

# Writing Curriculum Based Measurement

**Curriculum Based Measurement** is a standardized and systematic method of formative assessment; **CBM** is an empirically validated method of progress monitoring with over 25 years of research on effectiveness of CBM

CBM has been linked to:	Characteristics of CBM:
<ul style="list-style-type: none"> <li>• Improved student academic outcomes</li> <li>• More effective instruction</li> <li>• Higher student achievement</li> <li>• Increased student responsibility for learning</li> <li>• Relationship between CBM and high stakes testing</li> <li>• Better communication between parents and teachers</li> </ul> <p>(Fuchs, Deno, Mirkin, 1984; Fuchs, Fuchs, &amp; Hamlett, 1989, Good, Simmons, &amp; Kameeuni, 2001)</p>	<ul style="list-style-type: none"> <li>• Used to monitor student progress across an entire year</li> <li>• Probes are brief and easy to administer</li> <li>• Administered weekly or as benchmarks and administered the same way each time</li> <li>• Each probe samples curriculum for an entire school year</li> <li>• Each probe is different, but each form assesses the same types of skills at same level of difficulty</li> <li>• CBM can be used to:               <ul style="list-style-type: none"> <li>○ Monitor student learning outcomes</li> <li>○ Identify at-risk students</li> <li>○ Evaluate intervention effectiveness</li> <li>○ Guide instruction and cue instructional changes</li> <li>○ Measure AYP</li> <li>○ Monitor annual goals and objectives</li> </ul> </li> </ul> <p>(L. S. Fuchs &amp; Fuchs, 2004; L. S. Fuchs, Fuchs, Hamlett, &amp; Stecker, 1990; Hosp &amp; Hosp, 2003)</p>

## What is writing CBM?

Writing CBM is a simple task to measure students' ability to write. This assessment requires students to write for 3 minutes based on an instructional-level story starter. Teachers can begin using writing CBM as soon as students can write sentences. Spelling and writing CBM can be used concurrently.

## Steps for Writing CBM Steps (Adapted from Hosp, Hosp, & Howell, 2007)

### 1) Obtain different but equivalent grade-level story starters

- a) Short, oral or written
- b) Designed to prompt more than a yes/no or short answer
- c) Stops in mid sentence
- d) Should reflect a wide range of student experiences and be a familiar theme.
- e) Because all story starters need to be at the same grade level, Hosp et al. recommends purchasing generic story starters designed for progress monitoring (see below for resources)
  - a. Examples (Hosp et al., 2007; pp. 86-87)
    - i. Primary: I looked out my window and to my surprise...
    - ii. Intermediate: I was walking to school when ...
    - iii. Advanced: My dog was running to the President and was about to ...

### 2) Provide students with paper and pencil

- a) Use lined paper with story starter at the top
- b) Can also use spiral notebooks to monitor progress over time and to keep student records

### 3) Use stopwatch or countdown timer that displays seconds

### 4) Be sure to test in a quiet environment

### 5) Consistently use standardized directions for administration and scoring

- a) Administer 3 equivalent lists the first time in one session (recommended) or across days; the median score will be first data point on graph.
- b) Can be administered individually or in groups
- c) Use 20 to 30 equivalent lists for duration of year
- d) Use same directions for each administration (Hosp et al., 2007; p. 68):
  - Say, ***“Today, I want you to write a story. I am going to read a sentence to you first and then I want you to compose a short story about what happens, You will have 1 minute to think about what you will write and 3 minutes to write your story. Remember to do your best work. If you do not know how to spell a word, you should guess. Are there any questions?”***
  - Start timer for 1 minute to allow students time to think. At 30 seconds, say, ***“You should be thinking about ... (repeat story starter)”***
  - At the end of 1 minute, say, ***“Now begin writing”***
  - Monitor students and encourage as needed
  - At 90 seconds, say, ***“You should be writing about ...”***
  - When the 3 minutes is up, say ***“Thank you. Put your pencils down.”***

**Note:** if 3 minutes does not provide long enough samples, teachers can use 5 or 10-minute assessment periods. However, those longer samples cannot be used in comparison with the norms. Hosp et al. (2007) indicate that another option is to note where a student is at the end of 3 minutes (for comparison to norms), and let the student continue writing for another 2 to 7 minutes.

**6) Score the writing CBM (Hosp et al., 2007)**

a) Options for scoring include (keep the scoring method the same for the year):

- Total words written (TWW): provides data on writing fluency
- Number of words spelled correctly (WSC): also provides data on writing fluency
- Total number of correct writing sequences (CWS): takes longer to score but is recommended for students who are below grade level in writing

b) TWW

- Number of words written even if words are spelled incorrectly
- Also count abbreviations (e.g., TV, titles) and endings (e.g., The end)
- For hyphenated words, count each morpheme as a separate word
- Other characters are not counted (e.g., \$50, “&”)

See Hosp et al. (2007) for more detail on CLS scoring

c) WSC

- Number of words spelled correctly regardless of contextual clarity
- Count words found in English language
- Circle incorrectly spelled words
- The TWW guidelines above are also used
- Also:
  - Proper nouns must be capitalized
  - Reversed letters are not counted wrong unless the word is misspelled
  - “The dig pig ate” = a score of 4 with all words correct (the “b” is reversed)
  - Contractions are correct with apostrophe
- Score: TWW – number of circled words is the WSC score

d) CWS

- Score with a caret ^ - adjacent, correctly spelled words
- Words must be used correctly within the context of English - consider correct punctuation, syntax, semantics, and capitalization
- Circle incorrectly spelled words
- The first sequence is the space before the first word and the first word as long as the first word is capitalized correctly
- Continue counting word-to-word sequences as long as they are correct as indicated above
- The last sequence in a sentence is the last word to the correct punctuation
- Continue with the rest of the sentences in the writing sample
- See table below for examples

Examples	CWS Score
^The ^ boy ^ sat ^ with ^ the ^ girl ^.	7 (out of a possible 7)
the boy ^ sat ^with ^the girl	4 (out of a possible 7)

**7) Graph the data**

1) Paper and pencil

- Vertical axis - include the range of scores of all students in the class from zero to the highest score. Horizontal axis - include the number of weeks of instruction.
- Make a template of the above and one copy for each student

- 2) Chart Dog ([www.interventioncentral.org](http://www.interventioncentral.org)): Web-based data storage and management
- 3) Commercial CBM materials (e.g., AIMSweb [www.aimsweb.com](http://www.aimsweb.com))

**8) Set ambitious goals.**

Using benchmarks:

Using the writing CBM Benchmarks table below, find the student's grade level, and use the spring 50<sup>th</sup> percentile. Graph the three baseline scores and the end of year benchmark. Draw a goal line on the graph from the median score to the spring benchmark.

The following table is taken from Hosp et al. (2007; p. 95)

Grade	Percentile	Norms for Correct Word Sequences (AIMSweb, 2006)		
		Fall	Winter	Spring
<b>1</b>	90%		13	18
	75%		8	13
	<b>50%</b>		<b>4</b>	<b>8</b>
	25%		1	4
	10%		0	1
<b>2</b>	90%	20	27	35
	75%	12	18	27
	<b>50%</b>	<b>6</b>	<b>10</b>	<b>17</b>
	25%	1	3	9
	10%	0	0	0
<b>3</b>	90%	34	42	48
	75%	25	33	37
	<b>50%</b>	<b>14</b>	<b>22</b>	<b>26</b>
	25%	4	11	15
	10%	0	0	5
<b>4</b>	90%	48	54	60
	75%	37	44	48
	<b>50%</b>	<b>23</b>	<b>32</b>	<b>37</b>
	25%	12	20	27
	10%	3	8	17
<b>5</b>	90%	61	64	70
	75%	47	52	60
	<b>50%</b>	<b>34</b>	<b>40</b>	<b>48</b>
	25%	21	28	35
	10%	5	9	25
<b>6</b>	90%	63	71	75
	75%	52	58	64
	<b>50%</b>	<b>41</b>	<b>47</b>	<b>51</b>
	25%	29	35	39
	10%	20	25	28
<b>7</b>	90%	76		
	75%	66		
	<b>50%</b>	<b>53</b>		
	25%	40		
	10%	25		
<b>8</b>	90%	77		
	75%	65		
	<b>50%</b>	<b>48</b>		
	25%	38		
	10%	28		

## Step 6: Apply data decision rules

See the table below:

Making Decisions using CBM Data	
Look at the last 3 data points. <b>If the data points are:</b>	
<b>Close to the goal line (all on the line, or some above and some below)</b>	<ul style="list-style-type: none"><li>Continue your instruction as implemented <i>If your student has an increasing slope with gains at or near your aimline, then he/she is responding to your instruction - so keep doing what you are doing</i></li></ul>
<b>All below the goal line</b>	<ul style="list-style-type: none"><li>Change your instruction</li><li><i>If at least 3 consecutive scores have fallen below the aimline, the student is not responding optimally to instruction. Try something new.</i></li></ul>
<b>All above the goal line</b>	<ul style="list-style-type: none"><li>Change your goal for the student and maintain your instruction as implemented</li><li><i>If at least 3 consecutive scores are above the aimline, your instruction is very effective for the student and you can increase the goal for the student.</i></li></ul>

### How often should writing CBM be given? (Hosp et al., 2007)

- 1) If you are using CBM for screening or benchmarking: three times a year (fall, winter, spring)
- 2) If you are using CBM for progress monitoring: own to two times a week for any student considered at risk based on norms or benchmark data.
- 3) Teachers can use monthly monitoring for all students to provide data on the effectiveness of writing instruction.

### Resources to Find Probes

#### Premade Writing CBM Story Starters

[www.aimsweb.com](http://www.aimsweb.com)

Cost for materials; graphing and data management available

#### Other Resources

- National Center on Student Progress Monitoring  
<http://www.studentprogress.org/>
- National Center on Response to Intervention  
<http://www.rti4success.org/>
- Intervention Central  
<http://www.interventioncentral.org/index.php/cbm-warehouse>

## References

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