the impact data are very different than existing measures of student performance used in the state.

Performance standards—systems of cut scores and associated impact data—embody important policy decisions set forth by state departments of education. It follows that WVDE is free to adjust the performance standards as it sees fit, to conform to Department policy regarding the APTA. This document serves to show WVDE how the standard setting data may be adjusted to alleviate the two concerns listed previously.

### **Adjusting the cut scores**

The standard error of measurement (SEM) is an important statistic, which describes the confidence with which a student’s ability score is calculated. After standard setting studies are performed, SEM values are sometimes used to adjust recommended cut scores.

By adjusting cut scores using SEM values, a state department of education acknowledges that no single test is a perfect measure of student performance, and that student’s true ability scores may lay within a range about the estimated scale score. Furthermore, by adjusting recommended cut scores downward, a state department of education protects against false classification into a lower performance level. For example, if one were to adjust the *Mastery* cut score downward by 2 SEM, then one can state with over 97%

confidence that if a student is classified below *Mastery*, then their true ability score is, indeed, below the *Mastery* performance standard.

Table 3 shows the cut scores for the APTA Reading and Mathematics Pilot, as adjusted downward by two standard errors of measurement. The adjustment was made using the SEM values found in the *West Virginia APTA Technical Report*.

**Table 3. Cut scores calculated by adjusting downward participants’ recommended cut scores (as shown in Table 2) by two standard errors of measurement.**

		Cut Scores (adjusted downward by 2 SEM)		
Content Area	Grade	Partial Mastery	Mastery	Above Mastery
Reading	3	3	60	71
	4	22	43	55
	5	21	41	55
	6	23	44	55
	7	16	68	84
	8	12	45	53
	10	13	43	61
Math	3	1*	58	88
	4	5	63	96
	5	27	70	98
	6	3	45	71
	7	6	46	64
	8	12	61	90
	10	18	50	71

\* The *Partial Mastery* cut score for Grade 3 Mathematics fell below zero when it was adjusted by 2 SEM. A cut score of 1 was substituted.

Although adjustments by 2 SEM are shown in Table 3, WVDE could choose to adjust the cut scores by less than this amount. For example, if WVDE were to adjust the cut scores downward by 1.65 SEM, then the Department could be 95% confident that students’ true ability scores are below *Mastery* if reported as such.

By extension, WVDE could choose to adjust upward the cut scores. For example, if WVDE were to adjust upward the cut scores by 2 SEM, then the Department could be 97% confident that students’ true ability scores are at or above *Mastery* if reported as such. Table 4 shows the cut scores for the APTA Pilot if the cut scores from the Synthesis group were adjusted upward by 2 SEM.

**Table 4. Cut scores calculated by adjusting upward participants' recommended cut scores (as shown in Table 2) by two standard errors of measurement.**

		Cut Scores (adjusted upward by 2 SEM)		
Content Area	Grade	<i>Partial Mastery</i>	<i>Mastery</i>	<i>Above Mastery</i>
Reading	3	25	82	93
	4	44	65	77
	5	43	63	77
	6	43	64	75
	7	40	92	108
	8	36	69	77
	10	35	65	83
Math	3	24	92	122
	4	35	93	126
	5	59	102	130
	6	33	75	101
	7	32	72	90
	8	46	95	124
	10	44	76	97

Such adjustments should be considered with respect to the consequences associated with false-positive versus false-negative errors. In West Virginia, it may be less costly to misclassify students in too high a performance level (false positive) as compared to misclassifying students in too low a performance level (false negative). If the state views that the consequences associated with a false-negative error is more costly than a false-positive error, then the cut score should be adjusted downward.

### **Smoothing the impact data**

Table 5 shows the impact data associated with the cut scores in Table 3. One can see that the impact data are not always well-articulated: for example, 78% of students are classified as *Mastery* or above in Grade 6 Reading, but only 56% of students are classified as such in Grade 7. Sudden jumps in impact data such as these can sometimes be seen as confusing to teachers and other stakeholders.

**Table 5. Impact data associated with cut scores adjusted downward by 2 SEM (as shown in Table 3).**

		Impact Data Associated with -2 SEM Cut Scores				
Content Area	Grade	Novice	Partial Mastery	Mastery	Above Mastery	Mastery & Above
Reading	3	6.8%	32.2%	8.5%	52.6%	61.1%
	4	7.4%	16.0%	21.0%	55.6%	76.6%
	5	6.5%	19.5%	35.1%	38.9%	74.0%
	6	7.3%	14.6%	25.6%	52.4%	78.0%
	7	8.8%	35.2%	11.0%	45.0%	56.0%
	8	7.1%	24.7%	14.1%	54.1%	68.2%
Math	10	1.3%	25.0%	26.3%	47.5%	73.8%
	3	0.0%	23.0%	23.0%	54.1%	77.1%
	4	4.6%	24.6%	33.9%	36.9%	70.7%
	5	5.2%	36.2%	29.3%	29.4%	58.7%
	6	1.6%	32.2%	37.1%	29.1%	66.2%
	7	5.6%	21.1%	34.4%	38.9%	73.4%
Math	8	6.0%	34.9%	32.5%	26.6%	59.1%
	10	4.8%	27.4%	33.3%	34.6%	67.9%

Impact data associated with an upward adjustment by 2 SEM are shown in Table 6. Note that the impact data in Table 6 are also not universally well-articulated. Also note that no students are classified as *Above Mastery* in Reading when adjusting upward by 2 SEM.

**Table 6. Impact data associated with cut scores adjusted upward by 2 SEM (as shown in Table 4).**

		Impact Data Associated with +2 SEM Cut Scores				
Content Area	Grade	Novice	Partial Mastery	Mastery	Above Mastery	Mastery & Above
Reading	3	22.0%	66.0%	11.9%	0.0%	12.0%
	4	24.6%	46.9%	28.4%	0.0%	28.5%
	5	31.2%	46.8%	22.1%	0.0%	22.0%
	6	20.7%	51.2%	28.1%	0.0%	28.0%
	7	18.7%	53.9%	27.5%	0.0%	27.4%
	8	22.4%	70.6%	7.1%	0.0%	7.0%
Math	10	13.8%	43.8%	42.5%	0.0%	42.5%
	3	9.5%	43.2%	47.3%	0.0%	47.3%
	4	13.9%	43.1%	43.1%	0.0%	43.0%
	5	32.7%	41.3%	25.8%	0.0%	25.9%
	6	20.9%	54.8%	24.2%	0.0%	24.3%
	7	11.1%	62.2%	26.7%	0.0%	26.7%
Math	8	25.3%	54.2%	20.5%	0.0%	20.6%
	10	26.2%	47.6%	25.0%	1.2%	26.2%

Some state departments of education have addressed such disarticulation by smoothing the impact data with a policy model. A policy model is a pre-determined pattern, which is used to smooth impact data.

For Reading, WVDE has indicated that an equipercentile policy model should be adopted: the same (or similar) percentage of students should be classified in each performance level for each grade. This policy model is similar to the trend seen in the West Virginia Educational Standards Test (WESTEST) in Reading, to trends in Reading seen in other states, and is more consistent with the results of the modified Contrasting Groups study. In addition, members of the Synthesis group informally stated that an equipercentile trend was reasonable when applied to the Reading data: indeed, the adjustments made by the Synthesis committee to the results of the profile sorting workshop served to “flatten out” the impact data.

For Mathematics, WVDE has indicated that a declining trend in the impact data should be adopted: a declining percentage of students should be classified as *Mastery* and above in each grade level. This policy model is also similar to the trend seen in WESTEST Mathematics, to Mathematics results in other states, and to the results of the modified Contrasting groups study. In addition, the members of the Synthesis group informally stated that a declining trend was reasonable when applied to Mathematics data, based on their own experience with students and the Extended Content Standards.

The cut scores and associated impact data for the APTA Reading Pilot are shown in Tables 7a and 7b. The cut scores for these data were first adjusted downward by 2 SEM (as discussed previously), and then smoothed using an equipercentile policy model. In this policy model, approximately 70% of students are classified as *Mastery* and above in each performance level.

**Table 7a. Impact data for the APTA Reading Pilot as smoothed using an equipercentile policy model, based on cut scores adjusted downward 2 SEM from the Synthesis group’s recommendations.**

		Adjusted and Smoothed Impact Data (–2 SEM)				
Content Area	Grade	Novice	Partial Mastery	Mastery	Above Mastery	Mastery & Above
Reading	3	6.8%	23.7%	20.3%	49.2%	69.5%
	4	6.2%	23.4%	22.2%	48.2%	70.4%
	5	6.5%	24.7%	19.5%	49.3%	68.8%
	6	6.1%	24.4%	17.1%	52.4%	69.5%
	7	6.6%	23.1%	20.9%	49.4%	70.3%
	8	7.1%	23.6%	20.0%	49.4%	69.4%
	10	6.3%	26.3%	20.0%	47.5%	67.5%

**Table 7b. Cut scores for the APTA Reading Pilot associated with the impact data shown in Table 7a.**

		Adjusted and Smoothed Cut Scores (-2 SEM)		
Content Area	Grade	Partial Mastery	Mastery	Above Mastery
Reading	3	3	50	72
	4	15	49	59
	5	21	43	52
	6	18	47	57
	7	9	53	80
	8	13	43	57
	10	24	47	63

The cut scores and associated impact data for the APTA Reading Pilot are shown in Tables 8a and 8b when the Synthesis groups' recommended cut scores upward by 2 SEM (as discussed previously), and then smoothed using an equipercentile policy model. In this policy model, approximately 24% of students are classified as *Mastery* and above in each performance level.

**Table 8a. Impact data for the APTA Reading Pilot as smoothed using an equipercentile policy model, based on cut scores adjusted upward 2 SEM from the Synthesis group's recommendations.**

		Adjusted and Smoothed Impact Data (+2 SEM)				
Content Area	Grade	Novice	Partial Mastery	Mastery	Above Mastery	Mastery & Above
Reading	3	22.0%	50.8%	27.1%	0.0%	27.1%
	4	23.4%	48.1%	28.4%	0.0%	28.4%
	5	22.1%	55.9%	22.1%	0.0%	22.1%
	6	22.0%	51.2%	26.8%	0.0%	26.8%
	7	23.1%	53.9%	23.1%	0.0%	23.1%
	8	22.4%	60.0%	17.7%	0.0%	17.7%
	10	22.5%	55.0%	22.5%	0.0%	22.5%

**Table 8b. Cut scores for the APTA Reading Pilot associated with the impact data shown in Table 8a.**

		Adjusted and Smoothed Cut Scores (+2 SEM)		
Content Area	Grade	Partial Mastery	Mastery	Above Mastery
Reading	3	27	80	88
	4	43	66	73
	5	37	63	73
	6	44	66	73
	7	43	96	106
	8	36	65	76
	10	42	74	79

The cut scores and associated impact data for the APTA Mathematics Pilot are shown in Tables 9a and 9b. The cut scores for these data were first adjusted downward by 2 SEM (as discussed previously), and then smoothed using a declining trend. Here, a quadratic model was fit to the percentage of students classified as *Above Mastery* in each grade level, then to students classified as *Mastery* and above, and then to students classified as *Partial Mastery* and above. With this policy model, the percentage of students classified as *Mastery* and above is higher in Grade 10 than in Grade 8. Although this value is not consistent with the overall policy model, it is consistent with the recommendations of the Synthesis group.

**Table 9a. Impact data for the APTA Mathematics Pilot as smoothed using a declining quadratic policy model, based on cut scores adjusted downward 2 SEM from the Synthesis group’s recommendations.**

		Adjusted and Smoothed Impact Data (-2 SEM)				
Content Area	Grade	Novice	Partial Mastery	Mastery	Above Mastery	Mastery & Above
Math	3	1.4%	24.3%	27.0%	47.3%	74.4%
	4	3.1%	26.2%	30.8%	39.9%	70.7%
	5	3.4%	29.3%	32.7%	34.6%	67.3%
	6	4.8%	30.6%	33.8%	30.7%	64.6%
	7	5.6%	30.0%	37.8%	26.7%	64.5%
	8	6.0%	28.9%	36.1%	29.0%	65.1%
	10	4.8%	27.4%	32.1%	35.7%	67.9%

**Table 9b. Cut scores for the APTA Mathematics Pilot associated with the impact data shown in Table 9a.**

		Adjusted and Smoothed Cut Scores (-2 SEM)		
Content Area	Grade	Partial Mastery	Mastery	Above Mastery
Math	3	2	63	92
	4	4	63	95
	5	25	59	96
	6	9	46	70
	7	12	54	72
	8	18	54	87
	10	18	51	70

The cut scores and associated impact data for the APTA Reading Pilot are shown in Tables 10a and 10b when the Synthesis groups’ recommended cut scores upward by 2 SEM (as discussed previously), and then smoothed using a quadratic policy model.

**Table 10a. Impact data for the APTA Mathematics Pilot as smoothed using a declining quadratic policy model, based on cut scores adjusted upward 2 SEM from the Synthesis group’s recommendations.**

Adjusted and Smoothed Impact Data (+2 SEM)						
Content Area	Grade	Novice	Partial Mastery	Mastery	Above Mastery	Mastery & Above
Math	3	13.5%	39.2%	47.3%	0.0%	47.3%
	4	16.9%	43.1%	40.0%	0.0%	39.9%
	5	18.9%	50.0%	31.0%	0.0%	31.1%
	6	20.9%	53.2%	25.8%	0.0%	25.9%
	7	23.3%	56.7%	20.0%	0.0%	20.0%
	8	25.3%	53.0%	21.7%	0.0%	21.8%
	10	23.8%	50.0%	25.0%	1.2%	26.2%

**Table 10b. Cut scores for the APTA Mathematics Pilot associated with the impact data shown in Table 10a.**

Adjusted and Smoothed Cut Scores (+2 SEM)				
Content Area	Grade	Partial Mastery	Mastery	Above Mastery
Math	3	39	92	118
	4	45	95	121
	5	47	97	124
	6	35	74	100
	7	43	73	97
	8	46	94	127
	10	42	77	99

A quadratic function need not be used for Mathematics. If preferable to WVDE, a linear trend could be applied, or another policy model used to produce a declining trend. The choice of policy model—for both Reading and Mathematics—is ultimately the decision of WVDE.

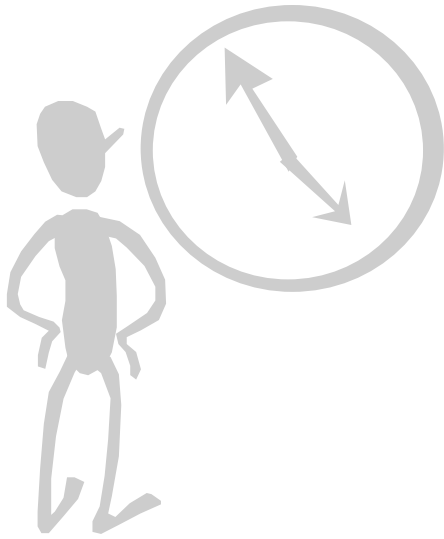
The options described in this document represent a small subset of the possible adjustments that can be made to cut scores and impact data. As previously stated, the adoption of cut scores is an important policy decision made by a state department of education. The techniques described in this document are common ones used by other states on statewide assessments, but the decision to use them should be carefully considered.



**Section D**

**Participant Agenda**





**Welcome to the Standard Setting Workshop for the West Virginia Alternate Performance Task Assessment for Reading and Mathematics.**

**The West Virginia Department of Education and CTB/McGraw-Hill would like to thank you for your time and expertise during this important process.**

**Please use this agenda to orient yourself during the workshop. If you have any questions or concerns, please do not hesitate to contact a member of the CTB Standard Setting Team.**

**Table Leaders Only**

**Friday, March 24**

- 12:30 PM** Table Leader registration
- 1:00 PM** Opening session and orientation
- 2:30 PM** Break
- 2:45 PM** Orientation to performance level descriptions
- 3:15 PM** Target student discussion
- 4:15 PM** Secure materials collection
- 4:30 PM** Dismissal

**Saturday, March 25**

- 8:00 AM** Continental breakfast and participant registration
- 8:30 AM** Opening session and orientation
- 10:00 AM** Break and divide into breakout groups
- 10:15 AM** Take the test
- 11:30 AM** Orientation to performance level descriptions
- 12:00 PM** Lunch
- 1:00 PM** Profile sorting activity
- 2:30 PM** Break
- 2:45 PM** Continue profile sorting activity
- 4:45 PM** Secure materials collection
- 5:00 PM** Dismissal

**Sunday, March 26**

- 8:00 AM** Continental breakfast
- 8:30 AM** Discuss profiles in breakout groups
- 10:00 AM** Break
- 10:15 AM** Discuss profiles in content areas
- 11:15 AM** Profile sorting activity, Round 2 (if needed)
- 12:00 PM** Lunch
- 1:00 PM** Orientation to teacher survey results
- 1:30 PM** Synthesis discussion
- 2:15 PM** Synthesis recommendations
- 2:30 PM** Break
- 2:45 PM** Performance level description adjustment (if needed)
- 4:30 PM** Secure materials collection
- 4:45 PM** Evaluations
- 5:00 PM** Dismissal



**CTB  
McGraw-Hill**



# **Participant Agenda**

**West Virginia Alternate  
Performance Task Assessment**

***Standard Setting Workshop***

**March 24 – 26, 2005  
Stonewall Resort, Roanoke, West Virginia**

**Section E**

**Training Materials**



# West Virginia Alternate Performance Task Assessment (APTA) Standard Setting: Table Leader Training

CTB/McGraw-Hill  
March 24, 2006

CTB/McGraw-Hill | QUALITY ASSESSMENT SINCE 1926

## Overview

- Introduction to standard setting
- Committee roles
- Paper sorting process
- Standard setting simulation
- Workshop agenda
- Questions and answers

## What is standard setting?

- A process that lets experts make judgments about the content that students in each achievement level should know.
- The APTA standard setting process has three phases:
  - Profile Sorting
  - Teacher Survey
  - Synthesis
- Recommendations made by each committee will be reviewed before final cut scores are adopted.

## Why standard setting?

- The West Virginia Extended Content Standards define what students are tested on.
  - These are things students *should* know and be able to do.
  - West Virginia has Extended Content Standards for Grades 3 – 8 and 10 in Reading and Mathematics.

## Why standard setting?

- Achievement standards define what students *can do* in each achievement level.
- You will actively discuss your expectations of students in each achievement level.

## Achievement Levels

- Specify the knowledge, skills and abilities a student needs to know in order to be classified in each achievement level:
  - *Novice*
  - *Partial Mastery*
  - *Mastery*
  - *Above Mastery*

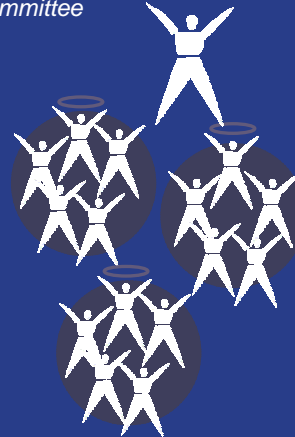
## Grade and Content Area Committees

- Fourteen grade and content area combinations:
  - Grades 3 – 8 and 10 Reading
  - Grades 3 – 8 and 10 Mathematics

## Committee Roles

- Table Leaders
- Participants
- WVDE
- CTB

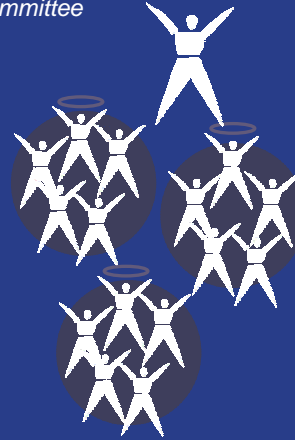
*Standard Setting  
Committee*



## Committee Roles

- Table Leaders
  - Lead the profile sorting process at the table
  - Keep track of secure materials
  - Standard setters
- Participants
  - Standard setters

*Standard Setting  
Committee*



## Standard Setting Materials

- Test booklet
- Item map
- Scoring guides and anchor papers
- Student profiles
- Rating form
- For training, we will use a sample test from Grade 4 Mathematics for regular-ed students.

# Item Map

Print Name: \_\_\_\_\_ ID Number: \_\_\_\_\_

Item Number	Part	Score Points	Content Standard	Extended Standard	Domain	What does this item measure? That is, what do you know about a student who can respond successfully to this item/score point?
1		2	1		Operations	
2		2	4		Data	
3		1	5		Algebra	
4		1	1		Num Sense	
5		3	1		Operations	

**Content Standards:**

- 1 = Number Sense, Properties, & Operations
- 2 = Measurement
- 3 = Geometry
- 4 = Data Analysis, Statistics, & Probability
- 5 = Algebra & Functions

# Item 1

1. Kitty is taking a trip on which she plans to drive 300 miles each day. Her trip is 1,723 miles long. She has already driven 849 miles. How much farther must she drive?

## Item 1 – Scoring Guide

- **2 points:**
  - Student provides the correct response (874 miles)
- **1 point:**
  - Student shows work but has a small error (such as an arithmetic error) and gives an incorrect response
- **0 points:**
  - Any other response or no response

## Item Map

*Subtraction, operations,  
eliminate extra info*

Print Name

Item Number	Part	Points	Content Standard	Extended Standard	Domain	you know about a student who can respond successfully to this item/score point?
1		2	1		Operations	
2		2	4		Data	
3		1	5		Algebra	
4		1	1		Num Sense	
5		3	1		Operations	

**Content Standards:**

- 1 = Number Sense, Properties, & Operations
- 2 = Measurement
- 3 = Geometry
- 4 = Data Analysis, Statistics, & Probability
- 5 = Algebra & Functions

## Item 2

### CARTONS OF EGGS SOLD LAST MONTH

Farm A ○ ○ ○ ○

Farm B ○ ○ ○ ○ ○ ○

Farm C ○ ○ ○

Each ○ = 100 Cartons

2. According to the graph how many cartons of eggs were sold altogether by farms A, B, and C last month?

## Item 2 – Scoring Guide

- **2 points:**
  - Student provides the correct response (1,300 cartons of eggs)
- **1 point:**
  - Student provides incorrect response of 130 or 13,000 cartons of eggs
- **0 points:**
  - Any other response (including 13 cartons of eggs) or no response

## Standard Setting Simulation

- Continue with the remaining items.
  - What does each item measure?
  - What do you know about a student who can respond successfully to each item?

## Profiles

- Student profiles show students' scores to every item on the test.

# Sample Profiles

**SAMPLE Standard Setting Workshop  
Grade 4 Mathematics - Profiles**

Item & Part Score Points	1	2	3	4	5	Item & Part Score Points
	2	2	1	1	3	
Profile ID						Profile ID
T - 001	1	0	0	1	3	T - 001
T - 002	0	1	0	1	1	T - 002
T - 003	1	1	0	0	0	T - 003
T - 004	1	0	1	0	3	T - 004
T - 005	0	0	0	1	0	T - 005
T - 006	1	1	1	0	2	T - 006
T - 007	0	1	1	0	2	T - 007
T - 008	1	0	0	0	1	T - 008
T - 009	0	1	1	1	3	T - 009
T - 010	0	0	1	1	2	T - 010

# Sample Rating Form

**SAMPLE Standard Setting Workshop**      **Training RATING FORM**

Name: \_\_\_\_\_

Profiles

B	P	A
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Identification Number	Grade
①	① ①
②	② ②
③	③ ③
④	④ ④
⑤	⑤ ⑤
⑥	⑥ ⑥
⑦	⑦ ⑦
⑧	⑧ ⑧
⑨	⑨ ⑨

Version	Content Area
①	<input type="radio"/> Mathematics
②	<input type="radio"/> Reading

## Rating Profiles

- Holistically rate each profile based on the students' scores.
- Refer to the achievement level descriptions provided.
- Rate each profile independently: don't compare one profile to another.
- Don't discuss your ratings with your colleagues before you make them.

## Standard Setting Simulation

- Imagine that we have three achievement levels for Grade 4 Mathematics on our sample test:
  - *Basic*
  - *Proficient*
  - *Advanced*
- Rate each profile into one of the three achievement levels, and mark it on your rating form.
- Rate each profile independently.

## Synthesis Discussion

- Table Leaders meet to discuss...
  - The results from the profile sorting
  - Your content-based expectations of students
  - Expectations across grades

## Achievement Level Definition Editing

- Recommending changes to the achievement level definitions.
- Summarizes the knowledge, skills, and abilities of students in each achievement level.

## Workshop Agenda: Day 1

- Opening session and participant orientation
- Break into pre-assigned groups and tables
- Study the test and complete item map
  - Table activity
- Review the achievement level descriptions and extended content standards
  - Table activity
- Profile sorting
  - Individual activity
- Secure Materials Collection

## Workshop Agenda: Day 2

- Complete profile sorting
  - Individual activity
- Discuss profile sorting decisions
  - Table activity
- Synthesis discussion
  - Table Leader activity
- Edit achievement level descriptions
  - Table activity
- Evaluate workshop
- Secure Materials Collection

## Questions?

- Thank you for your participation!

# SAMPLE

Standard Setting Workshop

Grade 4  
Mathematics

Test Booklet

Publicly released items from the National Assessment of Educational  
Progress 1996 State Assessment Program in Mathematics.



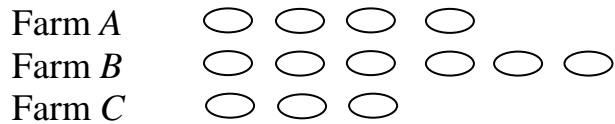
Copyright © 2006 by CTB/McGraw-Hill LLC.

1. Kitty is taking a trip on which she plans to drive 300 miles each day. Her trip is 1,723 miles long. She has already driven 849 miles. How much farther must she drive?

\_\_\_\_\_ miles

---

### CARTONS OF EGGS SOLD LAST MONTH



Each ○ = 100 cartons

2. According to the graph, how many cartons of eggs were sold altogether by farms A, B, and C last month?

\_\_\_\_\_ cartons

3.  $N$  stands for the number of stamps John had. He gave 12 stamps to his sister. Finish the expression to tell how many stamps John has now.

A.  $N + 12$

B.  $N - 12$

C.  $12 - N$

D.  $12 \times N$

---

4. A whole number is multiplied by 5. Which of these could be the result?

A. 652

B. 562

C. 526

D. 265

5. Sam can purchase his lunch at school. Each day he wants to have juice that costs 50¢, a sandwich that costs 90¢, and fruit that costs 35¢. His mother has only \$1.00 bills. What is the least number of \$1.00 bills that his mother should give him so he will have enough money to buy lunch for 5 days?

---

**SAMPLE Standard Setting  
Grade 4 Mathematics Item Map**

*Print Name:* \_\_\_\_\_ *ID Number:* \_\_\_\_\_

Item Number	Part	Score Points	Content Standard	Extended Standard	Domain	What does this item measure? That is, what do you know about a student who can respond successfully to this item/score point?
1		2	1		Operations	
2		2	4		Data	
3		1	5		Algebra	
4		1	1		Num Sense	
5		3	1		Operations	

**Content Standards:**

- 1 = Number Sense, Properties, & Operations
- 2 = Measurement
- 3 = Geometry
- 4 = Data Analysis, Statistics, & Probability
- 5 = Algebra & Functions

# SAMPLE

Standard Setting Workshop

Grade 4  
Mathematics

Scoring Guides

Publicly released items from the National Assessment of Educational  
Progress 1996 State Assessment Program in Mathematics.



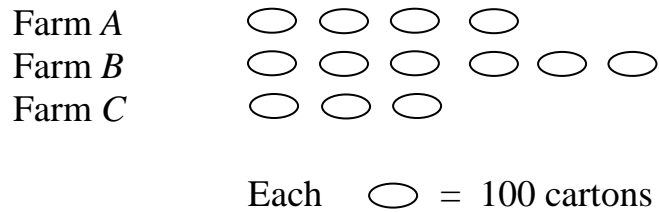
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1. Kitty is taking a trip on which she plans to drive 300 miles each day. Her trip is 1,723 miles long. She has already driven 849 miles. How much farther must she drive?

Scoring Guide:

- 2 points:**  
Student provides the correct response (874 miles)
- 1 point:**  
Student shows work but has a small error (such as an arithmetic error) and gives an incorrect response
- 0 points:**  
Any other response or no response

## CARTONS OF EGGS SOLD LAST MONTH



2. According to the graph, how many cartons of eggs were sold altogether by farms A, B, and C last month?

Scoring Guide:

- 2 points:**  
Student provides the correct response (1,300 cartons of eggs)
- 1 point:**  
Student provides incorrect response of 130 or 13,000 cartons of eggs
- 0 points:**  
Any other response (including 13 cartons of eggs) or no response

3.  $N$  stands for the number of stamps John had. He gave 12 stamps to his sister. Which expression tells how many stamps John has now?

A.  $N + 12$

B.  $N - 12$

C.  $12 - N$

D.  $12 \times N$

Scoring Guide:

- 1 point:**  
Student provides the correct response ( $N - 12$ )
- 0 points:**  
Any other response or no response

4. A whole number is multiplied by 5. Which of these could be the result?

A. 652

B. 562

C. 526

D. 265

Scoring Guide:

- 1 point:**  
Student provides the correct response (265)
- 0 points:**  
Any other response or no response

5. Sam can purchase his lunch at school. Each day he wants to have juice that costs  $50\text{¢}$ , a sandwich that costs  $90\text{¢}$ , and fruit that costs  $35\text{¢}$ . His mother has only  $\$1.00$  bills. What is the least number of  $\$1.00$  bills that his mother should give him so he will have enough money to buy lunch for 5 days?

Solution:

For one day the sum is  $\$1.75$ . For 5 days, the sum is  $\$8.75$ . Therefore, he should ask his mother for nine  $\$1.00$  bills.

- 3 points:**  
Student provides the correct response (nine one-dollar bills)
- 2 points:**  
Student shows the correct method, but has a small error and gives one of the following responses:
  - One five-dollar bill and four one-dollar bills
  - $\$8.75$
- 1 point:**  
Student shows the correct method, but has an error and gives one of the following responses:
  - One ten-dollar bill
  - $\$8$
  - Arithmetic error and incorrect response between  $\$7$  and  $\$11$
- 0 points:**  
Any other response (including  $\$2$  and  $\$875$ ) or no response



**SAMPLE Standard Setting Workshop  
Grade 4 Mathematics - Profiles**

Item & Part Score Points	1	2	3	4	5	Item & Part Score Points
Profile ID	2	2	1	1	3	Profile ID
T - 001	1	0	0	1	3	T - 001
T - 002	0	1	0	1	1	T - 002
T - 003	1	1	0	0	0	T - 003
T - 004	1	0	1	0	3	T - 004
T - 005	0	0	0	1	0	T - 005
T - 006	1	1	1	0	2	T - 006
T - 007	0	1	1	0	2	T - 007
T - 008	1	0	0	0	1	T - 008
T - 009	0	1	1	1	3	T - 009
T - 010	0	0	1	1	2	T - 010



**Section F**

**Performance Level Descriptions**



**APTA Performance Level Descriptors  
Grade 3 Reading/Language Arts**

Standard	Performance Level			
<b>Reading (RLA.S.1)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in reading. The student will attempt to perform the following with assistance: recognize vocabulary and respond to literary stimuli.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge, characterized by errors and/or omissions in reading. The student will perform the following with assistance: match picture or object with letter or sound and identify an event from a story.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the <b>extended</b> standards in reading. The student will perform the following task without assistance: categorize pictures that represent words or objects; recall an event from a story.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the <b>extended</b> standards in reading. The student will perform the following complex task without assistance: categorize sight words; recall two or more events from a story.</p>
<b>Writing (RLA.S.2)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in writing. The student will attempt to perform the following with assistance: use intentional movement to produce a graphic and touch upper case letters.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge and skills characterized by errors and/or omissions in writing. The student will perform the following with assistance: copy or trace letters from models; recognize objects or words that represent proper names, such as pictures of pets or family, versus objects or pictures of common nouns and recognize a capital letters a "big" letter and a non-capitalized letter as a "little" letter.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the <b>extended</b> standard in writing. The student will perform the following task without assistance: copy labels for pictures and objects; and recognize that proper names begin with capital letters.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the <b>extended</b> standards in writing. The student will perform the following complex task without assistance: label pictures and objects and write names using capitals.</p>
<b>Listening, Speaking, Viewing (RLA.S.3)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in listening, speaking and viewing. The student will attempt to perform the following with assistance; recognize picture word or object cue to communicate a want.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge, characterized by errors and/or omissions in listening, speaking and viewing. The student will perform the following with assistance: make a choice between two preferred activities.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the <b>extended</b> standard in listening, speaking and viewing. The student will perform the following task without assistance; respond to questions about recent experiences.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the <b>extended</b> standard in listening, speaking and viewing. The student will perform the following complex task without assistance; tell about an event that happened at home.</p>

These are APTA Performance Level Descriptions for **Grade 3 Reading/Language Arts**.

**APTA Performance Level Descriptors  
Grade 3 Math**

Standard	Performance Level			
<p><b>Number and Operations (MA.S.1)</b></p>	<p><b>N = Novice</b> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in number and operations. The student attempts to perform the following with assistance: demonstrate the concept of one (1) and demonstrate one-to-one correspondence between sets of objects.</p>	<p><b>PM = Partial Mastery</b> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in numbers and operations. The student will perform the following with assistance: recognize whole numbers to five (5); count to five (5) and demonstrate an understanding of addition as combining collections/counting things.</p>	<p><b>M = Mastery</b> The student demonstrates fundamental knowledge that meets the extended standards in numbers and operations. The student will perform the following without assistance: recognize whole numbers to nine (9); count to nine (9) and solve single-digit addition problems with sums to nine (9).</p>	<p><b>AM = Above Mastery</b> The student demonstrates fundamental knowledge that exceeds the extended standards in number and operations. The student will perform the following complex task without assistance: recognize whole numbers to twenty (20) and count to twenty (20).</p>
<p><b>Algebra (MA.S.2)</b></p>	<p><b>N = Novice</b> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in algebra. The student attempts to perform the following with assistance: identify a repeated event.</p>	<p><b>PM = Partial Mastery</b> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in algebra. The student will perform the following with assistance: copy a pattern.</p>	<p><b>M = Mastery</b> The student demonstrates fundamental knowledge that meets the extended standards in algebra. The student will perform the following without assistance: recognize and complete a two-object pattern.</p>	<p><b>AM = Above Mastery</b> The student demonstrates fundamental knowledge that exceeds the extended standards in algebra. The student will perform the following complex task without assistance: find a missing part of a pattern.</p>
<p><b>Geometry (MA.S.3)</b></p>	<p><b>N = Novice</b> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in geometry. The student attempts to perform the following with assistance: manipulate concrete geometric shapes; perform in and out relationships.</p>	<p><b>PM = Partial Mastery</b> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in geometry. The student will perform the following with assistance: recognize that shapes are similar and different; describe in and out.</p>	<p><b>M = Mastery</b> The student demonstrates fundamental knowledge that meets the extended standards in geometry. The student will perform the following without assistance: classify a square, circle, and triangle; perform spatial relationships over, under, left, and right.</p>	<p><b>AM = Above Mastery</b> The student demonstrates fundamental knowledge that exceeds the extended standards in geometry. The student will perform the following complex task without assistance: model a circle, square, triangle; describe spatial relationships of over, under, left and right; and recognition of a rectangle.</p>
<p><b>Measurement (MA.S.4)</b></p>	<p><b>N = Novice</b> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in measurement. The student attempts to perform the following with assistance: manipulate a ruler, scale, thermometer, and clock; determine if an object is a coin.</p>	<p><b>PM = Partial Mastery</b> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in measurement. The student will perform the following with assistance: match a ruler, scale, thermometer and clock; discriminate between a penny, nickel, dime, and quarter.</p>	<p><b>M = Mastery</b> The student demonstrates fundamental knowledge that meets the extended standards in measurement. The student will perform the following without assistance: classifying measuring devices according to what they measure (length, weight and temperature) and identify coins as penny, nickel, dime and quarter.</p>	<p><b>AM = Above Mastery</b> The student demonstrates fundamental knowledge that exceeds the extended standards in measurement. The student will perform the following complex task without assistance: determine which measurement tool will be used in certain circumstances; identify value of a coin.</p>
<p><b>Data Analysis and Probability (MA.S.5)</b></p>	<p><b>N = Novice</b> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in data analysis and probability. The student attempts to perform the following with assistance: add an object to similar collection.</p>	<p><b>PM = Partial Mastery</b> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: given objects, sort into categories.</p>	<p><b>M = Mastery</b> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: use interviews to collect data; use observation to collect data.</p>	<p><b>AM = Above Mastery</b> The student demonstrates fundamental knowledge that exceeds the extended standards in data analysis and probability. The student will perform the following complex task without assistance: develop a graph; identify patterns in a graph.</p>

These are APTA Performance Level Descriptions for **Grade 3 Math**.

**APTA Performance Level Descriptors  
Grade 4 Reading/Language Arts**

Standard	Performance Level			
<p><b>Reading (RLA.S.1)</b></p>	<p>N = <i>Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in reading. The student will attempt to perform the following with assistance: respond to activity demonstrating vocabulary and respond to sequential activities.</p>	<p>PM = <i>Partial Mastery</i> The student demonstrates inconsistent performance of knowledge, characterized by errors and/or omissions in reading. The student will perform the following with assistance: recognize oral descriptive vocabulary words and follow two-step directions in sequential order.</p>	<p>M = <i>Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the <b>extended</b> standards in reading. The student will perform the following task without assistance: recognize descriptive vocabulary words and recognize the sequence of events in text.</p>	<p>AM = <i>Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the <b>extended</b> standards in reading. The student will perform the following complex task without assistance: associate descriptive words with nouns to make choices and sequence events with from text.</p>
<p><b>Writing (RLA.S.2)</b></p>	<p>N = <i>Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in writing. The student will attempt to perform the following with assistance: use a picture or symbol to identify self and identify people, places or things.</p>	<p>PM = <i>Partial Mastery</i> The student demonstrates inconsistent performance of knowledge and skills characterized by errors and/or omissions in writing. The student will perform the following with assistance: copy first letter of first name and put noun and action word together to make a sentence.</p>	<p>M = <i>Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the <b>extended</b> standard in writing. The student will perform the following task without assistance: copy personal information and create a picture/word sentence with a period at the end.</p>	<p>AM = <i>Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the <b>extended</b> standards in writing. The student will perform the following complex task without assistance: write first name and last name and add descriptive words to simple sentences.</p>
<p><b>Listening, Speaking, Viewing (RLA.S.3)</b></p>	<p>N = <i>Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in listening, speaking and viewing. The student will attempt to perform the following with assistance: use picture word or object cue to make a request.</p>	<p>PM = <i>Partial Mastery</i> The student demonstrates inconsistent performance of knowledge, characterized by errors and/or omissions in listening, speaking and viewing. The student will perform the following with assistance: make choice between preferred and non-preferred items.</p>	<p>M = <i>Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the <b>extended</b> standard in listening, speaking and viewing. The student will perform the following task without assistance: listen to and respond to information.</p>	<p>AM = <i>Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the <b>extended</b> standard in listening, speaking and viewing. The student will perform the following complex task without assistance: listen to and exhibit comprehension.</p>

These are APTA Performance Level Descriptions for **Grade 4 Reading/Language Arts**.

**APTA Performance Level Descriptors  
Grade 4 Math**

Standard	Performance Level			
<b>Number and Operations (MA.S.1)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in number and operations. The student attempts to perform the following with assistance; identify a number from a non-number and recognize one-to-one correspondence; give objects away as directed.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in numbers and operations. The student will perform the following with assistance: recognize whole numbers to ten (10); recognize equal parts and solve addition problems with sum of nine using manipulatives; compare two quantities as more or less.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in numbers and operations. The student will perform the following without assistance: recognize two-digit whole numbers to twenty (20); identify two equal parts as a whole and solve addition problems with sums to nineteen; model subtraction problems with or without manipulatives.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in number and operations. The student will perform the following complex task without assistance: recognize whole numbers greater than twenty (20); identify two equal parts as the fractional part <math>\frac{1}{2}</math> and solve addition problems with sums greater than twenty independently; solve basic single-digit subtraction independently.</p>
<b>Algebra (MA.S.2)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in algebra. The student attempts to perform the following with assistance: identify items in a pattern.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in algebra. The student will perform the following with assistance: duplicate a pattern.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in algebra. The student will perform the following without assistance: recognize and complete a three-object/item pattern.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in algebra. The student will perform the following complex task without assistance: predict and extend a pattern.</p>
<b>Geometry (MA.S.3)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in geometry. The student attempts to perform the following with assistance: match identical shapes of a circle, square or triangle.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in geometry. The student will perform the following with assistance: recognize shapes, circles, squares, rectangles, and triangles.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in geometry. The student will perform the following without assistance: classify and model a circle, square, rectangle and a triangle.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in geometry. The student will perform the following complex task without assistance: identify similarities and differences between geometric shapes.</p>
<b>Measurement (MA.S.4)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in measurement. The student attempts to perform the following with assistance: touch the picture of the item that is short, long, hot, cold and associate an object with a scheduled activity and place coins into correct value container.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in measurement. The student will perform the following with assistance: sort items by their length and temperature and show appropriate action at a specific time when associated with a timer and match coin to its value.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in measurement. The student will perform the following without assistance: recognize length as long/short, weight as heavy/light, temperature as hot/cold and recognize time in relationship to a daily schedule and identify values of coins.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in measurement. The student will perform the following complex task without assistance: compare length, mass, temperature of objects, indicate time to the hour, identify mixed coins by values and order by relative worth.</p>
<b>Data Analysis and Probability (MA.S.5)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in data analysis and probability. The student will attempt to perform the following with assistance: identify items to be graphed.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: fill in appropriate areas of a graph.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: develop and interpret graphs using objects or pictures.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in data analysis and probability. The student will perform the following complex task without assistance: The student will perform the following complex task without assistance: develop and interpret graphs, using words and numbers.</p>

These are APTA Performance Level Descriptions for **Grade 4 Math**.

**APTA Performance Level Descriptors  
Grade 5 Reading/Language Arts**

Standard	Performance Level			
<p><b>Reading (RLA.S.1)</b></p>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in reading. The student will attempt to perform the following with assistance: respond to sets of objects/pictures that are more than one; respond to story/text; identify a picture/object related to the story.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge, characterized by errors and/or omissions in reading. The student will perform the following with assistance: identify whether picture card is singular or plural; select picture card representing a character in text; select picture card (s) representing the story.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the <b>extended</b> standards in reading. The student will perform the following task without assistance: use the root word to identify a new word; identify main character from text or story; summarize a simple story.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the <b>extended</b> standards in reading. The student will perform the following complex task without assistance: modify root words to produce new words; identify characteristics of character in a text or story; summarize a simple story.</p>
<p><b>Writing (RLA.S.2)</b></p>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in writing. The student will attempt to perform the following with assistance: focus on letters; identify a reference resource from an unrelated object.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge and skills characterized by errors and/or omissions in writing. The student will perform the following with assistance: group capital letters together; identify a reference resource from a non-reference book.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the <b>extended</b> standard in writing. The student will perform the following task without assistance: write simple sentence using initial capitalization and ending punctuation; apply information found in basic reference materials.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the <b>extended</b> standards in writing. The student will perform the following complex task without assistance: write two related sentences using capitalization/and ending punctuation; apply information found in traditional reference materials.</p>
<p><b>Listening, Speaking, Viewing (RLA.S.3)</b></p>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in listening, speaking and viewing. The student will attempt to perform the following with assistance: respond to conversation.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge, characterized by errors and/or omissions in listening, speaking and viewing. The student will perform the following with assistance: answer conversational questions from familiar people.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the <b>extended</b> standard in listening, speaking and viewing. The student will perform the following task without assistance: engage in a conversation with a familiar person.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the <b>extended</b> standard in listening, speaking and viewing. The student will perform the following complex task without assistance: respond to group discussion with classmates.</p>

These are APTA Performance Level Descriptions for **Grade 5 Reading/Language Arts**.

**APTA Performance Level Descriptors  
Grade 5 Math**

Standard	Performance Level			
<b>Number and Operations (MA.S.1)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in number and operations. The student attempts to perform the following with assistance: match single-digit numbers to five (5); identify a picture as complete and model one more and one less.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates but inconsistent performance of fundamental knowledge characterized by errors and/or omissions in number and operations. The student will perform the following with assistance: recognize two-digit numbers to thirty (30); identify that two equal parts make a whole and solve single-digit addition without regrouping; model single-digit subtraction.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in numbers and operations. The student will perform the following without assistance: recognize two-digit whole numbers to forty (40); identify the fractional part 1/2 and solve double-digit addition without regrouping; subtract single-digit numbers.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in number and operations. The student will perform the following complex task without assistance: identify fractional parts 1/3 and 1/4; recognize two-digit numbers to fifty (50) and solve double-digit addition with regrouping; subtract two-digit numbers.</p>
<b>Algebra (MA.S.2)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in algebra. The student attempts to perform the following with assistance: continue a pattern based on a single attribute such as color, shape, or rhythm.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in algebra. The student will perform the following with assistance: follow a pictorial pattern.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in algebra. The student will perform the following without assistance: complete a four-step pattern; describe a four-object/step pattern.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in algebra. The student will perform the following complex task without assistance: extend a pattern.</p>
<b>Geometry (MA.S.3)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in geometry. The student attempts to perform the following with assistance: recognize three dimensional geometric shapes.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in geometry. The student will perform the following with assistance: sort three-dimensional shapes.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in geometry. The student will perform the following without assistance: classify three-dimensional objects (cube, spear, and pyramid).</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in geometry. The student will perform the following complex task without assistance: describe the attribute of three-dimensional shapes.</p>
<b>Measurement (MA.S.4)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in measurement. The student attempts to perform the following with assistance: position items for measurement and manipulate a clock.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in measurement. The student will perform the following with assistance: determine longer/shorter or heavier/lighter using nonstandard forms of measurement and match the clock to the hour.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standard in measurement. The student performs the following without assistance: measure length and weight using nonstandard forms of measurement (paperclips, counting bears, etc.) and identify time to the hour.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in measurement. The student will perform the following complex task without assistance: use actual device to measure a given item, identify time to the hour.</p>
<b>Data Analysis and Probability (MA.S.5)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in data analysis and probability. The student attempts to perform the following task with assistance: recognize a paper graph from two items.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: copy a bar graph.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: develop bar graphs and interpret data.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in data analysis and probability. The student will perform the following complex task without assistance: interpret data from a bar graph containing multiple bars.</p>

These are APTA Performance Level Descriptions for **Grade 5 Math**.

**APTA Performance Level Descriptors  
Grade 6 Reading/Language Arts**

Standard	Performance Level			
<p><b>Reading (RLA.S.1)</b></p>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in reading. The student will attempt to perform the following with assistance: point to items representing vocabulary words related to text; match pictures related to the main idea of the text.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge, characterized by errors and/or omissions in reading. The student will perform the following with assistance: match word/picture to vocabulary words; use pictures/symbols/objects from text to represent the main idea of the story.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the <b>extended</b> standards in reading. The student will perform the following task without assistance: identify vocabulary words from a variety of sources; answer questions related to the main idea of a text.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the <b>extended</b> standards in reading. The student will perform the following complex task without assistance: apply vocabulary from a variety of sources; identify specific details related to the main idea of a text.</p>
<p><b>Writing (RLA.S.2)</b></p>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in writing. The student will attempt to perform the following with assistance: match descriptive words; identify a resource.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge and skills characterized by errors and/or omissions in writing. The student will perform the following with assistance: identify picture/object to indicate choice of descriptor; match information found in resource to the correct resource.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the <b>extended</b> standard in writing. The student will perform the following task without assistance: extend a sentence using descriptive words and correct capitalization and punctuation; select and use the correct resource materials to complete a task.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the <b>extended</b> standards in writing. The student will perform the following complex task without assistance: compose sentences using specific details; use resource materials to plan a task.</p>
<p><b>Listening, Speaking, Viewing (RLA.S.3)</b></p>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in listening, speaking and viewing. The student will attempt to perform the following with assistance: attend to a variety of communication attempts.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge, characterized by errors and/or omissions in listening, speaking and viewing. The student will perform the following with assistance: communicate needs and wants with familiar and unfamiliar people.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the <b>extended</b> standard in listening, speaking and viewing. The student will perform the following task without assistance: engage in communication with familiar and unfamiliar people.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the <b>extended</b> standard in listening, speaking and viewing. The student will perform the following complex task without assistance: initiate communication in order to obtain information or perform a task.</p>

These are APTA Performance Level Descriptions for **Grade 6 Reading/Language Arts**.

**APTA Performance Level Descriptors  
Grade 6 Math**

Standard	Performance Level			
<b>Number and Operations (MA.S.1)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in number and operations. The student will attempt to perform the following with assistance: count with one-to-one correspondence; identify <math>\frac{1}{4}</math> of a whole and identify a number from a set of unrelated objects.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates but inconsistent performance of fundamental knowledge characterized by errors and/or omissions in number and operations. The student will perform the following with assistance: compare two quantities of objects; identify that <math>\frac{1}{4}</math> and <math>\frac{1}{3}</math> are less than a whole and model addition and subtraction problems using single-digit numbers.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in numbers and operations. The student will perform the following without assistance: recognize numbers 1-60; assign numbers 1-60 to corresponding set of objects; identify the fractional part <math>\frac{1}{4}</math> and <math>\frac{1}{3}</math>; and add two-digit numbers with and without regrouping and subtract two digit numbers without regrouping.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in number and operations. The student will perform the following complex task without assistance: connect numerals to number words; recognize that <math>\frac{1}{3}</math> is more than <math>\frac{1}{4}</math>; and apply addition and subtraction to solve real world problems.</p>
<b>Algebra (MA.S.2)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in algebra. The student attempts to perform the following with assistance: replicate/copy the pattern.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in algebra. The student will perform the following with assistance: follow a pictorial/geometric pattern; continue a pattern.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in algebra. The student will perform the following without assistance: recognize and complete a pattern.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in algebra. The student will perform the following complex task without assistance: complete patterns by shapes, colors, and numbers, more than one item in a pattern.</p>
<b>Geometry (MA.S.3)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in algebra. The student attempts to perform the following with assistance: match angles.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in geometry. The student will perform the following with assistance: from two items select the one with an angle and trace a right angle or an obtuse angle.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in geometry. The student will perform the following without assistance: recognize and replicate right and obtuse angles.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in geometry. The student will perform the following complex task without assistance: select pictorial representations of objects with right and obtuse angles and draw a right angle.</p>
<b>Measurement (MA.S.4)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in measurement. The student attempts to perform the following with assistance: color within the lines of a polygon, identify a ruler from a non-ruler, and identify a clock.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in measurement. The student will perform the following with assistance: count the squares for area or perimeter, sort by length, and tell time to the hour.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standard in measurement. The student performs without assistance: determine perimeter or area of an object, use a ruler to measure length in inches; to tell time to the half hour.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in measurement. The student will perform the following complex task without assistance: find the area of a figure by multiplying length by width, determine perimeter of a rectangle, measure real world objects with an inch ruler, tell time to five minute intervals.</p>
<b>Data Analysis and Probability (MA.S.5)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in measurement. The student attempts to perform the following with assistance: identify a bar graph.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: fill in bars on a graph.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: collect, display and read data using appropriate graphs (pictorial, bar and line graphs).</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in data analysis and probability. The student will perform the following complex task without assistance: interpret graphs.</p>

These are APTA Performance Level Descriptions for **Grade 6 Math**.

**APTA Performance Level Descriptors  
Grade 7 Reading/Language Arts**

Standard	Performance Level			
<b>Reading (RLA.S.1)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in reading. The student will attempt to perform the following with assistance: select object/picture of a given vocabulary word; identify one element of a story.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge, characterized by errors and/or omissions in reading. The student will perform the following with assistance: match frequently used sight/common words with verbal or picture representations; identify two elements of a story (character, main idea).</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the extended standards in reading. The student will perform the following task without assistance: recognize and comprehend frequently used sight or common words; identify three elements of a story.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the extended standards in reading. The student will perform the following complex task without assistance: apply frequently used sight/common words; identify four elements of a story or text.</p>
<b>Writing (RLA.S.2)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in writing. The student will attempt to perform the following with assistance: manipulate preferred writing instrument with proper positioning; use a media tool to complete an activity.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge and skills characterized by errors and/or omissions in writing. The student will perform the following with assistance: arrange subject and action word to form sentence and identify information found in resource media.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the extended standards in writing. The student will perform the following task without assistance: write two related sentences; compare two similar resource materials and determine which is most appropriate for a given task.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the extended standards in writing. The student will perform the following complex task without assistance: write three or more related sentences; produce written text based on research information.</p>
<b>Listening, Speaking, Viewing (RLA.S.3)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in listening, speaking and viewing. The student will attempt to perform the following with assistance: attend to a variety of communication with familiar and unfamiliar people.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge, characterized by errors and/or omissions in listening, speaking and viewing. The student will perform the following with assistance: respond to spoken communication to perform part of a task.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the extended standard in listening, speaking and viewing. The student will perform the following task without assistance: listen and communicate in order to obtain information or perform a task.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the extended standard in listening, speaking and viewing. The student will perform the following complex task without assistance: seek clarification of information.</p>

These are APTA Performance Level Descriptions for **Grade 7 Reading/Language Arts**.

**APTA Performance Level Descriptors  
Grade 7 Math**

Standard	Performance Level			
<p><b>Number and Operations (MA.S.1)</b></p>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in number and operations. The student will attempt to perform the following with assistance: point to a given number on a number line; select <math>\frac{1}{2}</math> of a picture or object depicting <math>\frac{1}{2}</math>, select the fractional part as directed and multiply 1 and 2; recognize that when items are added to or subtracted, the result is more or less.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in numbers and operations. The student will perform the following with assistance: recognize numbers to 20, identify whole numbers on a number line, identify <math>\frac{1}{2}</math> as one of two parts, <math>\frac{1}{3}</math> as one of three parts and <math>\frac{1}{4}</math> as one of four parts and multiply single-digits up to 5, recognize and indicate whether items are added or subtracted from group.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in numbers and operations. The student will perform the following without assistance: recognize numbers up to 100, recognize whole numbers 1 to 100 and the difference among <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, and <math>\frac{1}{3}</math>; assign a number 1- 100 to a correct value; match fractions (<math>\frac{1}{2}</math>, <math>\frac{1}{3}</math>, and <math>\frac{1}{4}</math>) with corresponding picture or object and multiply single-digit numbers, use addition and subtraction to solve an application problem.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in number and operations. The student will perform the following complex task without assistance: write numbers up to 20, recognize <math>\frac{1}{2}</math> as greater than <math>\frac{1}{3}</math> and <math>\frac{1}{3}</math> as greater than <math>\frac{1}{4}</math> and demonstrate the concept of multiplication, use more than one operation (add, subtract, multiply) to solve practical problems.</p>
<p><b>Algebra (MA.S.2)</b></p>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in algebra. The student attempts to perform the following with assistance: group like colors and shapes; indicate which is bigger - a whole item or a partial item.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in algebra. The student will perform the following with assistance: sort, manipulate and group by number values; given group of values, indicate which is more.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in algebra. The student will perform the following without assistance: recognize and complete a counting pattern; given two whole numbers, which is greater or less than.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in algebra. The student will perform the following complex task without assistance: predict a pattern; represent an equality.</p>
<p><b>Geometry (MA.S.3)</b></p>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in algebra. The student attempts to perform the following with assistance: duplicate an angle.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in geometry. The student will perform the following with assistance: identify a specified angle on a familiar object.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in geometry. The student will perform the following without assistance: recognize and replicate angles; (right, acute, and obtuse).</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in geometry. The student will perform the following complex task without assistance: identify and locate different angles.</p>
<p><b>Measurement (MA.S.4)</b></p>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in measurement. The student attempts to perform the following with assistance: place objects in containers, identify a ruler, identify time in hour intervals.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in measurement. The student will perform the following with assistance: determine capacity (more/less), identify a ruler and a yardstick, and identify time in the hour and half-hour intervals.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standard in measurement. The student performs without assistance: determine the volume of an object using nonstandard measurement, measure length with a customary ruler and yard stick, and tell time to nearest time intervals.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in measurement. The student will perform the following complex task without assistance: predict volume, select which appropriate measuring tool for an object, and identify time to the nearest fifteen minute intervals.</p>
<p><b>Data Analysis and Probability (MA.S.5)</b></p>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in measurement. The student attempts to perform the following with assistance: identify objects in a category.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: identify items that belong in a category.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: organize into frequency of occurrence and range.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in data analysis and probability. The student will perform the following complex task without assistance: categorize data and determine frequency of occurrence for each category and organize by range.</p>

These are APTA Performance Level Descriptions for **Grade 7 Math**.

**APTA Performance Level Descriptors  
Grade 8 Reading/Language Arts**

Standard	Performance Level			
<b>Reading (RLA.S.1)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in reading. The student will attempt to perform the following with assistance: use picture/object to represent words and demonstrate focused attention to pictures/symbols/objects from the text.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge, characterized by errors and/or omissions in reading. The student will perform the following with assistance: use resources to ask for items and given two choices, indicate which happened in the story.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the extended standards in reading. The student will perform the following task without assistance: use a variety of resources to identify meaning of vocabulary words; identify details the character used to make a decision; and identify details from informational text to make decisions.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge skills that exceeds the extended standards in reading. The student will perform the following complex task without assistance: identify more than one meaning of vocabulary words; identify two supporting details the character used to make a decision; use details from text to perform a text.</p>
<b>Writing (RLA.S.2)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in writing. The student will attempt to perform the following with assistance: select preferred writing instrument.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge and skills characterized by errors and/or omissions in writing. The student will perform the following with assistance: copy provided text.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the extended standard in writing. The student will perform the following task without assistance: using a resource, compose a paragraph with three related sentences.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the extended standard in writing. The student will perform the following complex task without assistance: using a variety of resources, compose a paragraph and self-correct capitalization and punctuation.</p>
<b>Listening, Speaking, Viewing (RLA.S.3)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in listening, speaking and viewing. The student will attempt to perform the following with assistance: follow class rules for behavior during presentation.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge, characterized by errors and/or omissions in listening, speaking and viewing. The student will perform the following with assistance: respond to information presented by unfamiliar person.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the extended standard in listening, speaking and viewing. The student will perform the following task without assistance: listen to and communicate with a variety of speakers in order to answer questions regarding the content.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the extended standard in listening, speaking and viewing. The student will perform the following complex task without assistance: actively participate in group discussion to explore, question, and present information.</p>

These are APTA Performance Level Descriptions for **Grade 8 Reading/Language Arts**.

**APTA Performance Level Descriptors  
Grade 8 Math**

Standard	Performance Level			
<b>Number and Operations (MA.S.1)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in number and operations. The student will attempt to perform the following with assistance: identify numbers 1 - 5 with corresponding objects; identify a part of an object versus a whole object and match a number to a given set.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates but inconsistent performance of fundamental knowledge characterized by errors and/or omissions in number and operations. The student will perform the following with assistance: compare sets of objects to find more, less, equal; recognize that .5 (1/2) is less than a whole; recognize single-digit numbers and match them with the number word and combine items to create a specified number.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in numbers and operations. The student will perform the following without assistance: recognize numbers up to 100; count by 10s to 100; recognize decimal and fraction equivalences and apply various strategies and operations to solve practical problems involving whole numbers.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in number and operations. The student will perform the following complex task without assistance: recognize numbers through 100 and match them with their word name; count groups of 10s to 100; recognize decimal, fraction, percent equivalences and choose the correct operation for a given problem.</p>
<b>Algebra (MA.S.2)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in algebra. The student attempts to perform the following with assistance: follow a counting pattern and given a whole object and a partial object, identify which is "more than" which is "less than."</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in algebra. The student will perform the following with assistance: follow a counting pattern by counting two's, five's, and ten's and given fractional representation of two objects identify which is more.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in algebra. The student will perform the following without assistance: recognize and extend mathematical patterns and given fractions one-half, one-third, one-fourth, and decimals .5, .25, .75 identify which is greater than/less than.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in algebra. The student will perform the following complex task without assistance: extend a counting pattern and demonstrate the concept of one-half, one-third, and one-fourth through daily activities and decimals .5, .25, .75 through provided coins.</p>
<b>Geometry (MA.S.3)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in geometry. The student attempts to perform the following with assistance: recognize an angle; recognize points.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in geometry. The student will perform the following with assistance: assemble different kinds of angles; assemble lines.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in geometry. The student will perform the following without assistance: identify the angles of an object in the environment; identify lines.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in geometry. The student will perform the following complex task without assistance: identify and locate different kinds of angles; identify parallel lines.</p>
<b>Measurement (MA.S.4)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in measurement. The student attempts to perform the following with assistance: follow a daily schedule for a minimum of one activity,</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in measurement. The student will perform the following with assistance: compare objects by linear features; follow a daily schedule of two or more events.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standard in measurement. The student performs the following without assistance: Determine the perimeter and area of a rectangle; utilize the concept of time in real life.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in measurement. The student will perform the following complex task without assistance: determine and measure the perimeter of a rectangle, find the area of a figure, use measurement tool needed to measure different lengths.</p>
<b>Data Analysis and Probability (MA.S.5)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in data analysis and probability. The student attempts to perform the following task with assistance: predict the effect of an action.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: make a prediction based on two choices.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: solve problems to determine possible combinations.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in data analysis and probability. The student will perform the following complex task without assistance: make a graph from a survey and make a prediction based on real life situations.</p>

These are APTA Performance Level Descriptions for **Grade 8 Math**.

**APTA Performance Level Descriptors  
Grade 10 Reading/Language Arts**

Standard	Performance Level			
<b>Reading (RLA.S.1)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in reading. The student will attempt to perform the following with assistance: identify the word; distinguish actual and representational items; and identify material for intended purpose.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge, characterized by errors and/or omissions in reading. The student will perform the following with assistance: associate word with meaning; distinguish fact from fiction; and use materials to complete a task.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the extended standards in reading. The student will perform the following task without assistance: determine word meaning through a variety of strategies; comprehend meaning from literary materials to make predictions and answer questions; and apply information from a variety of sources.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the extended standards in reading. The student will perform the following complex task without assistance: generalize the meaning of a word through various activities; apply meaning of the story to real life; and locate and use information from a variety of sources.</p>
<b>Writing (RLA.S.2)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in writing. The student will attempt to perform the following with assistance: write name or other personal information.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge, characterized by errors and/or omissions in writing. The student will perform the following with assistance: arrange words to make phrases or simple sentences.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the extended standards in writing. The student will perform the following task without assistance: produce writing for practical uses with correct punctuation and capitalization.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the extended standard in writing. The student will perform the following complex task without assistance: produce multiple types of writing, apply proper conventions of writing and self-correct.</p>
<b>Listening, Speaking, Viewing (RLA.S.3)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in listening, speaking and viewing. The student will attempt to perform the following with assistance: communicate a response through a communication system.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of knowledge, characterized by errors and/or omissions in listening, speaking and viewing. The student will perform the following with assistance: communicate with a variety of people through different means.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge by showing performance that meets the extended standard in listening, speaking and viewing. The student will perform the following task without assistance: listen in order to communicate effectively in different ways and for different purposes.</p>	<p><i>AM = Above Mastery</i> The student demonstrates performance and shows an application of knowledge that exceeds the extended standard in listening, speaking and viewing. The student will perform the following complex task without assistance: listen in order to communicate effectively in different ways and different purposes within school and community.</p>

These are APTA Performance Level Descriptions for **Grade 10 Reading/Language Arts**.

**APTA Performance Level Descriptors  
Grade 10 Math**

Standard	Performance Level			
<b>Number and Operations (MA.S.1)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in number and operations. The student will attempt to perform the following with assistance: given a quantity of objects, recognize when items are added or taken away; differentiate between a whole unit and a fraction; differentiate between a coin and a non-coin.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates but inconsistent performance of fundamental knowledge characterized by errors and/or omissions in number and operations. The student will perform the following with assistance: use manipulatives to add or subtract whole numbers up to twenty; arrange parts to complete a whole; identify name and value of money: coins- one, five, ten, and 25 cents and dollars-\$1. \$5, \$10, \$20.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in numbers and operations. The student will perform the following without assistance: calculate groups of numbers using four basic operations; divide a whole unit into 1/4, 1/3, and 1/2; find the value of a combination of coins/currency.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in number and operations. The student will perform the following complex task without assistance: chooses correct operations to solve application problems; divide whole unit into equal portions; determine amount of dollars/change needed for a purchase.</p>
<b>Algebra (MA.S.2)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in algebra. The student attempts to perform the following with assistance: identify a missing part, show more than; recognize as going "up" or "across" (vertical/horizontal).</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in algebra. The student will perform the following with assistance: identify a missing part in a sequence; show "more than", "less than". "most". "least", "same" and model horizontal and vertical lines.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in algebra. The student will perform the following without assistance: use algebraic symbols (&lt;, &gt;, =) to compare two sets and use a graph to represent relations in numbers.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in algebra. The student will perform the following complex task without assistance: demonstrate the concepts of greater than, less than, and equal to when dealing with money and identify the slope of a line graph (rising, falling, constant).</p>
<b>Geometry (MA.S.3)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in geometry. The student attempts to perform the following with assistance: recognize lines; represent angles; sort objects according to shapes.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in geometry. The student will perform the following with assistance: model lines within the environment; reproduce different kinds of angles; locate geometric shapes in the environment.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in geometry. The student will perform the following without assistance: use spatial relationships (geometric shapes, forms and figures, i.e., points, lines, angles and shapes) to solve problems.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in geometry. The student will perform the following complex task without assistance: recognize and use lines in real-life situations; use lines and points to follow directions within the community; find and name different angles within the community (right, straight, obtuse, acute); apply spatial relations in real-world settings.</p>
<b>Measurement (MA.S.4)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in measurement. The student attempts to perform the following with assistance: recognize the differences in measure terminology.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates inconsistent performance of fundamental knowledge characterized by errors and/or omissions in measurement. The student will perform the following with assistance: use appropriate tools for measurement.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standard in measurement. The student performs the following without assistance: solve practical problems involving length, weight and capacity.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in measurement. The student will perform the following complex task without assistance: use measurement skills to perform real life situations.</p>
<b>Data Analysis and Probability (MA.S.5)</b>	<p><i>N = Novice</i> The student demonstrates substantial need for the development of fundamental knowledge, characterized by fragmented and incomplete performance in data analysis and probability. The student attempts to perform the following task with assistance: recognize like items.</p>	<p><i>PM = Partial Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: classify information using charts, logs, checklist.</p>	<p><i>M = Mastery</i> The student demonstrates fundamental knowledge that meets the extended standards in data analysis and probability. The student will perform the following without assistance: collect, organize and utilize numerical information and data.</p>	<p><i>AM = Above Mastery</i> The student demonstrates fundamental knowledge that exceeds the extended standards in data analysis and probability. The student will perform the following complex task without assistance: use collected data to make personal decisions.</p>

These are APTA Performance Level Descriptions for **Grade 10 Math**.

**Section G**

**Detailed Results from Profile Sorting**



**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 3 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	3	3	3	3	
2	2	3	3	3	
3	2	3	2	2	
4	1	2	2	2	
5	3	3	2	3	
6	2	3	2	2	
7	3	3	3	3	
8	3	2	2	2	
9	3	3	3	3	
10	3	4	4	4	
11	2	3	2	2	
12	3	3	4	4	
13	2	2	2	2	
14	3	3	3	2	
15	3	2	2	2	
16	2	2	1	2	
17	2	2	2	2	
18	2	3	3	3	
19	2	3	3	2	
20	3	3	3	3	
21	4	4	4	4	
22	4	4	4	4	
23	3	3	3	3	
24	2	2	2	2	
25	3	3	3	4	
26	2	2	1	2	
27	3	3	3	3	
28	2	3	3	3	
29	3	4	3	4	
30	2	2	2	2	
31	3	3	3	3	
32	2	2	2	2	
33	3	3	3	3	
34	4	4	4	4	
35	3	3	3	3	
36	4	3	3	4	
37	3	3	3	3	
38	3	3	2	3	
39	4	4	4	4	
40	4	3	3	3	
41	4	4	3	4	
42	4	4	3	4	
43	3	3	3	3	
44	2	2	2	2	
45	4		3	4	
46	3	4	3	3	
47	3	3	2	2	

**West Virginia APTA Standard Setting - March 2006  
Mathematics Grade 3 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	3	3	2	2	
49	1	1	1	1	
50	2	3	2	2	
51	2	3	3	3	
52	4	4	3	3	
53	3	3	3	3	
54	4	3	3	3	
55	4	4	3	3	
56	3	3	3	3	
57	2	2	2	2	
58	4	4	4	4	
59	2	2	3	3	
60	3	4	3	2	
61	3	2	3	3	
62	3	3	3	3	
63	3	3	3	3	
64	1	1	1	1	
65	3	3	3	3	
66	3	4	3	3	
67	4	4	4	4	
68	2	2	3	3	
69	2	3	2	2	
70	3	2	3	3	
71	2	2	2	2	
72	4	4	4	4	
73	4	4	3	3	
74	2	2	2	2	
75	4	4	4	3	
76	3	4	3	3	
77	4	4	3	4	
78	4	4	3	3	
79	4	4	3	3	
80	3	3	3	3	
81	3	3	3	3	
82	3	3	3	3	
83	4	4	3	3	
84	3	3	3	3	
85	3	3	3	3	
86	3	3	3	3	
87	3	3	2	2	
88	3	2	3	3	
89	3	2	3	3	
90	3	3	3	3	
91	4	4	3	4	
92	1	1	1	1	
93	1	2	1	2	
94	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 3 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	2	2	3	3	
96	3	3	3	3	
97	3	3	3	3	
98	4	4	4	4	
99	4	4	3	3	
100	2	2	2	2	
101	4	4	4	4	
102	4	4	3	4	
103	3	3	3	3	
104	4	4	3	3	
105	4	4	4	4	
106	1	1	1	1	
107	3	3	2	3	
108	2	2	4	2	
109	4	4	3	4	
110	4	4	3	4	
111	4	4	4	4	
112	3	3	3	3	
113	3	3	3	3	
114	2	2	2	2	
115	4	4	3	4	
116	3	3	4	4	
117	2	2	2	2	
118	2	3	3	3	
119	2	3	3	3	
120	4	4	3	4	
121	1	2	2	2	
122	3	3	3	3	
123	3	3	3	3	
124	1	1	2	2	
125	2	3	3	3	
126	2	3	3	3	
127	2	3	3	3	
128	3	3	3	4	
129	3	3	3	3	
130	4	4	4	4	
131	4	4	4	4	
132	2	3	2	3	
133	3	4	3	4	
134	4	4	4	4	
135	3	3	3	3	
136	3	3	2	3	
137	4	4	4	4	
138	3	3	3	3	
139	3	3	3	3	
140	4	4	3	3	
141	3	4	2	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 3 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	3	3	3	3	
143	1	1	1	1	
144	3	3	3	3	
145	2	2	2	2	
146	1	1	1	1	
147	2	3	3	3	
148	2	2	3	2	
149	2	2	2	2	
150	2	3	3	3	
151	4	3	2	3	
152	3	4	2	4	
153	2	2	2	2	
154	2	2	2	2	
155	2	3	2	2	
156	2	2	2	2	
157	2	2	2	2	
158	3	3	3	3	
159	2	2	3	2	
160	1	1	1	2	
161	2	3	3	2	
162	2	3	3	3	
163	2	3	3	3	
164	2	2	2	2	
165	2	3	2	2	
166	2	2	2	2	
167	2	2	2	2	
168	2	3	3	3	
169	3	4	3	4	
170	4	4	3	4	
171	1	1	2	1	
172	4	4	3	4	
173	3	4	3	4	
174	3	3	3	4	
175	3	4	3	4	
176	3	3	3	4	
177	4	4	4	4	
178	4	4	4	4	
179	3	3	3	3	
180	2	2	3	2	
181	3	4	4	4	
182	2	3	3	3	
183	3	3	3	4	
184	4	4	4	4	
185	3	3	2	3	
186	2	3	3	3	
187	2	2	2	2	
188	2	3	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 3 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	2	1	1	2	
190	2	2	2	2	
191	2	3	3	3	
192	1	1	1	1	
193	3	2	3	3	
194	3	3	3	3	
195	2	2	3	3	
196	3	3	3	3	
197	4	4	4	4	
198	2	2	2	3	
199	3	3	3	3	
200	4	4	3	4	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 4 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	4	4	4	4	
2	2	1	2	2	
3	3	3	2	3	
4	4	4	3	4	
5	2	2	2	1	
6	4	4	4	4	
7	2	2	2	3	
8	2	2	2	2	
9	1	1	1	1	
10	1	1	1	1	
11	3	2	2	2	
12	4	3	3	3	
13	3	3	3	3	
14	3	3	3	3	
15	4	3	3	3	
16	3	3	3	3	
17	2	3	2	3	
18	3	3	2	3	
19	3	3	2	3	
20	3	3	2	3	
21	4	4	4	4	
22	2	2	2	3	
23	3	3	2	3	
24	2	3	2	2	
25	2	2	2	2	
26	2	2	2	2	
27	2	3	2	3	
28	2	3	2	3	
29	1	1	1	1	
30	2	3	2	3	
31	4	3	3	3	
32	3	3	3	3	
33	3	3	3	3	
34	2	2	2	2	
35	4	4	4	4	
36	3	3	3	3	
37	1	1	1	1	
38	4	4	4	3	
39	3	3	3	3	
40	2	3	2	2	
41	4	4	4	3	
42	3	3	2	3	
43	1	1	1	1	
44	4	4	4	4	
45	4	4	4	4	
46	2	2	2	2	
47	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 4 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	3	3	3	3	
49	3	3	2	3	
50	3	3	2	2	
51	2	2	1	2	
52	2	2	2	2	
53	3	3	3	3	
54	3	3	3	3	
55	2	3	2	2	
56	3	3	4	3	
57	4	4	4	3	
58	3	3	3	2	
59		2	2	2	
60	3	3	3	3	
61	3	3	3	3	
62	3	3	3	3	
63	2	2	2	2	
64	2	2	2	2	
65	2	2	2	2	
66	2	1	2	1	
67	3	3	4	3	
68	2	2	2	2	
69	2	3	2	3	
70	3	3	3	3	
71	1	1	2	2	
72	2	3	3	3	
73	4	4	4	4	
74	2	2	2	2	
75	3	2	3	2	
76	3	3	3	3	
77	1	1	1	2	
78	3	3	3	3	
79	3	3	4	4	
80	1	1	1	2	
81	3	4	4	3	
82	1	1	1	1	
83	1	2	2	2	
84	3	3	2	2	
85	1	1	1	2	
86	2	2	3	2	
87	2	2	2	2	
88	1	2	2	2	
89	2	2	2	2	
90	2	3	2	3	
91	3	3	2	3	
92	3	3	3	3	
93	2	2	2	2	
94	3	2	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 4 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	3	3	3	3	
96	1	1	1	1	
97	2	2	1	2	
98	2	2	2	2	
99	4	4	4	3	
100	3	3	3	3	
101	3	3	3	3	
102	2	2	2	2	
103	4	3	4	4	
104	4	3	4	4	
105	1	1	1	1	
106	2	2	1	2	
107	3	2	2	3	
108	3	3	3	3	
109	2	3	3	3	
110	3	3	4	3	
111	3	3	3	3	
112	2	2	3	2	
113	4	4	4	4	
114	2	3	3	2	
115	3	2	3	2	
116	4	3	4	3	
117	4	4	4	3	
118	2	2	2	2	
119	2	2	2	2	
120	4	3	3	3	
121	2	3	2	3	
122	3	3	3	3	
123	4	3	4	3	
124	2	3	2	2	
125	2	2	2	2	
126	2	2	2	2	
127	3	3	3	3	
128	4	3	3	3	
129	2	2	2	2	
130	2	3	2	3	
131	2	3	3	3	
132	3	3	3	3	
133	2	3	2	2	
134	2	3	3	3	
135	2	2	2	2	
136	2	3	2	2	
137	2	3	3	3	
138	2	2	2	2	
139	2	3	3	3	
140	2	3	3	3	
141	2	3	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 4 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	4	4	4	4	
143	2	3	3	3	
144	1	2	2	2	
145	2	3	3	3	
146	3	3	3	3	
147	4	4	3	3	
148	3	3	3	3	
149	4	4	3	4	
150	3	3	3	3	
151	3	3	3	3	
152	3	3	3	3	
153	4	4	4	3	
154	2	3	3	2	
155	3	3	3	3	
156	3	3	2	3	
157	2	4	3	3	
158	4	3	3	3	
159	1	2	2	2	
160	4	3	3	3	
161	2	2	2	2	
162	3	3	2	3	
163	2	3	3	3	
164	4	3	3	3	
165	2	2	2	2	
166	3	3	3	3	
167	3	3	2	2	
168	4	4	3	4	
169	2	3	3	3	
170	4	2	2	3	
171	2	3	2	3	
172	2	3	2	3	
173	4	4	4	4	
174	4	4	3	4	
175	2	3	3	3	
176	3	4	4	4	
177	4	4	4	3	
178	3	3	2	3	
179	4	4	4	4	
180	3	3	3	4	
181	2	2	2	3	
182	3	3	2	3	
183	2	2	2	2	
184	2	3	3	3	
185	2	3	3	3	
186	3	3	2	3	
187	2	3	3	2	
188	1	1	1	1	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 4 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	4	4	4	4	
190	4	3	3	3	
191	3	3		3	
192	1	1	3	1	
193	4	3	3	2	
194	3	2	3	2	
195	3	3	2	3	
196	2	2	2	2	
197	2	2	3	2	
198	2	3	3	3	
199	3	4	3	3	
200	3	4	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 5 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	3	4	3	3	
2	3	3	3	3	
3	2	2	2	2	
4	2	2	2	2	
5	3	3	3	3	
6	2	2	2	2	
7	2	1	2	2	
8	3	3	3	3	
9	3	4	3	3	
10	3	3	3	3	
11	3	3	3	2	
12	1	1	1	1	
13	2	2	2	2	
14	3	4	3	3	
15	2	2	2	3	
16	2	2	2	2	
17	2	2	3	2	
18	3	3	3	3	
19	2	1	2	2	
20	1	2	1	1	
21	4	4	4	4	
22	2	2	2	2	
23	2	1	2	2	
24	3	3	3	2	
25	4	4	4	4	
26	2	2	2	2	
27	3	3	3	3	
28	2	2	2	2	
29	2	1	1	2	
30	3	3	2	2	
31	1	1	2	2	
32	3	3	3	2	
33	3	3	3	3	
34	2	2	2	2	
35	1	1	1	1	
36	4	4	4	4	
37	3	3	3	3	
38	2	3	3	2	
39	3	2	2	3	
40	1	1	1	1	
41	2	3	2	2	
42	3	3	3	3	
43	2	2	2	2	
44	2	2	2	2	
45	3	3	3	3	
46	4	4	3	3	
47	4	4	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 5 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	1	1	1	1	
49	3	3	3	3	
50	3	3	2	2	
51	2	2	2	2	
52	2	3	2	2	
53	2	2	2	2	
54	2	2	2	2	
55	3	3	3	3	
56	1	1	1	1	
57	1	1	1	1	
58	2	2	2	2	
59	3	3	3	2	
60	4	4	4	3	
61	2	3	2	2	
62	4	4	4	3	
63	2	3	2	2	
64	2	2	2	2	
65	1	1	1	1	
66	2	2	2	2	
67	2	2	2	2	
68	2	3	2	2	
69	2	2	2	2	
70	2	2	2	2	
71	3	3	3	3	
72	2	2	2	2	
73	1	1	1	2	
74	2	2	2	2	
75	3	3	3	2	
76	2	2	2	2	
77	3	3	3	3	
78	2	2	2	2	
79	3	4	3	3	
80	2	3	2	2	
81	1	1	1	1	
82	2	2	2	2	
83	1	1	2	2	
84	2	3	2	2	
85	3	3	3	3	
86	2	2	2	2	
87	2	3	2	2	
88	2	2	2	2	
89	3	3	3	3	
90	1	1	1	1	
91	3	3	3	3	
92	2	2	2	2	
93	4	4	4	4	
94	3	3	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 5 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	2	3	2	2	
96	2	3	2	2	
97	2	2	2	2	
98	3	3	3	3	
99	4	4	4	3	
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101	2	2	2	2	
102	3	3	3	3	
103	2	1	2	2	
104	2	2	2	2	
105	2	3	2	2	
106	4	4	4	4	
107	3	4	3	3	
108	2	1	2	2	
109	2	1	2	2	
110	2	1	2	2	
111	2	2	2	2	
112	2	2	2	2	
113	2	1	2	2	
114	2	3	2	2	
115	1	1	1	1	
116	3	3	3	3	
117	2	2	2	2	
118	2	3	2	2	
119	4	4	4	4	
120	2	3	3	2	
121	3	4	3	3	
122	1	1	1	1	
123	2	2	2	2	
124	3	3	3	3	
125	2	2	2	2	
126	4	4	4	4	
127	4	4	4	3	
128	3	3	3	3	
129	2	2	2	2	
130	4	4	4	3	
131	3	4	3	3	
132	1	1	1	1	
133	3	4	3	3	
134	2	2	2	2	
135	3	3	3	3	
136	2	2	2	2	
137	3	3	3	2	
138	4	4	4	3	
139	4	4	4	4	
140	3	3	3	3	
141	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006  
Mathematics Grade 5 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	1	1	1	1	
143	2	2	2	2	
144	2	3	2	2	
145	2	2	2	2	
146	3	3	3	3	
147	3	3	3	3	
148	2	2	2	2	
149	2	2	2	2	
150	2	2	2	2	
151	2	2	2	2	
152	1	1	1	2	
153	2	2	2	2	
154	3	3	3	3	
155	3	3	3	3	
156	3	3	3	3	
157	2	2	2	2	
158	4	4	3	3	
159	2	1	1	2	
160	3	3	3	3	
161	2	2	2	2	
162	3	3	3	3	
163	4	4	4	4	
164	2	2	2	2	
165	2	2	2	2	
166	2	3	2	2	
167	2	2	2	2	
168	2	2	2	2	
169	4	4	4	4	
170	2	2	2	2	
171	3	3	3	3	
172	2	2	2	2	
173	3	3	3	3	
174	2	3	2	2	
175	3	3	3	3	
176	3	3	3	3	
177	2	1	1	2	
178	2	2	2	2	
179	3	4	3	3	
180	1	1	1	1	
181	3	4	3	3	
182	3	3	3	3	
183	2	2	2	2	
184	3	4	3	3	
185	2	3	2	2	
186	3	4	3	3	
187	3	3	3	3	
188	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 5 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	2	2	2	2	
190	2	2	2	2	
191	3	3	3	3	
192	2	2	2	2	
193	3	3	3	3	
194	1	1	1	2	
195	3	3	3	3	
196	2	2	2	2	
197	3	3	3	3	
198	3	3	3	3	
199	2	2	2	2	
200	1	1	1	1	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 6 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	3	3	3	3	3
2	2	2	3	2	2
3	4	4	4	4	4
4	2	2	3	2	2
5	3	3	3	4	3
6	2	2	3	3	2
7	2	2	2	3	2
8	4	4	3	4	4
9	1	1	1	1	1
10	2	2	2	2	2
11	2	2	2	2	2
12	1	1	1	2	1
13	3	3	3	3	3
14	3	3	3	3	2
15	2	2	2	2	2
16	1	1	1	2	1
17	4	4	3	4	4
18	3	3	3	3	4
19	2	2	2	2	2
20	3	3	4	3	3
21	3	3	4	3	3
22	3	3	4	3	4
23	3	3	4	4	3
24	2	2	1	2	2
25	2	2	2	2	2
26	2	2	2	2	2
27	3	2	3	3	3
28	1	1	1	2	1
29	2	2	2	2	1
30	3	3	3	3	4
31	4	4	4	4	4
32	2	2	2	2	2
33	3	2	2	3	3
34	2	2	1	2	2
35	3	3	2	2	2
36	3	3	3	3	3
37	4	4	4	4	4
38	3	3	2	3	3
39	3	3	3	3	3
40	2	2	1	2	2
41	3	3	2	3	3
42	4	4	4	4	4
43	2	3	2	3	3
44	3	3	3	3	3
45	3	3	3	3	3
46	1	1	1	1	1
47	4	4	3	4	4

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 6 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	4	3	3	3	3
49	2	2	1	2	2
50	2	2	2	2	2
51	2	2	1	2	2
52	2	2	2	2	2
53	3	3	2	3	3
54	1	1	1	1	1
55	2	2	1	2	2
56	3	3	3	3	3
57	3	3	2	3	3
58	2	2	2	2	2
59	3	2	2	3	3
60	3	3	3	2	2
61	3	3	3	3	3
62	2	2	2	2	2
63	2	2	2	2	2
64	2	2	2	2	2
65	3	2	2	3	3
66	2	2	2	2	2
67	2	2	1	2	2
68	2	3	2	3	3
69	2	2	2	2	2
70	3	3	3	3	3
71	3	3	3	3	3
72	2	2	2	2	2
73	1	1	1	1	1
74	3	3	3	3	3
75	3	3	2	2	2
76	3	3	3	3	3
77	3	4	3	4	4
78	4	3	3	3	3
79	3	3	3	2	2
80	2	2	1	2	2
81	3	4	3	4	4
82	2	2	2	2	2
83	2	3	2	3	3
84	2	2	1	2	2
85	3	3	2	3	3
86	3	4	3	3	3
87	2	2	1	2	2
88	2	2	2	2	2
89	3	3	3	3	3
90	3	2	2	3	3
91	3	3	2	2	3
92	2	2	2	2	2
93	2	2	2	2	2
94	2	2	2	2	2

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 6 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	2	2	2	2	2
96	1	1	1	1	1
97	3	3	2	3	3
98	3	3	3	3	3
99	2	2	2	2	2
100	3	3	3	3	3
101	3	3	3	3	3
102	3	3	3	3	3
103	2	2	2	2	2
104	2	2	2	2	2
105	3	3	2	3	3
106	4	4	4	4	4
107	4	3	3	3	4
108	4	4	4	4	4
109	2	2	1	2	2
110	3	2	2	2	2
111	2	2	2	2	2
112	2	2	2	2	2
113	1	1	1	1	1
114	3	2	3	3	2
115	4	4	4	4	4
116	2	2	2	2	2
117	3	2	3	3	3
118	3	3	3	3	2
119	2	2	2	2	2
120	3	2	3	2	2
121	3	3	2	3	3
122	3	3	3	3	3
123	4	4	4	4	4
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125	4	4	4	4	4
126	3	3	3	3	3
127	3	3	4	3	3
128	3	2	3	3	2
129	3	3	3	2	3
130	2	2	2	2	2
131	3	3	3	3	3
132	2	2	3	2	2
133	2	2	2	2	2
134	2	2	2	2	2
135	4	4	4	4	4
136	3	3	2	3	3
137	4	3	3	3	3
138	4	4	4	4	4
139	3	3	3	3	3
140	2	2	3	2	2
141	3	3	3	3	3

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 6 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	2	2	2	2	2
143	2	2	2	2	2
144	1	1	2	1	1
145	4	4	4	4	4
146	3	3	3	3	3
147	2	2	3	2	2
148	2	2	2	2	2
149	3	3	3	3	3
150	3	3	3	3	3
151	1	1	1	1	1
152	3	3	3	2	3
153	3	3	2	2	3
154	3	3	3	3	2
155	3	3	3	3	3
156	3	3	4	3	3
157	3	3	4	3	3
158	2	2	2	2	2
159	2	2	2	2	2
160	2	2	2	2	2
161	1	1	1	1	1
162	3	3	4	3	3
163	2	2	2	2	2
164	3	3	3	3	3
165	3	3	3	3	3
166	2	2	2	2	2
167	1	2	2	1	1
168	3	3	2	3	3
169	2	2	2	2	2
170	3	3	2	3	3
171	2	2	2	2	2
172	2	2	2	2	2
173	3	3	3	3	3
174	2	2	2	2	2
175	2	2	3	2	2
176	2	2	2	2	2
177	4	3	3	4	4
178	1	1	1	1	1
179	2	2	2	2	2
180	4	2	3	3	3
181	3	4	4	3	3
182	3	3	4	3	3
183	2	2	3	2	2
184	2	2	3	3	3
185	3	3	3	3	3
186	2	2	2	2	2
187	3	3	3	2	3
188	2	2	2	2	2

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 6 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	2	2	3	2	2
190	2	2	2	2	2
191	2	2	3	2	2
192	3	3	2	3	3
193	3	3	3	3	3
194	3	3	3	3	3
195	2	2	3	2	2
196	3	3	3	3	3
197	2	2	2	2	2
198	2	2	2	2	2
199	3	3	3	3	3
200	2	2	2	2	2

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 7 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	4	4	4	4	
2	3	3	3	3	
3	3	3	3	2	
4	3	3	3	2	
5	2	2	2	2	
6	1	1	1	2	
7	1	1	1	1	
8	3	3	3	3	
9	2	2	2	2	
10	2	2	2	2	
11	4	4	4	4	
12	3	4	4	3	
13	3	3	3	2	
14	4	4	4	4	
15	3	3	3	3	
16	4	4	4	4	
17	3	3	3	3	
18	3	2	2	3	
19	4	4	4	4	
20	3	3	3	2	
21	4	3	3	4	
22	2	1	1	2	
23	3	2	3	3	
24	3	2	2	3	
25	3	2	3	3	
26	4	4	4	4	
27	4	4	4	4	
28	3	3	3	3	
29	3	3	2	2	
30	3	3	3	3	
31	3	3	3	2	
32	3	3	3	3	
33	2	2	2	3	
34	3	4	3	2	
35	4	4	4	4	
36	3	4	3	3	
37	2	3	2	2	
38	2	3	3	3	
39	3	4	4	4	
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43	2	3	2	2	
44	3	2	2	2	
45	3	3	3	2	
46	3	3	3	2	
47	1	1	1	1	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 7 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	2	2	2	2	
49	1	2	2	1	
50	2	2	2	3	
51	3	3	2	3	
52	2	2	2	2	
53	2	2	3	2	
54	4	4	4	4	
55	3	2	3	3	
56	3	2	3	3	
57	4	4	3	3	
58	3	3	3	2	
59	3	3	3	3	
60	3	3	3	3	
61	2	3	3	2	
62	2	2	3	2	
63	3	3	3	3	
64	3	3	4	3	
65	3	3	3	3	
66	3	3	2	2	
67	3	2	3	3	
68	3	3	3	2	
69	2	2	2	2	
70	3	2	3	3	
71	3	2	3	3	
72	3	2	2	3	
73	2	2	2	2	
74	2	2	2	2	
75	2	3	3	2	
76	3	2	3	3	
77	3	2	3	3	
78	1	1	1	1	
79	3	2	3	3	
80	3	2	2	2	
81	4	3	4	4	
82	2	2	1	2	
83	2	2	2	2	
84	3	2	2	2	
85	2	1	1	1	
86	3	2	2	2	
87	2	2	2	2	
88	3	3	3	3	
89	3	3	3	2	
90	3	3	3	2	
91	2	2	2	2	
92	3	2	2	2	
93	2	2	2	2	
94	4	4	4	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 7 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	2	2	2	2	
96	3	3	3	2	
97	3	2	3	2	
98	3	2	3	2	
99	3	2	3	3	
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102	3	2	3	3	
103	3	3	3	3	
104	3	3	3	3	
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106	1	1	1	1	
107	3	2	3	3	
108	2	3	3	3	
109	2	2	2	2	
110	3	3	3	3	
111	2	2	1	2	
112	4	3	3	3	
113	1	1	1	1	
114	2	2	1	2	
115	2	2	2	2	
116	3	3	3	3	
117	2	2	1	2	
118	4	3	3	3	
119	2	2	2	2	
120	3	3	3	3	
121	3	3	3	4	
122	3	3	3	3	
123	3	3	3	3	
124	2	2	3	3	
125	3	3	3	3	
126	4	4	3	4	
127	3	3	3	3	
128	3	3	3	3	
129	2	2	2	2	
130	3	2	3	3	
131	3	3	3	3	
132	2	2	2	2	
133	3	2	3	3	
134	2	2	2	2	
135	3	2	3	3	
136	2	2	2	2	
137	3	2	3	3	
138	1	1	1	1	
139	3	2	3	2	
140	4	3	4	3	
141	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 7 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	2	2	2	2	
143	3	2	3	2	
144	2	2	3	2	
145	2	3	3	2	
146	3	2	3	3	
147	3	3	3	3	
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152	4	3	4	3	
153	3	3	3	3	
154	1	1	1	1	
155	3	4	4	4	
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157	3	3	3	3	
158	4	4	4	3	
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163	2	3	3	2	
164	1	1	1	1	
165	3	3	3	3	
166	4	4	4	4	
167	2	3	3	2	
168	3	3	3	3	
169	3	3	3	3	
170	1	1	1	1	
171	2	3	3	3	
172	1	2	1	1	
173	2	2	1	1	
174	1	2	1	2	
175	4	4	4	4	
176	2	2	2	2	
177	2	2	1	2	
178	2	2	2	2	
179	3	3	3	3	
180	3	3	3	3	
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182	2	3	3	2	
183	3	3	3	3	
184	3	3	3	3	
185	4	4	4	4	
186	3	3	3	2	
187	3	3	4	3	
188	2	3	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 7 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	3	3	3	2	
190	3	3	3	3	
191	3	3	3	4	
192	2	2	2	2	
193	3	3	3	3	
194	2	2	2	1	
195	2	2	2	2	
196	3	3	3	3	
197	3	3	3	3	
198	2	2	2	2	
199	2	2	2	2	
200	4	3	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 8 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	2	3	3	2	
2	2	2	2	2	
3	3	4	4	3	
4	2	2	2	1	
5	1	2	2	1	
6	2	2	2	2	
7	2	2	2	1	
8	2	2	2	2	
9	4	4	4	4	
10	3	3	3	3	
11	2	2	2	2	
12	3	4	3	4	
13	2	2	2	3	
14	2	2	3	2	
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16	2	2	2	2	
17	2	2	2	2	
18	2	2	2	1	
19	2	2	2	2	
20	3	3	3	3	
21	4	3	3	3	
22	3	3	2	2	
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26	2	2	2	2	
27	2	2	2	2	
28	2	2	2	2	
29	3	3	3	3	
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31	3	4	4	4	
32	2	2	2	2	
33	2	3	3	2	
34	3	3	3	3	
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36	2	2	2	1	
37	1	1	1	1	
38	3	4	3	4	
39	2	2	2	2	
40	2	2	2	2	
41	3	3	3	3	
42	2	2	1	1	
43	2	2	1	1	
44	2	2	1	1	
45	2	2	2	2	
46	2	2	2	2	
47	3	3	3	3	

**West Virginia APTA Standard Setting - March 2006  
Mathematics Grade 8 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	2	3	2	2	
49	3	3	3	2	
50	2	2	2	2	
51	2	2	2	2	
52	1	1	1	1	
53	2	2	2	2	
54	2	2	2	2	
55	2	2	2	2	
56	2	2	2	1	
57	3	3	3	3	
58	2	2	2	2	
59	2	2	2	1	
60	2	2	2	2	
61	2	2	2	2	
62	2	2	2	2	
63	2	2	2	2	
64	2	2	2	2	
65	2	2	2	2	
66	3	4	3	4	
67	2	2	2	1	
68	2	2	2	1	
69	2	2	2	1	
70	2	2	2	2	
71	2	2	2	1	
72	2	2	2	2	
73	1	1	1	1	
74	1	1	1	1	
75	3	3	3	3	
76	2	2	2	2	
77	2	2	2	2	
78	1	1	1	1	
79	2	2	2	2	
80	3	3	3	3	
81	3	2	2	3	
82	3	3	2	2	
83	2	2	2	2	
84	3	3	3	3	
85	2	2	2	1	
86	2	2	1	2	
87	2	3	2	2	
88	2	2	2	2	
89	2	3	2	2	
90	1	1	1	1	
91	4	4	3	3	
92	2	2	2	2	
93	2	2	2	2	
94	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006  
Mathematics Grade 8 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	2	2	3	2	
96	1	1	1	1	
97	2	2	2	2	
98	2	2	2	1	
99	2	2	2	2	
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102	2	2	2	2	
103	3	3	3	4	
104	2	2	2	2	
105	1	1	1	1	
106	3	3	3	4	
107	3	3	3	3	
108	3	3	3	4	
109	1	1	1	1	
110	2	2	2	2	
111	2	2	2	2	
112	2	2	2	2	
113	3	3	3	3	
114	2	2	2	2	
115	3	3	2	2	
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118	2	2	2	2	
119	2	3	3	3	
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121	2	2	2	3	
122	2	2	2	2	
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124	2	2	2	2	
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126	2	2	2	2	
127	3	3	2	3	
128	2	2	2	2	
129	1	1	1	1	
130	2	2	2	3	
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132	2	2	3	3	
133	2	2	3	2	
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136	2	2	2	2	
137	2	2	3	3	
138	3	3	3	3	
139	2	2	2	2	
140	2	2	2	2	
141	4	3	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 8 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	2	2	2	2	
143	2	2	2	2	
144	2	2	2	2	
145	2	2	2	2	
146	2	2	2	2	
147	2	2	2	2	
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149	2	3	3	2	
150	2	2	2	2	
151	2	2	3	2	
152	2	2	2	2	
153	4	3	3	3	
154	2	2	3	2	
155	2	2	2	2	
156	3	3	2	2	
157	2	2	2	2	
158	2	2	2	2	
159	3	3	2	2	
160	2	2	2	2	
161	3	3	2	2	
162	1	1	1	1	
163	3	4	3	3	
164	2	3	2	2	
165	2	2	2	2	
166	2	2	2	2	
167	3	3	3	3	
168	2	2	2	2	
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173	3	4	3	3	
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183	2	2	2	2	
184	2	2	2	2	
185	2	2	2	2	
186	3	3	2	2	
187	2	2	2	1	
188	3	3	2	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 8 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	2	2	2	2	
190	2	2	2	2	
191	2	2	2	2	
192	2	2	2	2	
193	3	4	4	3	
194	2	2	2	2	
195	2	2	2	2	
196	1	2	1	1	
197	2	2	2	2	
198	2	2	2	2	
199	2	3	2	2	
200	2	3	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 10 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	2	2	2	2	
2	4	4	4	4	
3	3	2	2	2	
4	3	3	4	4	
5	2	2	2	2	
6	2	2	2	1	
7	3	3	3	2	
8	2	3	4	3	
9	3	3	3	2	
10	3	3	4	3	
11	2	2	3	2	
12	2	3	4	3	
13	2	2	3	2	
14	2	3	3	3	
15	2	3	4	3	
16	3	3	4	3	
17	3	3	4	3	
18	2	2	3	2	
19	2	1	2	1	
20	2	2	3	3	
21	2	2	3	3	
22	3	2	3	3	
23	2	1	2	2	
24	2	3	3	3	
25	2	2	2	1	
26	4	4	4	4	
27	2	2	2	2	
28	2	2	3	2	
29	2	2	3	3	
30	2	2	3	2	
31	2	2	3	2	
32	2	2	3	2	
33	2	2	3	2	
34	2	2	3	2	
35	3	4	4	3	
36	2	3	3	2	
37	3	3	3	3	
38	2	2	3	3	
39	1	1	1	1	
40	2	3	3	2	
41	2	2	3	2	
42	3	3	4	4	
43	1	1	1	1	
44	2	2	3	3	
45	4	4	4	4	
46	2	2	3	3	
47	3	2	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 10 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	2	1	2	1	
49	3	4	4	4	
50	3	3	4	3	
51	2	2	3	3	
52	3	3	4	4	
53	1	1	1	1	
54	2	2	3	2	
55	2	2	3	3	
56	1	1	1	1	
57	2	2	2	2	
58	2	3	3	3	
59	3	3	4	4	
60	1	1	2	1	
61	3	3	4	4	
62	3	4	4	4	
63	2	3	4	3	
64	2	2	3	2	
65	3	3	4	4	
66	3	4	4	4	
67	2	2	3	2	
68	2	2	3	3	
69	3	3	3	3	
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71	2	2	3	2	
72	2	2	2	2	
73	2	2	2	2	
74	3	2	3	3	
75	3	3	4	4	
76	2	1	2	2	
77	1	1	1	1	
78	4	4	4	4	
79	3	3	4	4	
80	3	3	4	3	
81	3	3	4	3	
82	2	2	3	2	
83	2	2	3	2	
84	2	3	4	3	
85	2	2	2	2	
86	3	3	4	4	
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88	2	2	3	3	
89	2	2	3	3	
90	2	1	2	1	
91	2	2	3	2	
92	2	2	3	2	
93	2	2	2	2	
94	2	2	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 10 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	3	2	3	3	
96	3	4	4	4	
97	2	2	3	2	
98	2	2	3	3	
99	2	2	2	2	
100	2	2	3	3	
101	3	3	4	4	
102	2	2	2	2	
103	2	2	2	2	
104	3	3	3	3	
105	3	3	4	3	
106	3	3	3	2	
107	3	3	4	3	
108	3	2	3	3	
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110	2	2	3	2	
111	3	3	4	2	
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113	2	1	2	1	
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115	3	3	4	3	
116	2	1	2	1	
117	2	2	2	2	
118	3	4	4	4	
119	4	3	4	3	
120	3	2	3	3	
121	2	2	3	3	
122	2	1	2	1	
123	2	2	3	3	
124	2	1	1	1	
125	2	2	3	2	
126	3	2	3	3	
127	2	1	2	2	
128	3	3	3	3	
129	2	2	2	1	
130	2	2	2	2	
131	3	3	4	4	
132	3	2	3	2	
133	3	3	4	3	
134	2	2	2	2	
135	1	1	1	1	
136	3	3	4	4	
137	3	2	3	3	
138	4	4	4	4	
139	3	2	3	2	
140	4	4	4	4	
141	3	3	4	4	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 10 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	3	2	3	2	
143	3	2	3	2	
144	3	2	3	3	
145	2	2	3	2	
146	2	2	3	2	
147	2	2	3	3	
148	2	2	3	2	
149	3	2	3	3	
150	2	2	3	2	
151	4	4	4	4	
152	4	4	4	4	
153	3	2	3	3	
154	2	2	3	2	
155	3	2	3	2	
156	3	3	4	3	
157	2	1	2	2	
158	3	3	3	3	
159	3	3	3	4	
160	3	3	4	4	
161	4	4	4	3	
162	1	1	1	1	
163	2	1	2	1	
164	2	2	3	2	
165	2	1	2	2	
166	2	2	3	2	
167	1	1	1	2	
168	3	3	4	4	
169	3	2	3	2	
170	4	4	4	4	
171	2	1	1	1	
172	3	3	4	3	
173	4	4	4	4	
174	4	4	4	4	
175	3	3	3	3	
176	2	2	3	2	
177	3	2	3	2	
178	3	3	4	3	
179	3	3	4	4	
180	2	1	2	1	
181	3	2	3	2	
182	3	3	4	4	
183	2	1	2	1	
184	1	1	1	1	
185	1	1	1	1	
186	4	4	4	4	
187	2	2	3	2	
188	3	3	4	3	

**West Virginia APTA Standard Setting - March 2006**  
**Mathematics Grade 10 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	2	2	3	2	
190	2	2	2	2	
191	3	2	3	2	
192	1	1	1	1	
193	2	2	3	2	
194	2	2	3	2	
195	3	4	4	4	
196	2	2	2	2	
197	2	1	2	1	
198	4	4	4	4	
199	4	4	4	4	
200	3	3	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 3 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	3	3	4	3	
2	1	1	1	1	
3	4	3	4	3	
4	4	2	4	2	
5	3	2	3	2	
6	2	1	2	2	
7	4	3	4	3	
8	3	3	3	2	
9	3	2	3	2	
10	1	1	1	1	
11	2	2	2	2	
12	2	2	2	2	
13	3	2	3	2	
14	3	3	3	2	
15	2	3	3	2	
16	1	1	1	1	
17	1	1	1	1	
18	2	3	3	2	
19	2	3	3	2	
20	3	3	4	3	
21	2	2	2	2	
22	3	2	2	2	
23	2	2	2	2	
24	2	3	3	2	
25	4	3	4	4	
26	4	3	4	3	
27	1	2	2	1	
28	4	3	4	2	
29	4	2	3	3	
30	2	2	2	1	
31	4	2	3	2	
32	3	2	3	2	
33	2	3	3	2	
34	4	3	4	3	
35	1	2	2	2	
36	4	3	4	3	
37	1	1	1	1	
38	1	1	1	1	
39	2	2	2	2	
40	3	3	3	2	
41	1	2	2	2	
42	3	2	3	2	
43	1	1	1	1	
44	1	1	1	1	
45	2	2	3	2	
46	3	2	3	2	
47	3	2	3	2	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 3 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	3	3	4	3	
49	2	2	2	2	
50	2	2	3	2	
51	2	2	3	2	
52	1	1	1	1	
53	1	2	1	2	
54	3	3	3	2	
55	2	3	3	2	
56	1	2	2	1	
57	3	2	3	2	
58	1	1	2	1	
59	3	3	3	2	
60	1	1	1	1	
61	2	2	4	2	
62	1	2	2	2	
63	1	1	1	1	
64	2	2	1	2	
65	4	3	4	3	
66	4	3	4	3	
67	2	2	2	1	
68	1	2	2	2	
69	2	2	2	2	
70	2	3	4	2	
71	2	3	4	2	
72	3	3	3	2	
73	2	2	2	2	
74	2	2	2	2	
75	2	2	2	2	
76	2	2	3	2	
77	1	2	2	1	
78	4	3	4	4	
79	2	2	3	2	
80	2	2	2	2	
81	2	2	2	1	
82	3	2	2	2	
83	3	2	3	2	
84	2	2	2	1	
85	2	2	2	2	
86	3	2	3	2	
87	3	2	2	2	
88	2	2	2	2	
89	3	2	3	2	
90	3	2	3	3	
91	3	2	3	3	
92	2	2	2	2	
93	2	2	2	2	
94	4	3	4	3	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 3 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	3	3	3	2	
96	2	2	3	2	
97	1	1	1	1	
98	2	2	3	2	
99	1	2	2	1	
100	2	2	2	2	
101	1	2	2	1	
102	2	2	2	2	
103	3	3	4	4	
104	1	1	2	1	
105	2	2	3	3	
106	1	1	1	1	
107	1	1	1	1	
108	1	1	1	1	
109	1	1	1	1	
110	3	3	4	3	
111	3	2	3	3	
112	2	2	3	2	
113	1	1	1	1	
114	3	3	4	3	
115	3	2	4	3	
116	2	2	3	2	
117	2	2	4	2	
118	2	2	3	2	
119	3	2	3	3	
120	1	2	2	1	
121	4	3	4	4	
122	3	3	4	3	
123	2	2	3	2	
124	2	2	3	2	
125	2	2	2	2	
126	2	2	3	2	
127	2	2	3	2	
128	2	2	3	2	
129	3	2	4	3	
130	2	1	2	1	
131	2	2	2	2	
132	3	3	3	3	
133	2	2	3	2	
134	3	2	3	3	
135	2	2	3	2	
136	4	2	4	3	
137	2	2	3	2	
138	1	1	1	1	
139	2	2	2	2	
140	2	2	3	2	
141	1	1	2	1	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 3 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	2	2	3	2	
143	1	1	2	1	
144	2	2	2	2	
145	2	2	2	2	
146	2	2	3	2	
147	1	1	2	1	
148	4	2	3	3	
149	2	2	3	2	
150	2	2	3	2	
151	2	2	3	2	
152	2	2	3	2	
153	2	2	2	2	
154	1	1	2	1	
155	2	2	3	2	
156	3	2	4	3	
157	3	2	4	3	
158	1	1	2	1	
159	2	2	3	2	
160	2	2	3	2	
161	1	1	1	1	
162	2	2	2	2	
163	3	2	3	2	
164	4	3	4	4	
165	2	2	3	2	
166	3	2	4	2	
167	2	2	3	2	
168	3	3	4	3	
169	3	3	4	3	
170	3	2	3	3	
171	1	1	2	1	
172	2	2	3	2	
173	1	1	1	1	
174	1	1	1	1	
175	1	1	1	1	
176	2	2	2	2	
177	1	1	2	1	
178	2	1	1	2	
179	4	3	4	4	
180	3	2	3	2	
181	2	2	2	2	
182	2	2	2	2	
183	1	1	2	1	
184	1	1	2	1	
185	1	1	2	1	
186	1	1	1	1	
187	3	3	4	3	
188	4	2	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 3 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	2	2	3	2	
190	2	2	2	2	
191	2	2	3	2	
192	1	1	1	1	
193	1	1	2	1	
194	1	1	2	1	
195	2	3	3	2	
196	2	2	3	2	
197	1	2	2	1	
198	1	2	2	1	
199	2	2	1	2	
200	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 4 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	4	4	4	4	
2	4	4	4	3	
3	2	2	2	2	
4	3	4	4	3	
5	3	4	4	4	
6	4	4	4	4	
7	2	3	2	2	
8	2	2	2	2	
9	4	4	4	4	
10	3	3	3	3	
11	3	3	3	3	
12	3	3	4	3	
13	1	1	1	2	
14	2	2	2	2	
15	2	2	2	3	
16	2	2	2	2	
17	2	2	2	2	
18	3	3	3	3	
19	3	3	3	3	
20	2	2	2	3	
21	4	4	4	4	
22	3	3	3	3	
23	3	3	2	3	
24	4	4	4	4	
25	4	4	4	4	
26	4	4	4	4	
27	4	4	4	4	
28	4	4	4	4	
29	2	3	2	3	
30	3	3	3	3	
31	3	3	3	3	
32	2	2	2	3	
33	4	4	4	4	
34	4	4	4	4	
35	4	4	4	3	
36	1	1	1	1	
37	3	3	3	3	
38	4	4	4	4	
39	4	4	4	4	
40	3	3	3	2	
41	4	4	4	4	
42	2	2	2	2	
43	4	3	3	4	
44	3	3	3	3	
45	2	2	2	2	
46	3	3	3	3	
47	4	4	4	4	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 4 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	4	4	4	4	
49	4	4	4	4	
50	3	3	3	3	
51	2	2	2	2	
52	2	2	2	2	
53	2	2	2	2	
54	4	4	4	4	
55	3	3	3	3	
56	4	4	4	4	
57	1	1	1	1	
58	2	2	2	2	
59	3	3	3	3	
60	4	4	4	4	
61	3	3	2	3	
62	3	3	3	3	
63	4	4	4	3	
64	4	3	4	4	
65	3	3	2	3	
66	3	3	3	3	
67	4	4	4	4	
68	3	3	4	3	
69	2	2	2	2	
70	3	3	3	3	
71	4	4	4	4	
72	4	4	4	4	
73	3	3	2	3	
74	2	3	2	2	
75	4	3	3	3	
76	4	4	4	4	
77	3	3	3	2	
78	4	4	4	4	
79	2	2	2	2	
80	3	3	2	3	
81	4	4	4	4	
82	3	3	3	3	
83	4	4	4	4	
84	3	2	3	2	
85	1	1	1	2	
86	3	3	2	3	
87	4	3	3	4	
88	4	4	4	4	
89	3	3	3	3	
90	4	4	4	4	
91	3	3	4	3	
92	4	4	4	4	
93	3	3	3	3	
94	4	4	4	4	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 4 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	3	3	3	3	
96	2	2	2	1	
97	3	3	2	3	
98	4	4	4	4	
99	3	3	3	3	
100	4	4	4	3	
101	4	4	4	4	
102	3	3	3	2	
103	3	2	3	2	
104	3	4	4	3	
105	3	3	3	3	
106	4	4	4	4	
107	2	3	3	2	
108	4	4	4	4	
109	3	4	3	4	
110	2	2	2	2	
111	2	3	3	2	
112	3	3	4	4	
113	3	3	3	3	
114	1	1	1	1	
115	4	4	4	4	
116	4	4	4	4	
117	3	4	4	4	
118	3	3	4	3	
119	3	3	4	3	
120	2	2	3	2	
121	2	2	2	2	
122	2	1	2	2	
123	4	4	4	4	
124	2	2	3	2	
125	4	4	4	4	
126	3	3	3	3	
127	3	3	3	3	
128	2	2	2	2	
129	2	3	3	2	
130	2	2	2	2	
131	2	3	3	2	
132	2	2	3	3	
133	3	3	3	3	
134	4	4	4	4	
135	3	3	3	3	
136	2	3	3	2	
137	2	3	2	2	
138	3	3	3	2	
139	3	3	3	3	
140	3	3	3	3	
141	3	3	3	2	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 4 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	2	2	2	2	
143	1	1	1	1	
144	3	3	4	3	
145	3	3	3	2	
146	3	3	3	3	
147	4	4	4	3	
148	4	4	4	4	
149	3	3	3	2	
150	3	3	3	2	
151	4	4	4	4	
152	4	4	4	4	
153	3	3	3	2	
154	4	4	3	4	
155	3	3	3	3	
156	1	1	2	1	
157	4	4	4	4	
158	2	3	3	2	
159	2	3	3	3	
160	3	3	3	3	
161	4	4	4	4	
162	3	3	3	4	
163	3	3	3	3	
164	3	3	3	3	
165	2	3	2	2	
166	4	4	4	4	
167	4	4	4	4	
168	4	4	4	4	
169	3	3	4	4	
170	4	4	4	4	
171	4	4	4	4	
172	3	3	3	3	
173	3	3	4	4	
174	1	1	1	1	
175	3	3	3	3	
176	2	3	2	2	
177	4	4	4	4	
178	4	4	4	4	
179	2	3	3	2	
180	4	4	4	4	
181	2	2	3	2	
182	4	4	4	4	
183	3	3	3	2	
184	1	2	2	2	
185	2	3	3	2	
186	1	1	1	1	
187	4	4	4	4	
188	4	4	4	4	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 4 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	2	2	3	2	
190	2	3	3	2	
191	2	3	3	3	
192	4	4	4	4	
193	4	4	4	4	
194	4	4	4	4	
195	3	3	4	3	
196	3	3	4	4	
197	4	4	4	4	
198	4	4	4	4	
199	4	3	4	4	
200	4	4	4	4	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 5 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	2	2	3	3	
2	3	3	3	3	
3	1	1	1	1	
4	2	2	2	2	
5	2	2	2	2	
6	2	2	2	2	
7	2	2	2	2	
8	1	1	1	1	
9	2	2	2	2	
10	2	2	2	2	
11	1	1	1	1	
12	3	3	3	3	
13	2	2	2	2	
14	3	3	3	4	
15	2	2	2	2	
16	1	1	1	1	
17	3	3	3	3	
18	1	1	1	1	
19	3	2	3	2	
20	2	2	2	2	
21	3	2	2	3	
22	2	2	2	2	
23	2	2	2	2	
24	2	2	2	2	
25	2	2	2	2	
26	3	3	2	2	
27	2	2	2	2	
28	3	3	3	3	
29	1	1	1	1	
30	3	3	3	3	
31	1	1	1	1	
32	1	1	1	2	
33	2	2	2	2	
34	2	2	2	2	
35	2	3	2	3	
36	1	1	1	1	
37	2	2	2	2	
38	2	2	2	2	
39	2	2	2	2	
40	1	1	1	1	
41	2	2	2	2	
42	2	2	1	2	
43	2	2	2	2	
44	3	3	3	4	
45	1	1	1	1	
46	2	2	2	2	
47	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 5 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	1	1	1	1	
49	2	2	2	2	
50	1	1	1	1	
51	3	3	3	4	
52	2	2	2	2	
53	1	1	1	1	
54	2	2	2	3	
55	2	2	2	2	
56	2	2	2	2	
57	2	2	2	2	
58	3	3	3	4	
59	3	3	3	3	
60	2	2	2	2	
61	2	2	2	2	
62	2	2	2	2	
63	3	3	3	3	
64	1	1	1	1	
65	3	2	3	3	
66	2	2	2	2	
67	2	2	2	2	
68	1	1	1	1	
69	2	2	2	2	
70	3	3	3	4	
71	3	3	3	3	
72	2	2	2	2	
73	1	1	1	1	
74	2	2	2	2	
75	2	2	2	2	
76	2	2	2	2	
77	2	2	2	2	
78	2	2	2	2	
79	1	1	1	1	
80	1	1	1	1	
81	2	2	2	2	
82	2	2	2	2	
83	2	2	2	2	
84	2	2	2	2	
85	2	2	2	2	
86	2	2	2	2	
87	1	1	1	1	
88	2	2	2	2	
89	2	2	2	2	
90	2	2	1	2	
91	2	2	2	2	
92	2	2	2	2	
93	2	2	2	2	
94	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 5 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	2	2	2	2	
96	2	2	2	2	
97	1	1	1	1	
98	2	1	1	2	
99	2	2	2	2	
100	3	2	2	2	
101	2	2	2	2	
102	2	2	2	2	
103	3	3	2	3	
104	1	1	1	1	
105	2	2	2	2	
106	2	1	1	2	
107	3	3	2	3	
108	2	2	2	2	
109	3	3	3	4	
110	2	2	2	2	
111	1	1	1	1	
112	1	1	1	1	
113	2	2	2	2	
114	2	2	2	2	
115	2	2	2	2	
116	3	3	3	3	
117	3	3	3	3	
118	2	2	2	2	
119	3	3	3	4	
120	1	1	1	1	
121	2	2	2	2	
122	2	2	2	2	
123	2	2	2	2	
124	1	1	1	1	
125	2	2	2	2	
126	2	2	2	2	
127	2	2	2	2	
128	2	2	2	2	
129	2	1	1	2	
130	2	1	1	2	
131	2	2	2	2	
132	2	2	2	2	
133	2	2	2	2	
134	3	3	3	4	
135	2	2	2	2	
136	2	2	2	2	
137	3	3	3	3	
138	3	3	2	2	
139	2	2	2	2	
140	2	2	2	2	
141	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 5 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	2	2	2	2	
143	1	1	1	1	
144	2	2	2	2	
145	2	2	2	2	
146	2	2	2	2	
147	3	3	3	3	
148	2	2	2	2	
149	2	2	2	2	
150	1	1	1	1	
151	2	1	1	2	
152	1	1	1	1	
153	3	2	2	3	
154	2	2	2	2	
155	2	2	2	2	
156	3	3	3	3	
157	2	2	2	2	
158	2	2	2	2	
159	2	2	2	2	
160	2	2	2	2	
161	3	3	3	3	
162	2	2	2	2	
163	2	1	1	2	
164	3	3	3	3	
165	2	2	2	2	
166	1	1	1	1	
167	2	2	2	2	
168	2	2	2	2	
169	3	3	3	4	
170	1	1	1	1	
171	2	2	2	2	
172	1	1	1	1	
173	2	2	2	2	
174	1	1	1	1	
175	2	2	2	2	
176	2	2	2	2	
177	2	1	1	2	
178	1	1	1	2	
179	2	2	2	2	
180	2	2	2	2	
181	2	2	2	2	
182	2	1	1	2	
183	2	2	2	2	
184	3	3	3	4	
185	2	2	2	2	
186	2	2	2	2	
187	2	2	2	2	
188	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 5 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	2	2	2	2	
190	2	2	2	2	
191	2	2	2	2	
192	3	3	3	4	
193	2	1	1	2	
194	1	1	1	1	
195	2	2	2	2	
196	2	2	2	2	
197	2	2	2	2	
198	3	3	3	3	
199	2	2	2	2	
200	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 6 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	4	4	4	4	
2	3	3	3	3	
3	4	4	4	4	
4	3	3	3	3	
5	2	2	2	2	
6	2	2	2	3	
7	3	2	2	3	
8	4	3	4	3	
9	3	3	3	4	
10	4	4	4	4	
11	4	4	4	4	
12	4	4	4	4	
13	3	3	3	2	
14	4	4	4	4	
15	2	2	2	2	
16	3	3	3	3	
17	2	2	2	3	
18	3	3	3	3	
19	2	2	2	3	
20	1	1	1	1	
21	2	2	2	2	
22	4	3	3	2	
23	4	4	4	4	
24	4	4	4	4	
25	4	4	4	4	
26	4	4	4	4	
27	3	2	3	3	
28	2	2	2	2	
29	4	3	4	3	
30	3	3	3	3	
31	4	4	4	4	
32	2	2	2	2	
33	3	3	4	3	
34	2	2	2	2	
35	2	2	2	3	
36	1	1	2	2	
37	3	2	3	3	
38	3	3	3	3	
39	3	3	3	3	
40	4	4	4	3	
41	2	2	2	2	
42	3	2	3	3	
43	4	4	4	4	
44	2	2	2	3	
45	4	3	3	3	
46	4	4	4	4	
47	2	2	2	3	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 6 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	2	2	2	3	
49	4	4	4	4	
50	2	2	2	3	
51	4	4	4	4	
52	4	4	4	4	
53	4	4	4	4	
54	3	2	3	3	
55	3	2	3	3	
56	4	3	3	3	
57	4	3	4	4	
58	3	3	3	3	
59	3	3	3	3	
60	2	2	2	2	
61	4	4	4	4	
62	3	3	3	4	
63	4	4	4	4	
64	3	3	2	3	
65	4	3	3	4	
66	3	3	4	4	
67	4	4	4	4	
68	4	3	4	3	
69	4	3	4	3	
70	2	2	2	2	
71	2	2	2	2	
72	4	4	4	4	
73	4	3	4	4	
74	1	1	1	1	
75	3	3	3	3	
76	2	2	2	2	
77	3	3	2	3	
78	3	3	2	3	
79	3	3	2	3	
80	3	3	3	3	
81	3	3	2	3	
82	4	4	4	4	
83	4	4	4	4	
84	3	3	3	3	
85	2	2	2	2	
86	2	2	2	2	
87	4	3	4	3	
88	2	2	2	2	
89	3	3	3	3	
90	3	3	3	3	
91	2	2	2	3	
92	2	2	2	3	
93	4	3	4	4	
94	1	1	1	2	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 6 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	1	1	1	1	
96	2	2	2	2	
97	4	3	4	3	
98	2	3	2	3	
99	4	3	4	3	
100	1	1	1	2	
101	2	2	2	3	
102	2	2	2	3	
103	4	4	3	4	
104	2	2	2	2	
105	3	3	3	3	
106	4	4	4	4	
107	4	4	4	4	
108	4	4	4	4	
109	3	3	3	3	
110	2	3	2	3	
111	3	3	3	3	
112	3	3	3	3	
113	4	4	4	4	
114	4	4	4	4	
115	3	3	3	3	
116	3	3	3	4	
117	2	3	3	3	
118	3	3	3	3	
119	3	3	3	3	
120	4	4	4	4	
121	2	2	2	2	
122	3	4	4	4	
123	1	2	1	1	
124	2	2	2	2	
125	3	3	3	3	
126	4	4	4	4	
127	3	3	3	3	
128	4	4	4	4	
129	3	2	3	3	
130	4	4	3	4	
131	1	1	1	1	
132	3	3	3	3	
133	3	3	2	3	
134	2	2	2	2	
135	4	4	4	4	
136	3	3	2	3	
137	2	2	2	2	
138	3	3	3	3	
139	3	3	3	4	
140	3	3	3	3	
141	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 6 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	3	3	3	3	
143	2	3	2	2	
144	2	2	2	2	
145	3	3	3	3	
146	4	4	4	4	
147	2	2	2	2	
148	4	4	4	4	
149	4	3	4	4	
150	4	4	4	4	
151	3	3	3	3	
152	4	3	4	4	
153	3	2	2	2	
154	4	3	3	3	
155	2	3	2	3	
156	4	4	4	4	
157	3	3	4	4	
158	3	3	3	3	
159	4	4	3	4	
160	3	3	2	3	
161	2	2		2	
162	2	2	2	2	
163	3	3	3	3	
164	2	2	2	3	
165	2	2	1	3	
166	4	4	4	4	
167	4	3	3	4	
168	4	4	4	4	
169	3	3	3	3	
170	4	4	4	4	
171	2	2	2	2	
172	4	4	4	4	
173	3	3	2	3	
174	1	1	1	1	
175	3	3	3	3	
176	2	2	2	2	
177	3	3	3	3	
178	2	2	2	2	
179	4	4	4	4	
180	3	3	4	3	
181	4	4	4	4	
182	2	2	2	2	
183	4	4	4	4	
184	3	2	3	3	
185	4	4	4	4	
186	2	2	2	2	
187	4	3	4	4	
188	3	3	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 6 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	3	3	3	3	
190	2	2	2	2	
191	3	3	3	3	
192	2	2	2	3	
193	4	4	4	4	
194	3	3	2	2	
195	2	2	2	2	
196	4	4	4	4	
197	4	4	4	4	
198	3	3	3	3	
199	4	4	4	4	
200	3	3	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 7 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	3	3	3	3	
2	4	4	4	4	
3	2	2	2	2	
4	2	2	2	2	
5	2	2	3	2	
6	4	3	4	3	
7	4	4	3	4	
8	2	2	2	2	
9	3	3	3	4	
10	2	2	2	2	
11	1	1	1	1	
12	3	3	3	4	
13	1	1	1	1	
14	3	3	3	3	
15	2	2	2	1	
16	1	1	1	1	
17	2	2	3	3	
18	2	2	2	2	
19	3	3	2	3	
20	2	2	2	2	
21	4	4	3	4	
22	1	1	1	2	
23	2	3	2	3	
24	2	2	2	2	
25	3	3	2	3	
26	2		2	2	
27	4	4	3	3	
28	1	2	1	2	
29	2	1	1	2	
30	3	2	2	3	
31	2	2	2	2	
32	2	3	3	2	
33	3	4	3	3	
34	3	3	2	3	
35	3	4	2	4	
36	2	1	1	2	
37	2	2	2	2	
38	2	2	2	2	
39	2	2	2	2	
40	2	3	2	3	
41	4	4		4	
42	2	2	4	2	
43	3	3	3	3	
44	3	3	3	4	
45	1	1	1	1	
46	3	3	3	3	
47	2	3	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 7 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	2	2	2	2	
49	2	2	2	2	
50	3	4	3	4	
51	4	4	4	3	
52	4	3	4	3	
53	2	3	3	2	
54	1	1	1	1	
55	2	3	2	2	
56	2	4	2	3	
57	2	2	3	2	
58	4	3	2	3	
59	3	4	3	3	
60	3	2	3	2	
61	1	1	1	1	
62	2	2	3	2	
63	2	2	2	2	
64	2	1	2	2	
65	2	2	2	2	
66	2	2	2	2	
67	2	3	2	3	
68	2	2	2	2	
69	3	3	3	3	
70	2	3	3	2	
71	2	2	2	2	
72	3	3	3	3	
73		1	1	1	
74	1	1	1	1	
75	3	3	3	3	
76	3	4	3	4	
77	3	2	3	3	
78	4	4	4	4	
79	2	2	2	2	
80	4	4	3	4	
81	2	2	2	2	
82	3	3	3	3	
83	4	4	4	4	
84	4	4	3	3	
85	3	3	3	3	
86	2	2	2	2	
87	2	1	2	2	
88	2	2	2	2	
89	1	1	1	1	
90	2	2	2	2	
91	3	4	3	3	
92	2	3	2	2	
93	3	3	3	3	
94	2	3	2	3	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 7 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	2	3	2	2	
96	1	1	1	1	
97	2	2	2	2	
98	2	3	3	2	
99	3	3	3	2	
100	2	3	2	2	
101	3	3	3	3	
102	2	2	2	2	
103	4	4	4	4	
104	2	2	2	2	
105	3	3	3	3	
106	4	4	4	3	
107	4	4	4	4	
108	2	2	2	2	
109	4	4	4	4	
110	3	3	3	3	
111	2	2	2	2	
112	2	2	2	2	
113	2	2	2	2	
114	2	2	2	2	
115	4	4	4	4	
116	2	2	2	2	
117	3	4	3	3	
118	2	1	1	1	
119	2	2	2	2	
120	2	2	2	2	
121	2	3	3	3	
122	4	4	4	4	
123	2	2	2	2	
124	2	2	2	2	
125	2	2	2	2	
126	2	2	2	2	
127	4	4	4	4	
128	3	3	3	3	
129	1	1	1	1	
130	2	1	2	2	
131	2	2	2	2	
132	3	3	3	2	
133	3	3	3	3	
134	1	1	1	1	
135	3	3	3	3	
136	2	2	2	1	
137	2	2	2	2	
138	3	3	3	3	
139	3	3	3	3	
140	2	2	2	2	
141	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 7 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	2	2	2	2	
143	4	4	4	4	
144	3	3	3	3	
145	3	3	3	4	
146	3	3	3	3	
147	3	3	3	3	
148	3	3	3	3	
149	2	2	2	2	
150	4	4	4	4	
151	2	3	3	3	
152	4	4	4	4	
153	4	4	4	4	
154	3	3	3	2	
155	3	3	3	3	
156	1	1	1	1	
157	3	3	3	4	
158	1	1	1	1	
159	1	2	2	1	
160	2	3	3		
161	3	3	3	3	
162	4	4	4	3	
163	2	3	3	3	
164	4	4	4	4	
165	2	2	2	2	
166	2	3	2	3	
167	4	4	4	4	
168	2	2	2	2	
169	3	3	3	3	
170	4	4	4	4	
171	2	2	2	2	
172	1	1	1	1	
173	4	4	4	4	
174	3	3	3	3	
175	4	4	4	4	
176	3	3	3	3	
177	4	4	4	4	
178	2	2	2	2	
179	2	2	2	2	
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181	2	2	2	2	
182	4	4	4	4	
183	2	3	3	3	
184	3	3	3	3	
185	2	2	2	2	
186	4	4	4	4	
187	2	2	2	2	
188	4	4	4	4	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 7 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	2	2	2	2	
190	2	2	2	2	
191	2	2	2	2	
192	4	4	4	4	
193	4	4	4	4	
194	2	2	2	2	
195	3	3	3	3	
196	4	4	4	4	
197	3	3	3	3	
198	3	3	3	3	
199	4	4	4	4	
200	1	1	1	1	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 8 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	3	3	3	3	
2	2	2	2	2	
3	4	4	4	4	
4	2	2	2	2	
5	4	4	4	4	
6	3	3	3	3	
7	4	4	4	4	
8	4	4	4	4	
9	3	3	3	3	
10	1	1	1	1	
11	2	2	3	2	
12	2	2	2	2	
13	3	3	3	4	
14	3	3	3	3	
15	2	2	2	2	
16	4	4	4	4	
17	4	4	4	4	
18	3	3	3	3	
19	2	2	2	2	
20	4	4	4	4	
21	3	3	3	4	
22	3	2	2	3	
23	2	2	2	2	
24	3	2	2	2	
25	2	1	2	2	
26	2	2	2	3	
27	2	2	2	2	
28	1	1	1	1	
29	2	2	2	3	
30	2	2	2	2	
31	2	2	2	3	
32	2	1	2	1	
33	2	2	2	2	
34	4	4	4	4	
35	2	2	2	1	
36	3	2	2	3	
37	1	1	1	1	
38	1	1	1	1	
39	2	2	2	2	
40	2	2	2	2	
41	1	1	1	1	
42	3	2	2	3	
43	2	2	2	2	
44	1	2	1	2	
45	4	4	4	4	
46	3	3	3	4	
47	3	4	3	4	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 8 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	1	1	1	1	
49	3	3	3	4	
50	2	1	2	1	
51	3	3	3	3	
52	3	2	3	2	
53	3	3	3	3	
54	3	3	3	3	
55	2	2	2	2	
56	2	2	2	2	
57	2	2	2	1	
58	2	2	2	3	
59	2	2	2	1	
60	2	2	2	2	
61	2	2	2	2	
62	2	2	2	2	
63	2	2	2	1	
64	2	2	2	1	
65	4	4	4	4	
66	2	2	3	3	
67	2	2	2	2	
68	3	3	3	3	
69	3	2	2	3	
70	2	2	2	2	
71	2	2	2	2	
72	3	3	3	4	
73	1	1	1	1	
74	3	3	3	3	
75	2	2	2	3	
76	2	2	2	2	
77	1	2	2	1	
78	2	2	2	3	
79	2	2	2	2	
80	4	3	4	4	
81	4	4	4	4	
82	1	1	2	2	
83	1	1	1	1	
84	2	2	3	3	
85	4	4	4	4	
86	2	2	2	2	
87	4	4	4	3	
88	2	2	2	2	
89	3	2	3	2	
90	1	1	1	1	
91	1	1	1	1	
92	2	2	2	2	
93	2	1	2	1	
94	2	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 8 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	4	4	3	3	
96	2	2	2	2	
97	1	1	1	1	
98	2	1	2	1	
99	3	3	3	3	
100	3	3	3	3	
101	2	2	2	2	
102	3	3	3	3	
103	4	4	4	4	
104	2	2	2	3	
105	1	1	1	1	
106	3	4	3	4	
107	3	3	3	3	
108	4	4	4	4	
109	2	2	2	2	
110	2	2	2	2	
111	4	4	4	4	
112	2	2	2	2	
113	1	1	1	1	
114	3	3	3	3	
115	2	2	2	3	
116	2	2	2	2	
117	3	3	3	3	
118	2	2	2	1	
119	3	3	3	3	
120	2	2	2	2	
121	3	2	2	2	
122	3	2	2	2	
123	3	2	2	2	
124	3	3	2	3	
125	4	4	4	4	
126	3	3	2	2	
127	3	3	3	3	
128	2	2	2	2	
129	1	1	1	1	
130	3	3	3	3	
131	2	2	2	2	
132	2	2	2	2	
133	3	2	2	3	
134	4	4	4	4	
135	4	4	4	4	
136	4	4	4	4	
137	2	2	2	2	
138	3	3	3	3	
139	2	2	2	2	
140	2	2	2	2	
141	4	4	4	4	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 8 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	1	1	1	1	
143	3	2	2	3	
144	3	2	2	3	
145	4	4	4	4	
146	3	3	3	3	
147	2	2	2	2	
148	4	4	4	4	
149	4	4	4	4	
150	2	2	2	2	
151	4	4	3	3	
152	3	3	3	3	
153	1	1	1	1	
154	2	2	2	2	
155	3	3	3	3	
156	2	3	2	3	
157	2	2	2	3	
158	4	4	4	4	
159	2	2	2	2	
160	3	2	2	3	
161	4	4	4	4	
162	3	3	3	4	
163	2	2	2	3	
164	3	3	3	3	
165	3	2	2	3	
166	2	2	2	2	
167	2	3	2	2	
168	3	3	3	3	
169	2	2	3	2	
170	1	1	1	1	
171	2	2	2	1	
172	3	3	3	3	
173	2	2	2	2	
174	3	3	3	3	
175	2	2	2	2	
176	3	3	3	3	
177	2	2	2	2	
178	4	3	3	3	
179	2	2	2	2	
180	3	2	2	2	
181	1	1	1	1	
182	4	3	3	3	
183	3	2	3	2	
184	2	2	2	2	
185	4	4	4	3	
186	4	4	4	4	
187	3	3	3	3	
188	4	4	4	3	

**West Virginia APTA Standard Setting - March 2006  
Reading Grade 8 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	3	3	2	2	
190	2	2	2	2	
191	2	2	2	2	
192	2	2	2	2	
193	3	3	3	3	
194	1	2	2	2	
195	2	2	2	1	
196	3	3	3	3	
197	3	3	3	3	
198	2	2	2	3	
199	4	4	4	4	
200	1	2	2	2	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 10 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
1	2	2	2	2	
2	3	3	3	3	
3	4	4	4	4	
4	3	3	3	4	
5	2	2	2	2	
6	1	1	1	1	
7	3	3	3	4	
8	3	3	3	3	
9	3	3	3	4	
10	4	3	3	4	
11	3	3	3	3	
12	3	3	3	3	
13	2	2	2	2	
14	4	4	4	4	
15	2	2	2	2	
16	2	2	2	2	
17	3	3	3	3	
18	1	1	1	1	
19	4	4	4	4	
20	2	2	2	2	
21	3	3	3	3	
22	1	1	1	1	
23	4	4	4	4	
24	1	2	1	2	
25	3	3	3	3	
26	2	2	2	2	
27	4	4	4	4	
28	2	2	2	2	
29	3	3	3	3	
30	2	3	2	3	
31	4	4	4	4	
32	2	2	2	2	
33	3	3	3	3	
34	3	3	3	3	
35	3	3	3	3	
36	2	3	2	3	
37	4	3	3	4	
38	3	3	3	3	
39	1	2	2	2	
40	3	3	3	3	
41	1	2	1	2	
42	2	2	2	2	
43	2	2	2	2	
44	4	4	4	4	
45	2	2	2	2	
46	4	4	4	4	
47	3	3	3	4	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 10 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
48	2	2	2	3	
49	4	4	4	4	
50	2	2	2	2	
51	2	2	2	2	
52	3	2	2	2	
53	4	4	4	4	
54	4	4	4	4	
55	2	3	2	2	
56	2	2	2	2	
57	2	2	2	2	
58	2	2	2	2	
59	4	4	4	4	
60	1	1	1	1	
61	3	3	3	3	
62	2	2	2	2	
63	1	1	1	1	
64	4	4	4	4	
65	4	4	4	4	
66	4	4	4	4	
67	1	2	1	2	
68	3	3	3	3	
69	2	2	2	2	
70	4	4	4	4	
71	3	3	3	3	
72	1	2	2	2	
73	2	2	2	2	
74	2	2	2	2	
75	3	3	3	3	
76	3	3	3	3	
77	4	4	4	4	
78	2	2	2	2	
79	3	3	3	4	
80	3	3	2	3	
81	3	3	3	4	
82	2	2	2	2	
83	4	4	4	4	
84	1	1	1	1	
85	4	4	4	4	
86	2	2	2	2	
87	4	4	4	4	
88	3	3	3	2	
89	3	2	3	3	
90	1	1	1	1	
91	3	3	3	3	
92	2	2	2	2	
93	2	2	2	2	
94	3	3	3	4	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 10 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
95	3	3	3	4	
96	4	4	4	4	
97	3	3	3	4	
98	4	4	4	4	
99	4	4	4	4	
100	4	4	4	4	
101	2	2	2	2	
102	2	3	3	3	
103	2	2	2	2	
104	3	3	3	3	
105	4	4	4	4	
106	4	4	4	4	
107	3	3	2	2	
108	2	2	2	2	
109	3	3	3	3	
110	3	3	3	3	
111	2	2	2	2	
112	4	4	4	4	
113	3	3	3	3	
114	4	4	4	4	
115	4	4	4	4	
116	3	3	3	3	
117	4	4	4	4	
118	2	2	2	2	
119	2	2	2	2	
120	4	4	4	4	
121	4	4	4	4	
122	2	2	2	2	
123	4	4	3	3	
124	3	3	3	3	
125	2	2		2	
126	3	3	3	3	
127	4	4	4	4	
128	2	2	2	2	
129	4	4	4	4	
130	2	2	2	2	
131	3	3	3	3	
132	4	4	4	4	
133	4	4	4	4	
134	2	2	2	2	
135	1	1	1	1	
136	2	2	2	2	
137	3	3	3	3	
138	3	3	3	3	
139	4	4	4	4	
140	2	2	2	2	
141	1	1	1	1	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 10 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
142	2	2	2	2	
143	4	4	4	4	
144	3	3	2	2	
145	2	2	2	2	
146	3	3	2	2	
147	3	3	3	3	
148	3	3	2	2	
149	2	2	2	2	
150	2	2	2	2	
151	2	3	3	3	
152	4	4	4	4	
153	3	3	3	3	
154	3	3	3	3	
155	3	3	3	3	
156	2	2	2	2	
157	4	4	4	4	
158	3	3	3	3	
159	4	4	4	4	
160	2	2	2	2	
161	4	4	4	4	
162	2	2	2	2	
163	2	2	2	2	
164	3	4	4	3	
165	4	4	3	3	
166	4	4	4	4	
167	2	2	2	2	
168	4	4	4	4	
169	2	2	2	2	
170	2	2	2	2	
171	2	2	2	2	
172	3	3	2	2	
173	4	4	4	4	
174	4	4	4	4	
175	2	2	2	2	
176	3	3	3	3	
177	2	3	3	3	
178	2	2	2	2	
179	4	4	4	4	
180	2	2	2	2	
181	2	3	3	2	
182	2	2	2	2	
183	4	3	3	3	
184	2	2	1	1	
185	3	3	3	3	
186	4	4	4	4	
187	3	3	3	3	
188	4	4	3	3	

**West Virginia APTA Standard Setting - March 2006**  
**Reading Grade 10 Profile Sorting**

Profile ID	Participant				
	1	2	3	4	5
189	3	3	2	2	
190	3	3	3	3	
191	2	2	2	2	
192	2	2	2	2	
193	2	2	2	2	
194	2	2	2	1	
195	2	2	2	2	
196	3	3	3	3	
197	3	3	3	3	
198	2	2	2	2	
199	2	2	2	2	
200	3	3	3	3	

**Section H**

**Participant-recommended Revisions to  
Performance Level Descriptions**



## **Participant-recommended Revisions to the West Virginia APTA Performance Level Descriptors**

After the West Virginia APTA standard setting, participants again considered the performance level descriptors. In their grade and content area groups, participants were instructed to recommend changes to the performance level descriptors, if they deemed such changes necessary. The participant-recommended revisions to the performance level descriptors are summarized here.

### **Grade 3 Mathematics**

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*Measurement, Novice level.* Question the word “manipulate.”

*Geometry, all levels.* Include the “on/off” concept (spatial relationships).

### **Grade 4 Mathematics**

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*Measurement, Mastery level.* Change the last phrase to “...identify values of coins and determine relative values.”

### **Grade 5 Mathematics**

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*Geometry, Mastery level.* Correct spelling of “sphere.”

*Data Analysis and Probability, Partial Mastery level.* Specify that students can copy a bar graph with assistance.

### **Grade 6 Mathematics**

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*Number and Operations, Novice level.* Change phrase “identify  $\frac{1}{4}$  of a whole” to “identify  $\frac{1}{4}$  is less than a whole.”

*Number and Operations, Partial Mastery level.* Correct spelling of “ $\frac{1}{3}$ .”

*Algebra, Partial Mastery level.* Change phrase “follow a pictorial/geometric pattern” to “follow a pictorial/color/basic-shape pattern.”

*Algebra, Mastery level.* Change last phrase to “...recognize and complete a pattern with one attribute.”

*Algebra, Above Mastery level.* Change last phrase to “...more than one attribute in a pattern.”

*Geometry, Partial Mastery, Mastery, and Above Mastery levels.* Question the requirement of tracing, replicating or drawing angles for students who have physical limitations: asserts that this is not necessary to assess content knowledge.

*Measurement, Novice level.* Replace “color within the lines of a polygon” to “select a polygon from a non-polygon.”

*Measurement, Above Mastery level.* Change last phrase to “...tell time to fifteen minute intervals.

*Data Analysis and Probability, Partial Mastery level.* Change last sentence to “The student will perform the following with assistance: distinguish between a bar, line, and pictorial graph.”

## **Grade 7 Mathematics**

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*Geometry, Novice level.* Change reference of “algebra” to “geometry.”

*Data Analysis and Probability, Partial Mastery.* Change initial phrase to “The student demonstrates inconsistent knowledge....” Change beginning of last sentence to “The student will perform the following with assistance....”

## **Grade 10 Mathematics**

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*All standards, Novice and Partial Mastery levels.* Change phrasing to “The student attempts to perform the following (assistance permitted): ....”

*All standards, Mastery level.* Change phrasing to “The student will perform the following (assistance prohibited): ....”

*All standards, Above Mastery level.* Change phrasing to “The student will perform the following complex tasks (assistance prohibited): ....”

*Algebra, Novice level.* Correct spelling of “missing.”

*Geometry, Novice level.* Change “represent angles” to “recognize angles.”

*Measurement, Novice level.* Specify “...measure terminology and instruments.”

*Data Analysis and Probability, Partial Mastery level.* Change phrasing to “The student will perform the following with assistance.” Change phrasing to “The student demonstrates inconsistent fundamental knowledge.”

**No Reading groups submitted recommendations for change.**





