

How to Use Curriculum-Based Measures in Secondary Classrooms to Assess and Measure Progress on Student Basic Academic Skills

Jim Wright

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Response to Intervention

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Intervention Central provides teachers, schools and districts with free resources to help struggling learners and implement Response to Intervention and attain the Common Core State Standards. **Spread the word about ICI**
 [31 July 2013] **Use Direct Instruction to Reach Struggling Learners.** Teachers can make challenging academic material accessible by building assistance directly into instruction. This **checklist** is designed for general-education teachers and summarizes essential elements of a direct-instruction approach.

Free Classroom Intervention Kit

	Intervention Planner for Academics	Manual	Sample Reading-Fluency Interventions
	Intervention Planner for Behavior	Manual	Sample Relationship-Building Strategies



RTI Toolkit: A Practical Guide for Schools

How to Use Curriculum-Based Measures in Secondary Classrooms to Assess Progress in Basic Academic Skills

Jim Wright, Presenter

3 December 2013/7 January 2014
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Workshop Resources Available at:
<http://www.interventioncentral.org/fairfieldschools>

Workshop PPTs and handout available at:

<http://www.interventioncentral.org/fairfieldschools>

CBM in Secondary Classrooms: Activity

At your tables:

- Identify how you currently monitor the performance of students with IEPs on:
- Reading fluency
- Reading comprehension
- Math computation (math facts & basic whole-number operations)
- Written expression

Be prepared to share the main points of your discussion.



Educational Decisions and Corresponding Types of Assessment

- **SCREENING/BENCHMARKING DECISIONS:** Tier 1: Brief screenings to quickly indicate whether students in the general-education population are academically proficient or at risk.
- **PROGRESS-MONITORING DECISIONS:** At Tiers 1, 2, and 3, ongoing 'formative' assessments to judge whether students on intervention are making adequate progress.
- **INSTRUCTIONAL/DIAGNOSTIC DECISIONS:** At any Tier, detailed assessment to map out specific academic deficits , discover the root cause(s) of a student's academic problem.
- **OUTCOME DECISIONS:** Summative assessment (e.g., state tests) to evaluate the effectiveness of a program.

Source: Hosp, M. K., Hosp, J. L., & Howell, K. W. (2007). The ABCs of CBM: A practical guide to curriculum-based measurement. New York: Guilford Press.

RTI : Assessment & Progress-Monitoring

To measure student 'response to instruction/intervention' effectively, the RTI model measures students' academic performance and progress on schedules matched to each student's risk profile and intervention Tier membership.

- **Benchmarking/Universal Screening.** All children in a grade level are assessed at least 3 times per year on a common collection of academic assessments (e.g., reading, math).
- **Strategic Monitoring.** Students placed in Tier 2 (supplemental) reading groups are assessed 1-2 times per month to gauge their progress with this intervention.
- **Intensive Monitoring.** Students who participate in an intensive, individualized Tier 3 academic intervention are assessed at least once per week.

Source: Burns, M. K., & Gibbons, K. A. (2008). Implementing response-to-intervention in elementary and secondary schools: Procedures to assure scientific-based practices. New York: Routledge.

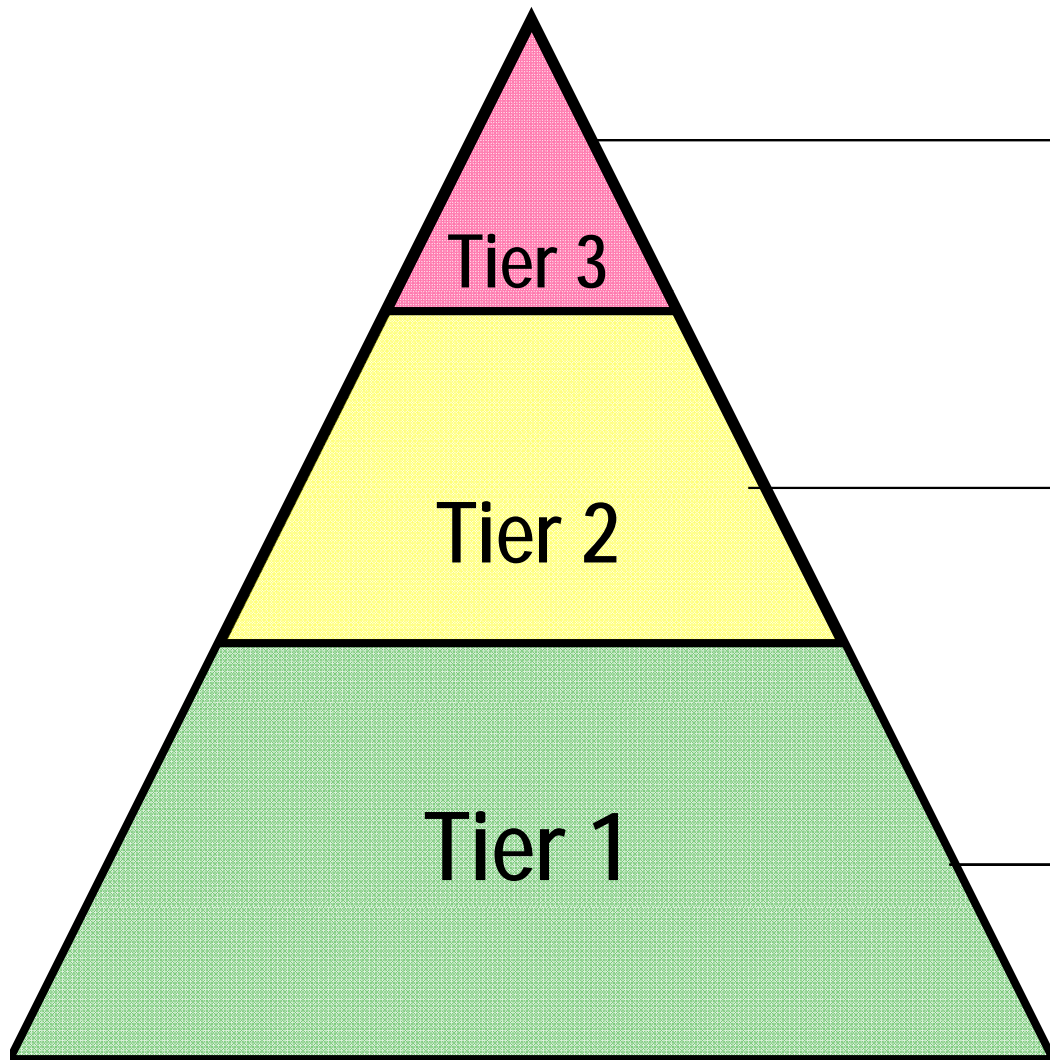
How-to-Teach Questions: See How the Student Responds to Instruction

"It is best to decide how to teach by using data showing trends in student learning. This is referred to as progress data. Do not attempt to answer how-to-teach questions with front-loaded techniques like learning styles inventories. They do not work Instead, try to get an image of how the student actually responds to instruction over time. There are two ways to do this: by taking a good instructional history to find out what has worked in the past or by using progress-monitoring (i.e., formative) data to compare the student's response to varied instructional conditions."

Low-Stakes, High-Stakes: The Quality of Student Data Should Match Costs of 'Being Wrong'

"[In school problem-solving], the greater the costs associated with being wrong, the greater the need for sufficient information of high quality. If the consequences of being wrong are not too severe, we can afford to collect a little information or use information of questionable quality. On the other hand, if the cost of being wrong is great, multiple forms of evidence need to be collected and information must be used that is of high quality."

RTI 'Pyramid of Interventions'



Tier 3: Intensive interventions. Students who are 'non-responders' to Tiers 1 & 2 are referred to the RTI Team for more intensive interventions.

Tier 2 Individualized interventions. Subset of students receive interventions targeting specific needs.

Tier 1: Universal interventions. Available to all students in a classroom or school. Can consist of whole-group or individual strategies or supports.

IEP Assessment: Use Non-Commercial Tools to Get Information Relevant to Programming

“A mistake IEP teams often make is to assume that they can use only standardized, norm-referenced tests during the assessment process. This notion is absolutely false. Whereas such tests can be valuable for eligibility determination, they are not particularly useful for determining educational programs or for monitoring student progress.

Instead noncommercial tools, such as classroom-based assessments, direct observation, and CBM, should be used to provide information that leads directly to programming.”

Source: Yell, M. L., & Stecker, P. M. (). Developing legally correct and educationally meaningful IEPs using curriculum-based measurement. Assessment for Effective Intervention 28(3&4), 73-88. p. 77



Curriculum-Based Measurement.

What are examples of data collection that can track student growth in basic academic skills?

CCSS: Grade 4 ELA Fluency Goal

4. Read with sufficient accuracy and fluency to support comprehension.
- Read grade-level text with purpose and understanding.
 - Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.
 - Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Source: New York State P-12 Common Core Learning Standards for English Language Arts & Literacy. (2010). Retrieved from http://www.p12.nysed.gov/ciai/common_core_standards/pd/docs/p12_common_core_learning_standards_ela.pdf p. 24

CCSS: Grade 4 Math Fluency Goal

Grade 4-Overview

Use place value understanding and properties of operations to perform multi-digit arithmetic.

- Fluently add and subtract multi-digit whole numbers using the standard algorithm.
- Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Source: New York State P-12 Common Core Learning Standards for Mathematics (2010). Retrieved from http://www.p12.nysed.gov/ciai/common_core_standards/pd/docs/nysp12cclsmath.pdf. 27

Big Ideas: The Four Stages of Learning Can Be Summed Up in the 'Instructional Hierarchy'

(Haring et al., 1978)

Student learning can be thought of as a multi-stage process. The universal stages of learning include:

- **Acquisition:** The student is just acquiring the skill.
- **Fluency:** The student can perform the skill but must make that skill 'automatic'.
- **Generalization:** The student must perform the skill across situations or settings.
- **Adaptation:** The student confronts novel task demands that require that the student adapt a current skill to meet new requirements.

The type of academic intervention selected should match a student's 'stage' of learning.



Source: Haring, N.G., Lovitt, T.C., Eaton, M.D., & Hansen, C.L. (1978). *The fourth R: Research in the classroom*. Columbus, OH: Charles E. Merrill Publishing Co.

Curriculum-Based Measurement: What It Is...

- Curriculum-Based Measurement (CBM) is a family of brief, timed measures that assess basic academic skills. CBMs have been developed to assess a considerable number of academic competencies, including oral reading fluency, reading comprehension, math computation, and written expression.

These measures are quick and efficient to administer; align with the curriculum of most schools; have good 'technical adequacy' as academic assessments; and use standard procedures to prepare materials, administer, and score.

Curriculum-Based Measurement: Advantages as a Set of Tools to Monitor RTI/Academic Cases

- Aligns with curriculum-goals and materials
- Is reliable and valid (has 'technical adequacy')
- Is criterion-referenced: sets specific performance levels for specific tasks
- Uses standard procedures to prepare materials, administer, and score
- Samples student performance to give objective, observable 'low-inference' information about student performance
- Has decision rules to help educators to interpret student data and make appropriate instructional decisions
- Is efficient to implement in schools (e.g., training can be done quickly; the measures are brief and feasible for classrooms, etc.)
- Provides data that can be converted into visual displays for ease of communication

Source: Hosp, M.K., Hosp, J. L., & Howell, K. W. (2007). *The ABCs of CBM*. New York: Guilford.

Curriculum-Based Measures (CBMs)

<i>CBM</i>	<i>Skill Area</i>	<i>Activity</i>
Oral Reading Fluency	Reading Fluency	1 Minute: Student reads aloud from a text passage.
Reading Comprehension Fluency (Maze)	Reading Comprehension	3 Minutes: Student reads silently from a Maze passage and selects correct word in each choice item that restores meaning to the passage.
Computation Fluency	Math Fact Fluency	2 Minutes: Student completes math facts and receives credit for each correct digit.
Written Expression	Mechanics/ Conventions of Writing	4 Minutes: Student reads a story-starter (sentence stem), then produces a writing sample that can be scored for Total Words Written, Correctly Spelled Words, Correct Writing Sequences.

CBM: Oral Reading Fluency



Reading Speed: Oral Reading Fluency

- The speed and accuracy of a student reading aloud is correlated with increased comprehension and overall reading skill.

Five Core Components of Reading

- “Phonemic Awareness: The ability to hear and manipulate sounds in words.
- Alphabetic Principle: The ability to associate sounds with letters and use these sounds to form words.
- Fluency with Text: The effortless, automatic ability to read words in connected text.
- Vocabulary: The ability to understand (receptive) and use (expressive) words to acquire and convey meaning.
- Comprehension: The complex cognitive process involving the intentional interaction between reader and text to convey meaning.”

National Reading Panel Report (2000): Conclusions Regarding Importance of Oral Reading Fluency:

“An extensive review of the literature indicates that classroom practices that encourage repeated oral reading with feedback and guidance leads to meaningful improvements in reading expertise for students—for good readers as well as those who are experiencing difficulties.”-p. 3-3

CBM-ORF: Description

CBM-ORF measures a student's reading fluency by having that student read aloud for 1 minute from a prepared passage. During the student's reading, the examiner makes note of any reading errors in the passage. Then the examiner scores the passage by calculating the number of words read correctly.

CBM-ORF: Materials

The following materials are needed to administer a CBM-ORF passage:

- Student and examiner copies of a CBM-ORF passage
- Stopwatch
- CBM-ORF: Preparation
- Passages used to assess ORF should be at least 250 words in length. Passages selected should not contain too much dialog and should avoid an excessive number of foreign words or phrases. In addition, only prose passages should be used in CBM assessments.

Response to Intervention

CBM-Sample Oral Reading Fluency Passage



Curriculum-Based Measurement: Oral Reading Fluency Passage: Examiner Copy

Assessment Date: ___/___/___ Student: _____ Examiner: _____

Words Read Correctly (WRC): _____ Errors: _____ Notes: _____

Jellyfish Are Efficient Predators

New York Times

For animals that drift through the sea without the benefit of eyesight, jellyfish	13
have managed to survive remarkably well. In fact, in areas where overfishing	25
and habitat destruction have reduced fish populations, jellyfish are now	35
becoming the dominant predators.	39
It turns out that jellyfish, despite their sluggish looks, are just as effective at	53
hunting and catching meals as their competitors with fins. They may not move	66
as quickly, but in a study published in the journal Science, researchers found	79
that many jellyfish use their body size to increase their hunting success. With	92
their large, watery bodies and long tentacles, they conserve energy by letting	104
currents guide them into their prey, said José Luis Acuña, an author of the	118
paper and a biologist at the University of Oviedo in Spain.	129
“To our surprise, jellyfish were as good predators as visually predating fish in	142
spite of being slow and blind, because they play an entirely different	154
hydromechanical trick,” he said in an e-mail.	163

CBM-ORF: Directions for Administration (Hosp, Hosp, & Howell, 2007; Wright, 2007)

1. The examiner and the student sit across the table from each other. The examiner hands the student the unnumbered copy of the CBM reading passage. The examiner takes the numbered copy of the passage, shielding it from the student's view.
2. The examiner says to the student: "When I say, 'begin', start reading aloud at the top of this page. Read across the page [demonstrate by pointing]. Try to read each word. If you come to a word you don't know, I'll tell it to you. Be sure to do your best reading. Are there any questions? [Pause] Begin."

CBM-ORF: Directions for Administration (Cont.)

3. The examiner starts the stopwatch when the student says the first word. If the student does not say the initial word within 3 seconds, the examiner says the word and starts the stopwatch.
4. As the student reads along in the text, the examiner records any errors by marking a slash (/) through the incorrectly read word. If the student hesitates for 3 seconds on any word, the examiner says the word and marks it as an error.
5. At the end of 1 minute, the examiner says, "Stop" and marks the student's concluding place in the text with a bracket (]).

CBM-ORF: Directions for Administration (Cont.)

6. *Initial Assessment.* If the examiner is assessing the student for the first time, the examiner administers a total of 3 reading passages during the session using the above procedures and takes the median (middle) score as the best estimate of the student's oral reading fluency.

Progress-Monitoring. If the examiner is monitoring student growth in oral reading fluency (and has previously collected ORF data), only one reading passage is given in the session.

CBM-ORF: Scoring Guidelines

Reading fluency is calculated by first determining the total words attempted within the timed reading probe and then deducting from that total the number of incorrectly read words.

- Words read correctly are scored as correct:
- Self-corrected words are counted as correct.
- Repetitions are counted as correct.
- Examples of dialectical speech are counted as correct.
- Inserted words are ignored.

CBM-ORF: Scoring Guidelines (Cont.)

- Words read to the student by the examiner after 3 seconds are counted as errors.
- Mispronunciations are counted as errors.
- Substitutions are counted as errors.
- Omissions are counted as errors.
- Transpositions of word-pairs are counted as a single error.

Example

Text: She looked at the bright, shining face of the sun.

Student: "She looked at the shining, bright face of the sun."

CBM Reading Assessment: Computing Correctly Read Words

Number of correctly read words (CRW) is calculated by:

- subtracting number of *errors* (E) from
- *total read words* (TRW) during timed minute -- words read up to end bracket in passage

CBM Reading Assessment: Computing Correctly Read Words

One hundred years ago in Paris, when theaters and music halls	11
drew tr aveling players from all over the world, the best place to	23
stay was at the widow Gateau's, a boardinghouse on English	33
Street. Ac robats, jugglers, actors, and mir acles from as far away	43
as Moscow and New York re clined on the widow's feather	53
mattresses and de voured her kidney stews. Madame Gateau	61
worked hard to make her guests comfortable, and so did her	72
daughter, Mirette. } The girl was an expert at washing linens,	82
chopping leeks, paring potatoes, and mopping floors. She was	91
a good listener too. Nothing pleased her more than to overhear	102
the vagabond players tell of their adventures in this town and	113
that along the road.	117

- TRW=74
- Errors=5
- CRW=69

CBM Reading Assessment:

Omitted Text Adjustment:

1. Count up the number of words omitted in a segment of a passage
2. Subtract all but one of those omitted words from the total word count (TRW)
3. Repeat for additional omitted passages
4. Count each omission as single error when calculating correctly read words (CRW)

CBM Reading Assessment: Scoring Example/Omitted Text

One hundred years ago in Paris, when theaters and music halls	11
drew traveling players from all over the world, the best place to	23
stay was at the widow Gateau's, a boardinghouse on English	33
Street. Acrobats , jugglers, actors, and mines from as far away	43
as Moscow and New York reclined on the widow's feather	53
mattresses and devoured her kidney stews. Madame Gateau	61
worked hard to make her guests comfortable, and so did her	72
daughter, Mirette. } The girl was an expert at washing linens,	82
chopping leeks, paring potatoes, and mopping floors. She was	91
a good listener too. Nothing pleased her more than to overhear	102
the vagabond players tell of their adventures in this town and	113
that along the road.	117

- TRW=74
- Omitted Words=10
- New TRW=64
- Errors=6
- CRW=58

CBM ORF: Group-Study

In your groups:

- Review the directions for administering & scoring CBM Oral Reading Fluency probes (pp. 9-10).
- Discuss any questions that you have about these procedures.
- Bring up any unanswered questions to the large group.

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EasyCBM: The easyCBM website (<http://easycbm.com/>) has collections of CBM- 'Passage Fluency' for grades 1-8. Teachers can create a free account on this web benchmark norms.

Schools can also make their own CBM Oral Reading Fluency passages in PDF format based on text typed in by the user using the Reading Fluency Passages Generator, a free online application:
<http://www.interventioncentral.org/teacher-resources/oral-reading-fluency-passages-generator>

CBM-ORF: Directions for Administration (Hosp, Hosp, & Howell, 2007; Wright, 2007)

1. The examiner and the student sit across the table from each other. The examiner hands the student the unnumbered copy of the CBM reading passage. The examiner takes the numbered copy of the passage, shielding it from the student's view.
2. The examiner says to the student: "When I say, 'begin', start reading aloud at the top of this page. Read across the page [demonstrate by pointing]. Try to read each word. If you come to a word you don't know, I'll tell it to you. Be sure to do your best reading. Are there any questions? [Pause] Begin."
3. The examiner starts the stopwatch when the student says the first word. If the student does not say the initial word within 3 seconds, the examiner says the word and starts the stopwatch.
4. As the student reads along in the text, the examiner records any errors by marking a slash (/) through the incorrectly read word. If the student hesitates for 3 seconds on any word, the examiner says the word and marks it as an error.
5. At the end of 1 minute, the examiner says, "Stop" and marks the student's concluding place in the text with a bracket (]).
6. *Initial Assessment:* If the examiner is assessing the student for the first time, the examiner administers a total of 3 reading passages during the session using the above procedures and takes the median (middle) score as the best estimate of the student's oral reading fluency.
Progress Monitoring: If the examiner is monitoring student growth in oral reading fluency (and has previously collected ORF data), only one reading passage is given in the session.

CBM-ORF: Directions for Practice

If the student is not yet familiar with CBM-Oral Reading Fluency probes, the teacher can administer one or more practice ORF probes (using the administration guidelines above) and provide coaching and feedback as needed until assured that the student fully understands the assessment.

CBM-ORF: Scoring Guidelines

Reading fluency is calculated by first determining the total words attempted within the timed reading probe and then deducting from that total the number of incorrectly read words.

The following scoring rules will aid the instructor in marking the reading probe:

- Words read correctly are scored as correct.
- Self-corrected words are counted as correct.
- Repetitions are counted as correct.
- Examples of dialectical speech are counted as correct.
- Inserted words are ignored.
- Words read to the student by the examiner after 3 seconds are counted as errors.
- Mispronunciations are counted as errors.

Example

05:00

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CBM ORF: Practice Run

01:00

Pair off:

- Open the MAIN handout to the ORF directions on p. 9.
- Open the SUPPLEMENTAL handout to the sample reading passages on pp. 2-4.
- Choose 1 in your pair to role-play the examiner, 1 as the student.
- Administer and score one of the passages.
- Trade roles and repeat!

CBA Reading P

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In the busy rain forest of Malaysia, a grasshopper leaps into a
 spray of orchids. Suddenly, one of the "flowers" turns on the
 grasshopper. An orchid mantis, with wings like petals, grips it
 tightly. For the grasshopper, there will be no escape. The
 orchid mantis is a master of camouflage – the art of hiding while
 in plain sight. Camouflage enables predators like the orchid
 mantis to hide while they lie in wait for their prey. For other
 animals, camouflage is a method of protection from their
 enemies. Animals blend into the background in several ways.
 Their colors and patterns may match their surroundings.

Harcourt Brace Signatures Series 1999
 Level 4-1 Rare Finds
 Hiding Out pp. 270

Response to Intervention

- Oral Reading Fluency [1 Minute]. The student reads aloud from a passage, with the reading sample scored for words read correctly (WRC) and errors.

Curriculum-Based Measurement: Oral Reading Fluency Norms (Hasbrouck & Tindal, 2005)*

CBM-Oral Reading Fluency is a measure of oral reading performance (Espin et al., 2010), as well as reading speed. In an oral reading fluency sample, the student reads aloud from a passage for 1 minute. The reading sample is scored for words read correctly (WRC) and errors.

p. 12

Grade	Percentile	Fall Oral Reading Fluency (Hasbrouck & Tindal, 2005)	Winter Oral Reading Fluency (Hasbrouck & Tindal, 2005)	Spring Oral Reading Fluency (Hasbrouck & Tindal, 2005)	Weekly Growth (Hasbrouck & Tindal, 2005)
1	50%ile		23	53	1.9
	25%ile		12	28	1.0
	10%ile		6	15	0.6
2	50%ile	51	72	89	1.2
	25%ile	25	42	61	1.1
	10%ile	11	18	31	0.6
3	50%ile	71	92	107	1.1
	25%ile	44	62	78	1.1
	10%ile	21	36	48	0.8
4	50%ile	94	112	123	0.9
	25%ile	68	87	98	0.9
	10%ile	45	61	72	0.8

Response to Intervention

- Oral Reading Fluency [1 Minute]. The student reads aloud from a passage, with the reading sample scored for words read correctly (WRC) and errors.

Curriculum-Based Measurement: Oral Reading Fluency Norms (Hasbrouck & Tindal, 2005)*

CBM-Oral Reading Fluency assesses general reading performance (Espin et al., 2010), as well as reading speed. In an oral reading fluency assessment, the student reads aloud from a passage for 1 minute. The reading sample is scored for words read correctly (WRC) and errors.

Grade	Percentile	Fall Oral Reading Fluency (Hasbrouck & Tindal, 2005)	Winter Oral Reading Fluency (Hasbrouck & Tindal, 2005)	Spring Oral Reading Fluency (Hasbrouck & Tindal, 2005)	Weekly Growth (Hasbrouck & Tindal, 2005)
p. 12					
5	50%ile	110	127	139	0.9
	25%ile	85	99	109	0.8
	10%ile	61	74	83	0.7
6	50%ile	127	140	150	0.7
	25%ile	98	111	122	0.8
	10%ile	68	82	93	0.8
7	50%ile	128	136	150	0.7
	25%ile	102	109	123	0.7
	10%ile	79	88	98	0.6
8	50%ile	133	146	151	0.6
	25%ile	106	115	124	0.6
	10%ile	77	84	97	0.6

Online Resources: Oral Reading Fluency

- Free ORF passages and national norms for grades 1-6 are available at:

DIBELS NEXT: <https://dibels.org/next/>

- EasyCBM: <http://www.easycbm.com>

NOTE: Users create a free account to download and print ORF passages.

Response to Intervention

Reading Fluency Passages Generator

Enter a user-selected
passage to format as
an Oral Reading
Fluency Probe for
reading fluency
assessment.

Oral Reading Fluency Passage Generator

Please fill out the fields below and click on Download or Email PDF to generate an Oral Reading

Title (?)

Author (?)

Font (?)

Text Size (?)

Passage

Word Count: 0 (Min: 1 Max: 900)

- Show sentence boundaries (?)
- Treat semi-colons(;) and colons(:) as sentence boundaries (?)
- Remove all line breaks to create a single-paragraph passage

Readability Estimate Formulas (?)

(A minimum of 75 words is needed to reliably estimate readability.)

Formula

- FORCAST (?)
- Spache (?)

URL: <http://www.interventioncentral.org/teacher-resources/oral-reading-fluency-passages-generator>



Oral Reading Fluency: Sample Intervention

Group-Based Repeated Reading

(Available on Conference Web Page)

An effective *group repeated reading intervention* (Klubnik & Ardoin, 2010) has been developed that allows a tutor to work on reading fluency with up to 3 students in a group format. This tutoring package includes several components, with repeated reading as the 'engine' that drives student growth in reading fluency. A tutoring session using this group intervention will last about 15 minutes.

Group-Based Repeated Reading

Preparation. To prepare for each tutoring session, the tutor creates or obtains these materials:

- 1 student reading passage: This passage should be 150 words or longer and at students' instructional level. *Instructional* as defined here means that students are able to correctly read at least 90% of the words in the passage. Copies of the passage are made for each student and the tutor.
- 1 copy of the *Group Repeated Reading Intervention Behavior Rating Scale* (two versions of which appear later in this document).

Group-Based Repeated Reading

Procedure. The group repeated reading intervention has 4 components: passage preview, repeated readings, phrase-drill error correction, and contingent reward:

1. *Passage Preview.* The tutor reads the practice passage aloud once while students follow along silently, tracking their place with an index finger. During this initial read-through, the tutor stops several times at unpredictable points and asks a student selected at random to read the next word in the passage. (NOTE: This 'assisted cloze' strategy -- Homan, Klesius, & Hite, 1993--ensures that students pay close attention to the tutor's modeling of text.)

Group-Based Repeated Reading

Procedure.

2. *Repeated Readings.* The tutor next has the students read the practice passage aloud 3 times . For each read-aloud, the students engage in sequential reading, with the process continuing in round-robin fashion until the passage is completed. When a student misreads or hesitates in reading a word for 3 seconds or longer, the tutor states the correct word. At the beginning of each repeated reading, the tutor selects a different student, to ensure that by the end of the 3 readings, each student will have read each sentence in the passage once.

Group-Based Repeated Reading

Procedure.

3. *Phrase Drill Error Correction.* At the end of each reading, the tutor reviews error words (misreads or hesitations for 3 seconds or longer) with students. The tutor points to each error word, ensures that students are looking at the word, and asks them to read the word aloud in unison.

If students misread or hesitate for 3 seconds or longer, the tutor pronounces the error word and has students read the word aloud together (choral responding). Then the tutor has students read aloud a phrase of 2-3 words that includes the error word--performing this action twice.

Group-Based Repeated Reading

Procedure.

4. *Contingent Reward.* At the start of each tutoring session, the tutor reviews with the group the 3 behavioral expectations from the *Group Repeated Reading Intervention Behavior Rating Scale*:
 - *When asked to read aloud, I did my best reading.*
 - *When others were reading, I paid close attention.*
 - *I showed good behaviors and followed all directions quickly.*

The tutor reminds the students that they can earn a reward if they observe these behavioral expectations.





































Response to Intervention

Group Repeated Reading Intervention Behavior Rating Scale

Student Name: Reading Group Students Date: _____

Rater: Tutor Classroom: _____

Directions: Review each of the Behavior Report Card items below. For each item, rate the degree to which the student showed the behavior or met the behavior goal.

	Student 1	Student 2	Student 3
<p><i>When asked to read aloud, I did my best reading.</i></p> <p>The degree to which Reading Group Students met this behavior goal</p> <p style="text-align: center;">  1  2  3 </p>	 1  2  3	 1  2  3	 1  2  3
<p><i>When others were reading, I paid close attention.</i></p> <p>The degree to which Reading Group Students met this behavior goal</p> <p style="text-align: center;">  1  2  3 </p>	 1  2  3	 1  2  3	 1  2  3
<p><i>I showed good behaviors and followed all directions quickly.</i></p> <p>The degree to which Reading Group Students met this behavior goal</p> <p style="text-align: center;">  1  2  3 </p>	 1  2  3	 1  2  3	 1  2  3

Response to Intervention

Group Repeated Reading Intervention Behavior Rating Scale

Student Name: Reading Group Students Date: _____

Rater: Tutor Classroom: _____

Directions: Review each of the Behavior Report Card items below. For each item, rate the degree to which the student showed the behavior or met the behavior goal.

	Student 1	Student 2	Student 3
<p><i>When asked to read aloud, I did my best reading.</i></p> <p>How well Reading Group Students did in meeting the behavior goal?</p> <p style="text-align: center;">1.....2.....3 Poor Fair Good</p>	<p>P F G 1.....2.....3</p>	<p>P F G 1.....2.....3</p>	<p>P F G 1.....2.....3</p>
<p><i>When others were reading, I paid close attention.</i></p> <p>How well Reading Group Students did in meeting the behavior goal?</p> <p style="text-align: center;">1.....2.....3 Poor Fair Good</p>	<p>P F G 1.....2.....3</p>	<p>P F G 1.....2.....3</p>	<p>P F G 1.....2.....3</p>
<p><i>I showed good behaviors and followed all directions quickly.</i></p> <p>How well Reading Group Students did in meeting the behavior goal?</p> <p style="text-align: center;">1.....2.....3 Poor Fair Good</p>	<p>P F G 1.....2.....3</p>	<p>P F G 1.....2.....3</p>	<p>P F G 1.....2.....3</p>

Group-Based Repeated Reading

Procedure.

4. *Contingent Reward (Cont.)* At the end of the session, the tutor rates each student's behavior on the *Group Repeated Reading Intervention Behavior Rating Scale*. Any student who earns a top score (3 points) on all rating items receives a modest reward.

CBM ORF: Group-Study

In your groups:

- Review the directions for administering & scoring CBM Oral Reading Fluency probes (pp. 9-10).
- Discuss any questions that you have about these procedures.
- Bring up any unanswered questions to the large group.



'How the Common Core Works' Series © 2013 Jim Wright



EasyCBM: The easyCBM website (<http://easycbm.com/>) has collections of CBM- 'Passage Fluency' for grades 1-8. Teachers can create a free account on this web benchmark norms.

Schools can also make their own CBM Oral Reading Fluency passages in PDF format based on text typed in by the user using the Reading Fluency Passages Generator, a free online application:
<http://www.interventioncentral.org/teacher-resources/oral-reading-fluency-passages-generator>

CBM-ORF: Directions for Administration (Hosp, Hosp, & Howell, 2007; Wright, 2007)

1. The examiner and the student sit across the table from each other. The examiner hands the student the unnumbered copy of the CBM reading passage. The examiner takes the numbered copy of the passage, shielding it from the student's view.
2. The examiner says to the student: "When I say, 'begin', start reading aloud at the top of this page. Read across the page [demonstrate by pointing]. Try to read each word. If you come to a word you don't know, I'll tell it to you. Be sure to do your best reading. Are there any questions? [Pause] Begin."
3. The examiner starts the stopwatch when the student says the first word. If the student does not say the initial word within 3 seconds, the examiner says the word and starts the stopwatch.
4. As the student reads along in the text, the examiner records any errors by marking a slash (/) through the incorrectly read word. If the student hesitates for 3 seconds on any word, the examiner says the word and marks it as an error.
5. At the end of 1 minute, the examiner says, "Stop" and marks the student's concluding place in the text with a bracket (]).
6. *Initial Assessment:* If the examiner is assessing the student for the first time, the examiner administers a total of 3 reading passages during the session using the above procedures and takes the median (middle) score as the best estimate of the student's oral reading fluency.
Progress Monitoring: If the examiner is monitoring student growth in oral reading fluency (and has previously collected ORF data), only one reading passage is given in the session.

CBM-ORF: Directions for Practice

If the student is not yet familiar with CBM-Oral Reading Fluency probes, the teacher can administer one or more practice ORF probes (using the administration guidelines above) and provide coaching and feedback as needed until assured that the student fully understands the assessment.

CBM-ORF: Scoring Guidelines

Reading fluency is calculated by first determining the total words attempted within the timed reading probe and then deducting from that total the number of incorrectly read words.

The following scoring rules will aid the instructor in marking the reading probe:

- Words read correctly are scored as correct.
 - Self-corrected words are counted as correct.
 - Repetitions are counted as correct.
 - Examples of dialectical speech are counted as correct.
 - Inserted words are ignored.
 - Words read to the student by the examiner after 3 seconds are counted as errors.
 - Mispronunciations are counted as errors.
- Example

05:00

www.interventioncentral.org

CBM ORF: Practice Run

Pair off:

- Open the MAIN handout to the ORF directions on p. 9.
- Open the SUPPLEMENTAL handout to the sample reading passages on pp. 2-4.
- Choose 1 in your pair to role-play the examiner , 1 as the student.
- Administer and score one of the passages.
- Trade roles and repeat!

CBA Reading Probes: Harcourt Brace Signatures Series Book 4-1 Rare Finds

In the busy rain forest of Malaysia, a grasshopper leaps into a	12
spray of orchids. Suddenly, one of the "flowers" turns on the	23
grasshopper. An orchid mantis, with wings like petals, grips it	33
tightly. For the grasshopper, there will be no escape. The	43
orchid mantis is a master of camouflage – the art of hiding while	55
in plain sight. Camouflage enables predators like the orchid	64
mantis to hide while they lie in wait for their prey. For other	77
animals, camouflage is a method of protection from their	86
enemies. Animals blend into the background in several ways.	95
Their colors and patterns may match their surroundings.	103

Harcourt Brace Signatures Series 1999
Level 4-1 Rare Finds
Hiding Out pp. 270

CBM-Reading Comprehension: Maze



Reading Comprehension: Maze

- Efficient student understanding of text is a culminating skill in reading and the foundation for academic success in the secondary grades.

Five Core Components of Reading

- “Phonemic Awareness: The ability to hear and manipulate sounds in words.
- Alphabetic Principle: The ability to associate sounds with letters and use these sounds to form words.
- Fluency with Text: The effortless, automatic ability to read words in connected text.
- Vocabulary: The ability to understand (receptive) and use (expressive) words to acquire and convey meaning.
- Comprehension: The complex cognitive process involving the intentional interaction between reader and text to convey meaning.”

CBM-Maze: Description (Espin et al., 2010).

CBM-Maze passages are timed (3-minute) reading comprehension assessments with a multiple-choice response format. The student reads and completes the passage silently. CBM-Maze can be administered to a single student, a small group, or an entire class.

CBM-Maze: Materials

The following materials are needed to administer CBM-Maze passages:

- Student and examiner copies of CBM Maze passage
- Stopwatch
- Pencils for students

CBM-Maze: Preparation

Before administering CBM-Maze, the teacher creates or obtains a Maze passage, using these guidelines (Espin et al., 2010):

- Passages used for Maze should be at least 300 words long.
- The first sentence of the Maze passage is left intact.
- In the text following the first sentence, every seventh word is selected to be incorporated into a response item that consists of the original word plus two foils (words that would not make sense if substituted in the passage in place of the original, correct word). These three choices are randomly arranged and inserted back into the text.

Here is a sample of a Maze response item: *The rain (sang, cement, fell) on the garden.*



Student Name: _____ Classroom: _____ Date: _____

CBM-Sample Maze Passage

Jellyfish Are Efficient Predators

New York Times

For animals that drift through the sea without the benefit of eyesight, jellyfish have managed to survive remarkably well. In fact, in areas where overfishing (and, throughout, board) habitat destruction have reduced fish populations, (fact, alert, jellyfish) are now becoming the dominant predators.

(Remember, Poised, It) turns out that jellyfish, despite their (improve, sluggish, amount) looks, are just as effective at (thought, hunting, comfort) and catching meals as their competitors (beside, with, destruction) fins. They may not move as (quickly, cough, flight), but in a study published in (the, damaged, dirty) journal *Science*, researchers found that many (jellyfish, known, proud) use their body size to increase (fresh, their, servant) hunting success. With their large, watery (accept, jelly, bodies) and long tentacles, they conserve energy (by, teach, correctly) letting currents guide them into their (agree, proud, prey), said José Luis Acuña, an author (of, daughter, mountain) the paper and a biologist at (intend, equally, the) University of Oviedo in Spain.

"To (our, via, insect) surprise, jellyfish were as good predators (blindly, as, on) visually predating fish in spite of (being, bewildered, thought) slow and blind, because they play (an, place, driven) entirely different hydromechanical trick," he said (uptight, in, following) an e-mail.

CBM-Maze: Directions for Administration (adapted from Sarasti, 2009)

1. The examiner distributes copies of CBM Maze probes to all the students in the group.
2. The examiner says: "When I say 'begin', start reading the story silently. Wherever you come to a group of 3 word-choices, circle the word that makes sense. Work as fast as you can but do your best work. If you finish the first page, go to the next page and continue working until I tell you to stop."
3. The examiner says: "Ready? Begin" and starts the stopwatch.

CBM-Maze: Directions for Administration (adapted from Sarasti, 2009)

4. After 3 minutes, the examiner stops the stopwatch and says: "Stop. Pencils down".
5. These directions are repeated for each Maze passage administered in a session. The examiner then collects and scores the passages.

CBM-Maze: Directions for Administration (adapted from Sarasti, 2009)

6. *Initial Assessment.* If the examiner is assessing the student for the first time, the examiner administers a total of 3 Maze probes during the session, using the above procedures and takes the median (middle) score as the best estimate of the student's reading-comprehension skills.

Progress-Monitoring. If the examiner is monitoring student growth in computation (and has previously collected Maze data), only one Maze probe is given in the session.

Response to Intervention

- **Maze Passage [3 Minutes]**. The student silently reads a specially formatted passage with multiple-response format appearing on every 7th word and—for each item-- circles the word that 'restores' the meaning of that section of the passage..

Curriculum-Based Measurement: Maze Passage Fluency Norms
 (Fuchs, Fuchs, Hamlett, Waltz, & Germann, 1993; Graney, Missall, Martinez, & Bergstrom, 2009; Jenkins & Jewell, 1993)*

Grade	Fall Maze (Jenkins & Jewell, 1993)	Fall: +/-1 SD (≈16th%ile to 84th%ile)	Spring Maze (Jenkins & Jewell, 1993)	Spring: +/-1 SD (≈16th%ile to 84th%ile)	Weekly Growth (Fuchs et al., 1993)
2	6	1↔11	15	7↔23	0.40

p. 20

Grade	Fall Maze (Graney et al., 2009)	Fall: +/-1 SD (≈16th%ile to 84th%ile)	Winter Maze (Graney et al., 2009)	Winter: +/-1 SD (≈16th%ile to 84th%ile)	Spring Maze (Graney et al., 2009)	Spring: +/-1 SD (≈16th%ile to 84th%ile)	Weekly Growth (Fuchs et al., 1993)
3	13	7↔19	14	8↔20	15	9↔21	0.40
4	14	9↔19	21	12↔30	20	12↔28	0.40
5	18	11↔25	22	14↔30	26	18↔34	0.40

Grade	Fall Maze (Jenkins & Jewell, 1993)	Fall: +/-1 SD (≈16th%ile to 84th%ile)	Spring Maze (Jenkins & Jewell, 1993)	Spring: +/-1 SD (≈16th%ile to 84th%ile)	Weekly Growth (Fuchs et al., 1993)
6	33	22↔44	39	26↔52	0.40

Online Resources: Maze

- Free Maze passages and national norms for grades 3-6 are available from DIBELS NEXT at:

<https://dibels.org/next/>

NOTE: Users create a free account to download and print Maze passages (called 'DAZE' by DIBELS).

Response to Intervention

The screenshot shows the 'Maze Passage Generator' page on the Intervention Central website. The page has a navigation bar with links for Home, Academic Interventions, Behavior Interventions, Products, Workshops, CBM, Downloads, RTI Help, and Contact. Below the navigation bar, there are social media icons for Facebook, Twitter, Print, and Email. The main content area is titled 'Maze Passage Generator' and includes a 'Previous' and 'Next' button. The page is currently on 'Step 1 of 3'. The text explains that Curriculum-based measurement (CBM) Maze passages are timed measures that measure reading comprehension. It also provides directions for using the generator, including a note to compute readability and a list of three options for selecting foils for the maze passage. At the bottom, there are input fields for Title, Author, and Passage.

INTERVENTION CENTRAL Your source for RTI resources

Home Academic Interventions Behavior Interventions Products Workshops CBM Downloads RTI Help Contact

Maze Passage Generator

If you have any suggestions or comments about this tool, please mail me.

[Complete Solution for RTI Benchmark and Targeted Assessments Online or Paper, Districtwide](#) [www.bluebonnetreading.com](#)
[Increase Reading Fluency: Spend Less Time Testing More Time Teaching - See How](#) [www.LevelLearning.com](#)
[Free Math Worksheets: Printable Math Worksheets Sorted by Grade! Make Learning Math Engaging.](#) [www.Education.com](#)
[Free Teacher Resources: Get lesson plans, worksheets & Collaborate with English teachers!](#) [TeachingChannel.org](#) [Add Choices >](#)

Maze Passage Generator

Previous Next

Step 1 of 3

Curriculum-based measurement (CBM) Maze passages are timed measures that measure reading comprehension. They are better predictors of future reading performance than CBM oral reading fluency probes for students in grades 4 and higher (Hoop, Hoop & Howell, 2007). Students read Maze passages silently during assessment, so Maze can be administered to a whole class at one time. Passages used for Maze should be at least 300 words in length. The first sentence of the Maze passage is left intact. In the text following the first sentence, every seventh word from the passage is selected to be incorporated into a response item that consists of the original word plus two foils (words that would not make sense if substituted in the passage in place of the original, correct word). These three choices are randomly arranged and inserted back into the text. During a timed Maze administration, the reader silently reads the Maze passage; whenever he or she encounters a response item, the reader circles the word from the three choices that best restores the meaning of that segment of the passage. The reader continues until time expires. A good description of Maze passages and administration can be found in the manual [Using CBM for Progress-Monitoring in Reading](#) (Fuchs & Fuchs, 2007).

Directions: This Maze Passage Generator largely automates the work of creating a Maze passage with user-entered content. To get started, type or paste the passage that you would like to convert in the Passage box below. You can also optionally type in the Author and/or Title of the passage. NOTE: To compute readability, click on the COMPUTE button below under 'Readability Estimates'.

Selecting Foils for the Maze Passage: The application allows you three choices in selecting foils to be included in the Maze responses:

1. Basic list of common English words. The application selects foils from a list of common words; this is the default outcome if the user does not select another choice.
2. Words selected randomly from your passage. The application uses words randomly pulled from your passage as foils. This can be a good choice for more technical text, to ensure that foils are consistent with the overall passage content.
3. Your own word list. You can enter a word list of your own that the application will use in selecting item foils for the Maze passage.

When you are ready to go to the next screen, click the NEXT button.

Title

Author

Passage

Maze Passage Generator

Enter a user-selected passage to format as a Maze passage for reading comprehension assessment.

URL: <http://www.interventioncentral.org/teacher-resources/test-of-reading-comprehension>

“...One way I have used the Maze in the past at the secondary level, is as a targeted screener to determine an instructional match between the student and the text materials. By screening all students on one to three Maze samples from the text and/or books that were planned for the course, we could find the students who could not handle the materials without support (study guides, highlighted texts, alternative reading material). ... This assessment is efficient and it seems quite reliable in identifying the potential underachievers, achievers, and overachievers. The real pay back is that success can be built into the courses from the beginning, by providing learning materials and supports at the students' instructional levels.”

Lynn Pennington, Executive Director, SSTAGE

(Student Support Team Association for Georgia Educators)

CBM Maze: Group-Study

In your groups:

- Review the Maze guidelines for student practice (MAIN packet-pp18-19).
- Discuss how you might alter these guidelines to better match your students.

CBM-Maze: Practice Page

1. The rain (sang, cement, fell) on the garden.
2. The teacher walked (quickly, blue, trust) down the hall.
3. The ship sailed (blank, toward, eight) the port.

Oral Reading Fluency: Sample Intervention

ASK-READ-TELL (ART): Student Worksheet (McCallum et al., 2010)

Name: _____ Passage/Page Numbers: _____ Date: _____

Directions: Use the checklist below to guide your reading of this passage. Check off each step when completed.

Step 1: Goal Before Reading: I look at the title of the passage and ASK myself these questions:

- What is the main topic of the passage? What does it discuss?
- What information do I already know about this topic?

Based on the title, what are two questions about this passage's topic that I would like to have answered in my reading?:

1. _____ ?
2. _____ ?

Step 2: Goal While Reading: I READ the passage carefully for full understanding:

- While reading, I stop after each paragraph to ask, "Did I understand what I just read?"
- If I do understand the paragraph, I mark it with a plus sign (+) and continue reading.
If I do not understand the paragraph, I mark it with a minus (-) sign and:
 - reread the paragraph;
 - slow my reading;
 - focus my *full* attention on what I am reading;
 - underline any words that I do not know and try to figure them out from the reading (context).

Step 3: Goal After Reading: I TELL what I learned from the passage:

- Based on my reading, here are answers to my two questions from Step 1:

1. _____

2. _____

- When I meet with my peer partner, we TELL each other what we learned from the passage, sharing our questions and answers. Then we talk about any other interesting information from the reading.

ASK-READ-TELL
(ART): Reading
Comprehension:
Cognitive Strategy
(Available on
Conference Web
Page)

CBM: Math Computation Fluency

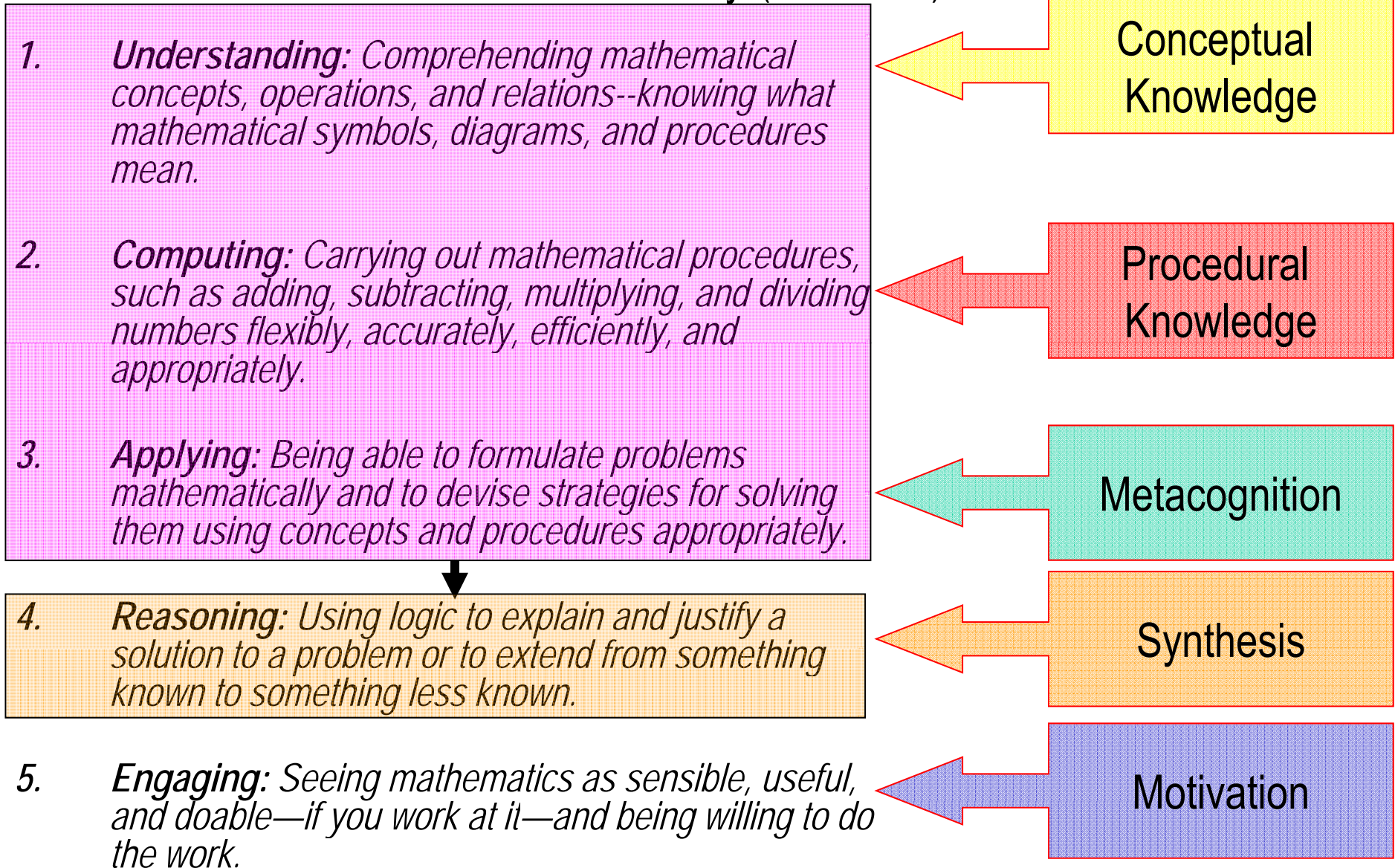


Math Computation Fluency

- Students should have fluent recall of basic-operation math facts to prepare them for demanding math courses in middle and high school.

Response to Intervention

Five Strands of Mathematical Proficiency (NRC, 2002)



Source: National Research Council. (2002). *Helping children learn mathematics. Mathematics Learning Study Committee, J. Kilpatrick & J. Swafford, Editors, Center for Education, Division of Behavioral & Social Sciences & Education. Washington, DC: National Academy Press* 72

Benefits of Automaticity of 'Arithmetic Combinations'

(Gersten, Jordan, & Flojo, 2005)

- There is a strong correlation between poor retrieval of arithmetic combinations ('math facts') and global math delays
- Automatic recall of arithmetic combinations frees up student 'cognitive capacity' to allow for understanding of higher-level problem-solving
- By internalizing numbers as mental constructs, students can manipulate those numbers in their head, allowing for the intuitive understanding of arithmetic properties...

Source: Gersten, R., Jordan, N. C., & Flojo, J. R. (2005). Early identification and interventions for students with mathematics difficulties. *Journal of Learning Disabilities, 38*, 293-304.

CBM-Computation Fluency: Description

CBM-Computation Fluency measures a student's accuracy and speed in completing 'math facts' using the basic whole-number operations of addition, subtraction, multiplication, and division.

CBM-Computation Fluency probes are 2-minute assessments of basic math facts that are scored for number of 'correct digits'.

The examiner hands the computation worksheet(s), reads aloud the directions, and gives the signal to start. Students then proceed to complete as many items as possible within the allotted 2 minutes. The examiner collects the worksheets at the end of the assessment for scoring.

CBM Computation Fluency: Exercise

- Turn to the CBM-Math Computation Fluency student worksheet on p. 7 of the SUPPLEMENTAL packet.
- You are about to complete a 2-minute mixed-skill CBM math probe. (Note: You will not be sharing your completed worksheets with anyone else!).
- Here are the directions...

Curriculum-Based Assessment Mathematics
Multiple-Skills Computation Probe: Student Copy

Student: _____ Date: _____

$\begin{array}{r} 52 \\ +66 \\ \hline \end{array}$	$\begin{array}{r} 82 \\ -78 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ \times 3 \\ \hline \end{array}$	$6 \overline{)732}$
$\begin{array}{r} 562 \\ +292 \\ \hline \end{array}$	$\begin{array}{r} 26 \\ -17 \\ \hline \end{array}$	$\begin{array}{r} 63 \\ \times 1 \\ \hline \end{array}$	$2 \overline{)166}$
$\begin{array}{r} 17 \\ +90 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ -37 \\ \hline \end{array}$	$\begin{array}{r} 40 \\ \times 7 \\ \hline \end{array}$	$8 \overline{)456}$

CBM-Computation Fluency: Materials

The following materials are needed to administer CBM-Computation Fluency:

- Student and examiner copies of CBM Computation Fluency Probes
- Stopwatch
- Pencils for students

CBM-Computation Fluency: Single-Skill vs. Multiple Skill

There are 2 types of CBM math probes, single-skill worksheets (those containing like problems) and multiple-skill worksheets (those containing a mix of problems requiring different math operations).

1. Single-skill probes give instructors good information about students' mastery of particular problem-types.
2. Multiple-skill probes allow the teacher to test children's math competencies on a range of computational objectives during a single CBM session.

Both types of math probes can be administered either individually or to groups of students.

Response to Intervention

Curriculum-Based Assessment Mathematics
Multiple-Skills Computation Probe: Examiner Copy

Item 1:
3 CD/3 CD Total
ADDITION: 2- to 3-digit
number plus 2- to 3-digit
number: Regrouping from
10's column only

$$\begin{array}{r} 52 \\ +66 \\ \hline 118 \end{array}$$

Item 2:
1 CD/4 CD Total
SUBTRACTION: 2-digit
number from a 2-digit
number: regrouping

$$\begin{array}{r} 82 \\ -78 \\ \hline 4 \end{array}$$

Item 3:
3 CD/7 CD Total
MULTIPLICATION: 2-digit
number times 1-digit
number: regrouping

$$\begin{array}{r} 38 \\ \times 3 \\ \hline 114 \end{array}$$

Item 4:
13 CD/20 CD Total
DIVISION: 3-digit
number divided by
1-digit number: no
remainder

$$\begin{array}{r} 122 \\ 6 \overline{)732} \\ \underline{-6} \\ 13 \\ \underline{-12} \\ 12 \\ \underline{-12} \\ 0 \end{array}$$

Example: Examiner
Copy: Multiple-Skill
Computation Probe

Item 5:
3 CD/23 CD Total
ADDITION: 2- to 3-digit
number plus 2- to 3-digit
number: Regrouping from
10's column only

$$\begin{array}{r} 562 \\ +292 \\ \hline 854 \end{array}$$

Item 6:
1 CD/24 CD Total
SUBTRACTION: 2-digit
number from a 2-digit
number: regrouping

$$\begin{array}{r} 26 \\ -17 \\ \hline 9 \end{array}$$

Item 7:
2 CD/26 CD Total
MULTIPLICATION: 2-digit
number times 1-digit
number: regrouping

$$\begin{array}{r} 63 \\ \times 1 \\ \hline 63 \end{array}$$

Item 8:
7 CD/33 CD Total
DIVISION: 3-digit
number divided by
1-digit number: no
remainder

$$\begin{array}{r} 83 \\ 2 \overline{)166} \\ \underline{-16} \\ 06 \\ \underline{-6} \\ 0 \end{array}$$

CBM-Computation Fluency: Directions for Administration

1. The examiner distributes copies of math probes to all the students in the group, face down. (Note: These probes may also be administered individually). The examiner says to the students: "The sheets on your desk are math facts."
2. If the students are to complete a single-skill probe, the examiner says: "All the problems are [addition or subtraction or multiplication or division] facts."

If the students are to complete a multiple-skill probe, the examiner then says: "There are several types of problems on the sheet. Some are addition, some are subtraction, some are multiplication, and some are division [as appropriate]. Look at each problem carefully before you answer it."

CBM-Computation Fluency: Directions for Administration (Cont.)

3. The examiner then says: "When I say 'begin', turn the worksheet over and begin answering the problems. Start on the first problem on the left on the top row [point]. Work across and then go to the next row. If you can't answer a problem, make an 'X' on it and go to the next one. If you finish one side, go to the back. Are there any questions?"

CBM-Computation Fluency: Directions for Administration (Cont.)

4. The examiner says 'Start' and starts the stopwatch. While the students are completing worksheets, the examiner and any other adults assisting in the assessment circulate around the room to ensure that students are working on the correct sheet and that they are completing problems in the correct order (rather than picking out only the easy items)..
5. After 2 minutes have passed, the examiner says, "Stop" and collects the CBM computation probes for scoring.

CBM-Computation Fluency: Directions for Administration (Cont.)

6. *Initial Assessment:* If the examiner is assessing the student for the first time, the examiner administers a total of 3 computation probes during the session using the above procedures and takes the median (middle) score as the best estimate of the student's computation fluency.

Progress-Monitoring: If the examiner is monitoring student growth in computation (and has previously collected CBM-Computation Fluency data), only one computation probe is given in the session.

CBM-Computation Fluency: Scoring Guidelines

- Students are given credit for *each correct digit* using these scoring rules:
- Individual correct digits are counted as correct. Reversed or rotated digits are not counted as errors unless their change in position makes them appear to be another digit (e.g., 9 and 6).
- Incorrect digits are counted as errors.

Digits that appear in the wrong place value, even if otherwise correct, are scored as errors.

Example

$$\begin{array}{r} 97 \\ \times 9 \\ \hline 8730 \end{array}$$

"873" is the correct answer to this problem, but no credit can be given since the addition of the 0 pushes the other digits out of their proper place-value positions.

CBM-Computation Fluency: Scoring Guidelines (Cont.)

- The student is given credit for "place-holder" numerals that are included simply to correctly align the problem. As long as the student includes the correct space, credit is given whether or not a "0" has actually been inserted.

Example

$$\begin{array}{r} 55 \\ \times 82 \\ \hline 110 \\ 4400 \\ \hline 4510 \end{array}$$

Since the student correctly placed 0 in the "place-holder" position, it is given credit as a correct digit. Credit would also have been given if the space were reserved but no 0 had been inserted.

CBM-Computation Fluency: Scoring Guidelines (Cont.)

- In more complex problems such as advanced multiplication, the student is given credit for all correct numbers that appear below the line.

Example

$$\begin{array}{r}
 33 \\
 \times 28 \\
 \hline
 264 \\
 660 \\
 \hline
 924
 \end{array}$$

Credit is given for all work below the line. In this example, the student earns credit for 9 correct digits.

CBM-Computation Fluency: Scoring Guidelines (Cont.)

- Credit is not given for any numbers appearing above the line (e.g., numbers marked at the top of number columns to signify regrouping).

Example

$$\begin{array}{r} 1 \\ 46 \\ + 39 \\ \hline 85 \end{array}$$

Credit is given for the 2 digits below the line. However, the carried "1" above the line does not receive credit.

Response to Intervention

- **Math Computation Fluency [2 minutes]:** The student is given a math-fact worksheet and completes as many problems as possible. The worksheet is scored for number of correct digits.

Curriculum-Based Measurement: Computation Fluency Norms

(Burns, VanDerHeyden, & Jiban, 2006; Deno & Mirkin, 1977; Fuchs & Fuchs, 1993; Fuchs & Fuchs, n.d.)*

CBM-Computation Fluency measures a student's accuracy and speed in completing 'math facts' using the basic number operations of addition, subtraction, multiplication, and division. Computation fluency in the elementary grades is a strong predictor of later success in higher-level math coursework (Gersten, Jordan, & Flojo, 2005). CBM-Computation Fluency probes are 2-minute assessments of basic math facts that are scored for number of 'correct digits'.

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Grade	End of Year Benchmark: Correct Digits per 2 Mins (Fuchs & Fuchs, n.d.)	Weekly Growth: 'Realistic' (Fuchs & Fuchs, 1993)	Weekly Growth: 'Ambitious' (Fuchs & Fuchs, 1993)
1	20	0.3	0.5

Response to Intervention

- **Math Computation Fluency [2 minutes]:** The student is given a math-fact worksheet and completes as many problems as possible. The worksheet is scored for number of correct digits.

Curriculum-Based Measurement: Computation Fluency Norms

(Burns, VanDerHeyden, & Jiban, 2006; Deno & Mirkin, 1977; Fuchs & Fuchs, 1993; Fuchs & Fuchs, n.d.)*

Grade	Performance Level	Correct Digits per 2 Mins (Burns, VanDerHeyden, & Jiban, 2006)	Weekly Growth: 'Realistic' (Fuchs & Fuchs, 1993)	Weekly Growth: 'Ambitious' (Fuchs & Fuchs, 1993)
2	Mastery	More than 31	0.3	0.5
	Instructional	14-31		
	Frustration	Less than 14		
3	Mastery	More than 31	0.3	0.5
	Instructional	14-31		
	Frustration	Less than 14		
4	Mastery	More than 49	0.75	1.2
	Instructional	24-49		
	Frustration	Less than 24		
5	Mastery	More than 49	0.75	1.2
	Instructional	24-49		
	Frustration	Less than 24		

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Response to Intervention

- **Math Computation Fluency [2 minutes]:** The student is given a math-fact worksheet and completes as many problems as possible. The worksheet is scored for number of correct digits.

Curriculum-Based Measurement: Computation Fluency Norms

(Burns, VanDerHeyden, & Jiban, 2006; Deno & Mirkin, 1977; Fuchs & Fuchs, 1993; Fuchs & Fuchs, n.d.)*

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Grade	Performance Level	Correct Digits per 2 Mins (Deno & Mirkin, 1977)	Weekly Growth: 'Realistic' (Fuchs & Fuchs, 1993)	Weekly Growth: 'Ambitious' (Fuchs & Fuchs, 1993)
6	Mastery	More than 79	0.45	1.0
	Instructional	40-79		
	Frustration	Less than 40		

Math Computation Fluency: When Do You Give Up & Switch to a Calculator?



There is no easy answer to the question of when to acknowledge that a student is not likely to master math facts and should have access to a calculator, even when peers might compute similar facts in their head.

Before switching a student to a calculator, however, the school should be able to show evidence that it has tried and documented several unsuccessful interventions to promote math-fact fluency.

CBM Computation Fluency: Group-Study

In your groups:

- Review the directions for preparing materials, administering, & scoring CBM Computation Fluency probes (MAIN packet-pp. 25-28).
- Discuss any questions that you have about these procedures. Then score the worksheet completed earlier.
- Bring up any unanswered questions to the large group.

If the answers in Figure 4 were scored as either correct or wrong, the child would receive a score of 1 correct answer out of 4 possible answers (25 percent). However, when each individual digit is scored, it becomes clear that the student actually correctly computed 12 of 15 possible digits (80 percent). Thus, the CBM procedure of assigning credit to each correct digit demonstrates itself to be quite sensitive to a student's emerging, partial competencies in math computation.

The following scoring rules will aid the instructor in marking single- and multiple-skill math probes:

- Individual correct digits are counted as correct. Reversed or rotated digits are not counted as errors unless their change in position makes them appear to be another digit (e.g., 9 and 6).

- Incorrect digits are counted as errors. Digits that appear in the wrong place value, even if otherwise correct, are scored as errors.

Example

$$\begin{array}{r} 97 \\ \times 9 \\ \hline 8730 \end{array}$$

"873" is the correct answer to this problem, but no credit can be given since the addition of the 0 pushes the other digits out of their proper place-value positions.

- The student is given credit for "place-holder" numerals that are included simply to correctly align the problem. As long as the student includes the correct space, credit is given whether or not a "0" has actually been inserted.

Example

$$\begin{array}{r} 55 \\ \times 82 \\ \hline 110 \\ 4400 \\ \hline 4510 \end{array}$$

Since the student correctly placed 0 in the "place-holder" position, it is given credit as a correct digit. Credit would also have been given if the space were reserved but no 0 had been inserted.

- In more complex problems such as advanced multiplication, the student is given credit for all correct numbers that appear below the line.

Example

$$\begin{array}{r} 33 \\ \times 28 \\ \hline 264 \\ 660 \\ \hline 924 \end{array}$$

Credit is given for all work below the line. In this example, the student earns credit for 9 correct digits.

- Credit is not given for any numbers appearing above the line (e.g., numbers marked at the top of number columns to signify regrouping).

CBM: Written Expression



Mechanics & Conventions of Writing

- Tracking student growth in emerging writing skills can be confusing and time-consuming for teachers.

However, Curriculum-Based Measurement-Written Expression (CBM-WE) is an efficient, reliable method of formative student assessment that yields numeric indicators that are instructionally useful--such as total words written, correctly spelled words, and correct writing sequences.

CBM-Written Expression: Description (McMaster & Espin, 2007)

CBM-Written Expression probes are simple to administer and offer several scoring options. Written-expression probes may be given individually or to groups of students.

The examiner prepares a lined composition sheet with a story-starter sentence or partial sentence at the top. The student thinks for 1 minute about a possible story to be written from the story-starter, then spends 3 minutes writing the story. The examiner collects the writing sample for scoring.

CBM Written Expression: Exercise

- Turn to the CBM-WE blank story starter at the end of the SUPPLEMENTAL packet.
- You are about to produce a CBM writing sample. Here are the directions...

CBM-Written Expression: Materials

The following materials are needed to administer CBM-Written Expression probes:

- Student copy of CBM writing probe with story-starter
- Stopwatch
- Pencils for students

CBM-Written Expression: Directions for Administration

1. The examiner distributes copies of CBM writing probes to all the students in the group. (Note: These probes may also be administered individually).
2. The examiner says to the students: *I want you to write a story. I am going to read a sentence to you first, and then I want you to write a short story about what happens. You will have 1 minute to think about the story you will write and then have 3 minutes to write it. Do your best work. If you don't know how to spell a word, you should guess. Are there any questions? For the next minute, think about . . . [insert story-starter].*

CBM-Written Expression: Directions for Administration (Cont.)

3. The examiner starts the stopwatch. At the end of 1 minute, the examiner says, *Start writing*.
4. While the students are writing, the examiner and any other adults helping in the assessment circulate around the room. If students stop writing before the 3-minute timing period has ended, monitors encourage them to continue writing.
5. After 3 additional minutes, the examiner says, *Stop writing*. CBM writing probes are collected for scoring.

CBM-Written Expression: Directions for Administration (Cont.)

6. *Initial Assessment:* If the examiner is assessing the student for the first time, the examiner administers a total of 3 CBM:WE probes during the session, using the above procedures and takes the median (middle) score as the best estimate of the student's CBM:WE skills.

Progress-Monitoring: If the examiner is monitoring student growth in computation (and has previously collected CBM:WE data), only one CBM:WE probe is given in the session.

CBM-Written Expression: Scoring Options

- *Total Words Written (TWW)*. The examiner counts up and records the total number of words written during the 3-minute writing probe. Misspelled words are included in the tally, although numbers written in numeral form (e.g., 5, 17) are not counted. Calculating total words is the quickest of scoring methods. A drawback, however, is that it yields only a rough estimate of writing fluency (that is, of how quickly the student can put words on paper) without examining the accuracy of spelling, punctuation, and other writing conventions.

02 : 00

CBM Written Expression: Example

- Review the student writing sample (SUPPLEMENTAL packet-p. 6) or your own writing sample.
- Calculate the Total Words Written for this writing sample.

CBM Writing Assessment: Scoring

Total Words:

I woud drink water from the ocean and I woud eat the fruit off of the trees. Then I woud bilit a house out of trees, and I woud gather firewood to stay warm. I woud try and fix my boat in my spare time.

Total Words = 45

Response to Intervention

- **CBM-WE: Total Words Written [4 Minutes].** The student's writing sample is scored for the total words written.

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Total Words Written (TWW): This measure is a count of the total words written during the CBM-WE assessment.					
Grade	Fall TWW (Malecki & Jewell, 2003)	Fall: +/-1 SD (≈16th%ile to 84th%ile)	Spring TWW (Malecki & Jewell, 2003)	Spring: +/-1 SD (≈16th%ile to 84th%ile)	Weekly Growth (Tadatada, 2011)
1	8	3↔13	14	7↔21	0.45
2	24	14↔34	31	19↔43	0.43
3	36	23↔49	36	24↔48	0.35
4	41	30↔52	46	30↔62	0.25
5	51	34↔68	67	43↔91	--
6	44	31↔57	58	44↔72	--

Source: Gansle, K. A., VanDerHeyden, A. M., Noell, G. H., Resetar, J. L., & Williams, K. L. (2006). The technical adequacy of curriculum-based and rating-based measures of written expression for elementary school students. School Psychology Review, 35, 435-450.

CBM-Written Expression: Scoring Options

- *Correctly Spelled Words*. The examiner counts up only those words in the writing sample that are spelled correctly. Words are considered separately, not within the context of a sentence.

Assessing the number of correctly spelled words has the advantage of being quick. Also, by examining the accuracy of the student's spelling, this approach monitors to some degree a student's mastery of written language.

02 : 00

CBM Written Expression: Example

- Review the student writing sample (SUPPLEMENTAL packet-p. 6) or your own writing sample.
- Calculate the Correctly Spelled Words for this writing sample.

CBM Writing Assessment: Scoring
Correctly Spelled Words:

I **woud** drink water from the ocean
and I **woud** eat the fruit off of the
trees. Then I **woud** **bilit** a house
out of trees, and I **woud** gather
firewood to stay warm. I **woud** try
and fix my boat in my spare time.

Correctly Spelled Words = 39

Response to Intervention

- **CBM-WE: Correctly Spelled Words [4 Minutes].** The student's writing sample is scored for the number of words spelled correctly.

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Correctly Spelled Words (CSW): This measure is a count of correctly spelled words written during the CBM-WE assessment.					
Grade	Fall CSW (Malecki & Jewell, 2003)	Fall: +/-1 SD (≈16th%ile to 84th%ile)	Spring CSW (Malecki & Jewell, 2003)	Spring: +/-1 SD (≈16th%ile to 84th%ile)	Weekly Growth (Tadatada, 2011)
1	5	1↔9	10	3↔17	0.45
2	20	10↔30	27	15↔39	0.46
3	32	19↔45	33	21↔45	0.37
4	38	26↔50	44	29↔59	0.26
5	48	31↔65	65	42↔88	--
6	42	29↔55	56	41↔71	--

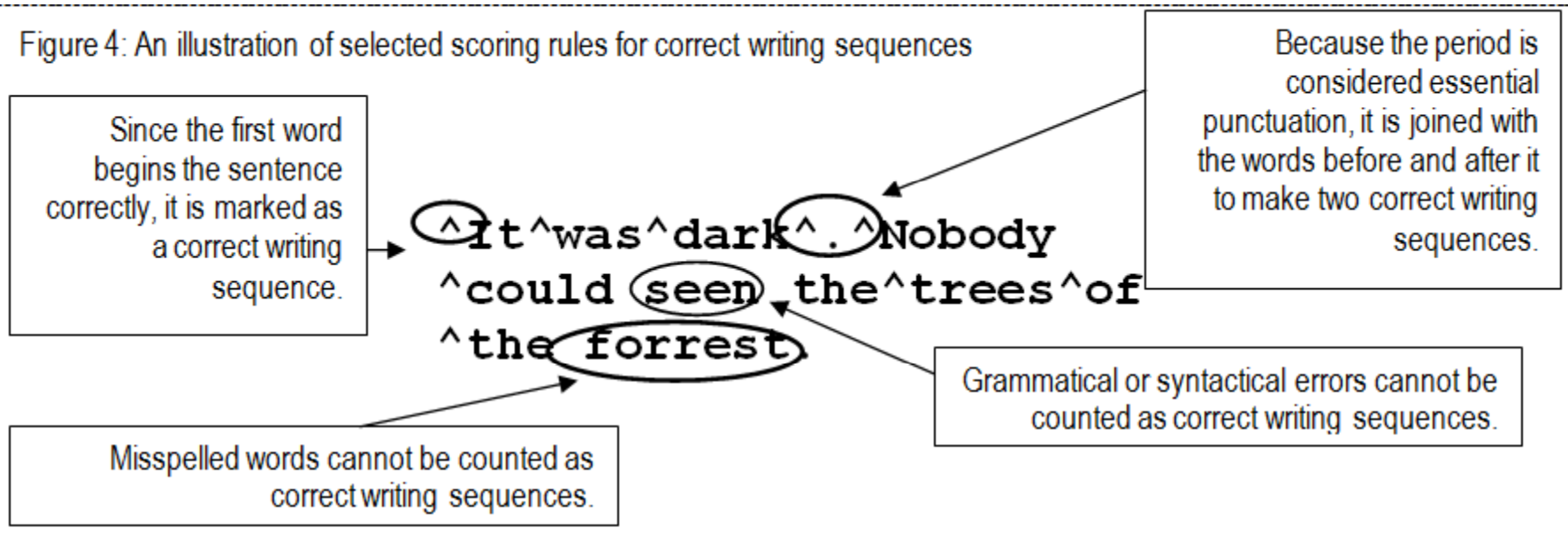
Source: Gansle, K. A., VanDerHeyden, A. M., Noell, G. H., Resetar, J. L., & Williams, K. L. (2006). The technical adequacy of curriculum-based and rating-based measures of written expression for elementary school students. School Psychology Review, 35, 435-450.

CBM-Written Expression: Scoring Options

- *Correct Writing Sequences.* When scoring correct writing sequences, the examiner goes beyond the confines of the isolated word to consider units of writing and their relation to one another. The examiner starts at the beginning of the writing sample and looks at each successive pair of writing units (writing sequence). Words are considered separate writing units, as are essential marks of punctuation. To receive credit, writing sequences must be correctly spelled and be grammatically correct. The words in each writing sequence must also make sense within the context of the sentence. In effect, the student's writing is judged according to the standards of informal standard American English. A caret (^) is used to mark the presence of a correct writing sequence.

CBM-Written Expression: Scoring Options: Correct Writing Sequences

Figure 4: An illustration of selected scoring rules for correct writing sequences



CBM-Written Expression: Scoring Options: Correct Writing Sequences

- Correctly spelled words make up a correct writing sequence (reversed letters are acceptable, so long as they do not lead to a misspelling):
Example

^Is^that^a^red^car^?

- Necessary marks of punctuation (excluding commas) are included in correct writing sequences:
Example

^Is^that^a^red^car^?

- Syntactically correct words make up a correct writing sequence:
Example

^Is^that^a^red^car^?

^Is^that^a^car red?

CBM-Written Expression: Scoring Options: Correct Writing Sequences

- Semantically correct words make up a correct writing sequence:

Example

^Is^that^a^red^car^?

^Is^that^a read car^?

- If correct, the initial word of a writing sample is counted as a correct writing sequence:

Example

^Is^that^a^red^car^?

- Titles are included in the correct writing sequence count:

Example

^The^Terrible^Day

05:00

www.interventioncentral.org

CBM-WE: Group-Study

In your groups:

- Review the directions for scoring a writing sample for Correct Writing Sequences (MAIN packet-pp. 36-39).
- Discuss any questions that you have about these guidelines.
- Bring up any unanswered questions to the large group.

The following scoring rules will aid the instructor in determining correct writing sequences:

- Correctly spelled words make up a correct writing sequence (reversed letters are acceptable, so long as they do not lead to a misspelling):

Example

^Is^that^a^red^car^?

- Necessary marks of punctuation (excluding commas) are included in correct writing sequences:

Example

^Is^that^a^red^car^?

- Syntactically correct words make up a correct writing sequence:

Example

^Is^that^a^red^car^?

^Is^that^a^car red?

- Semantically correct words make up a correct writing sequence:

Example

^Is^that^a^red^car^?

^Is^that^a read car^?

- If correct, the initial word of a writing sample is counted as a correct writing sequence:

Example

^Is^that^a^red^car^?

- Titles are included in the correct writing sequence count:

Example

^The^Terrible^Day

Not surprisingly, evaluating a writing probe according to correct writing sequences is the most time-consuming of the scoring methods presented here. It is also the scoring approach, however, that yields the most comprehensive information about a student's writing competencies. While further research is needed to clarify the point, it also seems plausible that the correct writing sequence method is most sensitive to short-term student improvements in writing. Presumably, advances in writing skills in virtually any area (e.g., spelling, punctuation) could quickly register as higher writing sequence scores. Our writing sample in Figure 5 is found to contain 37 correct writing sequences.

05:00

CBM Written Expression: Example

- Review the student writing sample (SUPPLEMENTAL packet-p. 6) or your own writing sample.
- Calculate the Correct Writing Sequences for this writing sample.

CBM Writing Assessment: Scoring

Correct Writing Sequences:

I *woud* drink water from the ocean
and I *woud* eat the fruit off of the
trees. Then I *woud bilit* a house
out of trees, and I *woud* gather
firewood to stay warm. I *woud* try
and fix my boat in my spare time.

Correct Writing Sequences = 37

Response to Intervention

- **CBM-WE: Correct Writing Sequences [4 Minutes].** A point is scored whenever two adjacent units of writing (e.g., two words appearing next to each other) are correct in punctuation, capitalization, spelling, and syntactical and semantic usage.)

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Correct Writing Sequences (CWS): This measure is a tabulation of correct 'writing sequences' written during the CBM-WE assessment. One Correct Writing Sequence is scored whenever two adjacent units of writing (e.g., two words appearing next to each other) are found to be correct in their punctuation, capitalization, spelling, and syntactical and semantic usage.

Grade	Fall CWS (Malecki & Jewell, 2003)	Fall: +/-1 SD (≈16th%ile to 84th%ile)	Spring CWS (Malecki & Jewell, 2003)	Spring: +/-1 SD (≈16th%ile to 84th%ile)	Weekly Growth (Tadatada, 2011)
1	2	0↔4	7	1↔13	0.36
2	15	5↔25	24	11↔37	0.44
3	28	14↔42	31	18↔44	0.35
4	38	25↔51	42	26↔58	0.22
5	46	28↔64	63	40↔86	--
6	41	27↔55	54	37↔71	--

Source: Gansle, K. A., VanDerHeyden, A. M., Noell, G. H., Resetar, J. L., & Williams, K. L. (2006). The technical adequacy of curriculum-based and rating-based measures of written expression for elementary school students. *School Psychology Review, 35*, 435-450.

Online Resources: CBM-WE

- There is a free application on Intervention Central that allows users to create and download CBM-WE Story Starters:

<http://www.interventioncentral.org/tools/writing-probe-generator>

INTERVENTION CENTRAL
Your source for RTI resources

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Writing Probe Generator

If you have any suggestions or comments about this tool, please mail me.

[Response to Intervention Track, Document, Monitor & Manage RTI Data Made Easy!](#) [www.RTIcentral.com](#)
[Intervention Specialist!](#) Family Addition Intervention. Don't wait for bottom: [\(800\) 825-2255](#) [FamilyFirstIntervention.com](#)
[Complete Solution for RTI](#) Benchmark and Targeted Assessments Online or Paper, Districtwide [www.bluefishlearning.com](#)
[Common Core Activities](#) Online Tests, Lessons, and More! Reading, Writing, Math Content [www.easy4online.com](#) [Add Choices >](#)

Written Expression Probe Generator

Curriculum-Based Measurement Written Expression probes are brief, timed (4-minute) assessments that look at a student's mastery of writing mechanics and conventions. The student is given a 'story starter', a brief introductory story stem that serves as a stimulus for the student to create his or her own writing sample.

Written expression probes can be used at any grade level in which students are still working on such writing skills as punctuation, grammar, spelling, and capitalization. They can also be administered to individual students or entire groups. NOTE: You can download instructions for administering and scoring CBM Written Expression probes by clicking [here](#).

Directions: You can use this application to generate your own custom CBM Written Expression Story Starter to use immediately with your student(s). Just follow these steps:

1. **Select a title [optional].** You can give your story starter sheet a custom title (e.g., 'Jim's Writing Sample: October 24, 2011') by typing your title into the textbox 'Select a title for this worksheet' below.
2. **Select or write a story starter.** Enter a story starter of your choosing into the textbox 'Type in the story starter' below. Of course, you can write your own story starter. Or you can click on any of the pre-formatted story starters on the right side of the page and that story starter will automatically load into the text box for you to edit as needed.
3. **Download and view the Writing Probe Sheet.** When you have finished formatting your writing probe, you can download and view it in pdf format by clicking on the 'Download PDF' button.
4. **Email the Writing Probe Sheet [optional].** As a convenience, this application allows you to email your finished Writing Probe Sheet to whomever you choose by clicking on the 'Email PDF' button and following directions to enter your own email address as well as that of the intended recipient.

Select a title for this worksheet [optional]

Type in the 'story starter'

The zookeeper noticed that the cage was open and...

Click on the 'story starter' you wish to use.

← previous 1 2 next →

1. In the morning, I opened my door and saw five horses standing in the street. Then...
2. When the snow storm began, the lights went out just before...
3. The boy was on his way to see the dinosaur in the museum when...
4. When the woman looked out her window one morning, she saw that a large meteorite from...

Writing Probe Generator

Create a probe to assess the mechanics and conventions of student writing.

URL: <http://www.interventioncentral.org/tools/writing-probe-generator>



Structuring Data Collection: What are the essential elements of data collection for student progress-monitoring--at any Tier? MAIN packet-pp. 2-6

The Structure of Data Collection

- Teachers can use a wide variety of methods to assess student academic performance or behavior.
- However, data collection should be structured to include these elements: baseline, the setting of a goal for improvement, and regular progress-monitoring.
- The structure of data collection can be thought of as a glass into which a wide variety of data can be ‘poured’.



Interventions: The Essential Data Elements

1. **Clear problem definition:** ‘If you can’t name it, you can’t measure it.’
2. **Baseline data:** ‘If you don’t know the student’s starting point, you can’t know if that student has made progress with the intervention.’
3. **Intervention outcome goal:** ‘If you have no exit goal, you cannot judge if the intervention is successful—no matter how much data you collect.’
4. **Progress-monitoring plan:** ‘If you don’t actually collect the data, you are blind about the intervention outcome.’

Source: Witt, J. C., VanDerHeyden, A. M., & Gilbertson, D. (2004). Troubleshooting behavioral interventions. A systematic process for finding and eliminating problems. *School Psychology Review, 33*, 363-383.

Intervention Target	Classroom Assessment Methods
Academics: Acquisition of Basic Skills	<ul style="list-style-type: none"> • Cumulative Mastery Log
Academics: Fluency in Basic Skills	<ul style="list-style-type: none"> • Curriculum-Based Measurement
Academics: Complex Skills	<ul style="list-style-type: none"> • Rubric
Academics: Survival Skills	<ul style="list-style-type: none"> • Academic Survival Skills Checklist
Behaviors	<ul style="list-style-type: none"> • Behavior Report Card • Behavioral Frequency Count
Homework	<ul style="list-style-type: none"> • Gradebook Information: To measure homework completion and timely submission • Quality: Percentage of work attempted • Quality: Grades • Quality: Rubric

RTI Classroom Progress-Monitoring Worksheet

Student: _____ Teacher: _____ Classroom or Course: _____

SET-UP

- A. Identify the Student Problem:** Describe in clear, specific terms the student academic or behavioral problem:

- B. Select a Data Collection Method:** Choose a method of data collection to measure whether the classroom intervention actually improves the identified student problem (e.g., curriculum-based measurement, etc.).

How frequently will this data be collected?: _____ times per _____

- C. Collect Data to Calculate Baseline:** What method from the choices below will be used to estimate the student's baseline (starting) performance? (NOTE: Generally, at least 3-5 baseline data points are recommended.)
- From a total of _____ observations, select the **MEDIAN** value. Other: _____
- From a total of _____ observations, calculate the **MEAN** value. _____

Baseline	3. Date: ___/___/___ Obsv: _____
1. Date: ___/___/___ Obsv: _____	4. Date: ___/___/___ Obsv: _____
2. Date: ___/___/___ Obsv: _____	5. Date: ___/___/___ Obsv: _____

Baseline Performance: Based on the method selected above, it is calculated that the student's baseline performance is:

PROGRESS-MONITORING

- D. Determine Intervention Timespan:** The intervention will last _____ instructional weeks and end on ___/___/___.
- E. Set a Performance Goal:** What goal is the student expected to achieve if the intervention is successful?
At the end of the intervention, it is predicted that the student will reach this performance goal.

- F. Decide How Student Progress is to Be Summarized:** Select a method for summarizing student progress ('outcome') obtained when the intervention ends. *Student progress at the end of the intervention is to be summarized by:*
- Selecting the median value from the final _____ data-points (e.g., 3).
- Computing the mean value from the final _____ data-points (e.g., 3).
- [For time-series graphs:] Calculating the value on the graph trend line at the point that it intercepts the intervention end date.
- G. Evaluate the Intervention Outcome:**
At the end of the intervention, compare student progress to goal. If actual progress meets or exceeds goal, the intervention is judged successful.

The student's ACTUAL Progress (Step F) is:	▶
The PERFORMANCE GOAL for improvement (Step E) is:	▶

Progress-Monitoring	5. Date: ___/___/___ Obsv: _____
1. Date: ___/___/___ Obsv: _____	6. Date: ___/___/___ Obsv: _____
2. Date: ___/___/___ Obsv: _____	7. Date: ___/___/___ Obsv: _____
3. Date: ___/___/___ Obsv: _____	8. Date: ___/___/___ Obsv: _____
4. Date: ___/___/___ Obsv: _____	9. Date: ___/___/___ Obsv: _____

Form: Set-Up

RTI Classroom Progress-Monitoring Worksheet

Student: _____ Teacher: _____ Classroom or Course: _____

SET-UP

A. Identify the Student Problem: Describe in clear, specific terms the student academic or behavioral problem:

B. Select a Data Collection Method: Choose a method of data collection to measure whether the classroom intervention actually improves the identified student problem (e.g., curriculum-based measurement, etc.).

Response to Intervention

Example: Set-Up

RTI Classroom Progress-Monitoring Worksheet

Student: Brian Jones Teacher: Mrs. Braniff Classroom or Course: Gr 3

SET-UP

A. Identify the Student Problem: Describe in clear, specific terms the student academic or behavioral problem:

Need to Become Fluent in Multiplication Facts: 0 to 9

B. Select a Data Collection Method: Choose a method of data collection to measure whether the classroom intervention actually improves the identified student problem (e.g., curriculum-based measurement, etc.).

Curriculum-Based Measurement: 2-Minute Timed Math Computation Probes

How frequently will this data be collected?: 1 times per Week

Mrs. Braniff, Grade 3 teacher, wants to monitor her student, Brian, whose intervention target is math computation fluency with multiplication facts. The intervention to be used is 'explicit time drills'. The teacher decides to monitor Brian using CBM math computation probes (2 minutes) created on www.interventioncentral.org. She will monitor the student weekly.

Response to Intervention

Form: Baseline

BASELINE

C. Collect Data to Calculate Baseline: What method from the choices below will be used to estimate the student's baseline (starting) performance? (NOTE: Generally, at least 3-5 baseline data points are recommended.)

- From a total of _____ observations, select the **median** value. Other: _____
- From a total of _____ observations, calculate the **mean** value. _____

Baseline	3. Date: ___/___/___ Obsv: _____
1. Date: ___/___/___ Obsv: _____	4. Date: ___/___/___ Obsv: _____
2. Date: ___/___/___ Obsv: _____	5. Date: ___/___/___ Obsv: _____

Baseline Performance: Based on the method selected above, it is calculated that the student's baseline performance is:

Baseline: Defining the Student Starting Point

- Baseline data provide the teacher with a snapshot of the student's academic skills or behavior before the intervention begins.
- An estimate of baseline is essential in order to measure at the end of the intervention whether the student made significant progress.
- Three to five data-points are often recommended—because student behavior can be variable from day to day.

Baseline: Using the Median Score

If several data points are collected, the middle, or median, score can be used to estimate student performance. Selecting the median can be a good idea when student data is quite variable.

Baseline	
1.	Date: <u> 2 </u> / <u> 3 </u> / <u> 10 </u> Obsv: <u> 13 </u>
2.	Date: <u> 2 </u> / <u> 5 </u> / <u> 10 </u> Obsv: <u> 15 </u>
3.	Date: <u> 2 </u> / <u> 6 </u> / <u> 10 </u> Obsv: <u> 11 </u>
4.	Date: <u> </u> / <u> </u> / <u> </u> Obsv: <u> </u>
5.	Date: <u> </u> / <u> </u> / <u> </u> Obsv: <u> </u>

Baseline: Using the Mean Score

If several data points are collected, an average, or mean, score can be calculated by adding up all baseline data and dividing by the number of data points.

Baseline	
1.	Date: <u> 2 </u> / <u> 3 </u> / <u> 10 </u> Obsv: <u> 13 </u>
2.	Date: <u> 2 </u> / <u> 5 </u> / <u> 10 </u> Obsv: <u> 15 </u>
3.	Date: <u> 2 </u> / <u> 6 </u> / <u> 10 </u> Obsv: <u> 11 </u>
4.	Date: <u> </u> / <u> </u> / <u> </u> Obsv: <u> </u>
5.	Date: <u> </u> / <u> </u> / <u> </u> Obsv: <u> </u>

$$13+15+11=39$$

$$39 \text{ divided by } 3=13$$

$$\text{Mean} = 13$$

Response to Intervention

Example: Baseline

BASELINE

C. Collect Data to Calculate Baseline: What method from the choices below will be used to estimate the student's baseline (starting) performance? (NOTE: Generally, at least 3-5 baseline data points are recommended.)

From a total of 3 observations, select the **median** value. Other: _____

From a total of _____ observations, calculate the **mean** value. _____

Baseline	3. Date: <u>11 / 21 /2011</u> Obsv: <u>34</u>
1. Date: <u>11 / 14 /2011</u> Obsv: <u>31</u>	4. Date: <u> </u> / <u> </u> / <u> </u> Obsv: <u> </u>
2. Date: <u>11 / 17 /2011</u> Obsv: <u>28</u>	5. Date: <u> </u> / <u> </u> / <u> </u> Obsv: <u> </u>

Baseline Performance: Based on the method selected above, it is calculated that the student's baseline performance is:

31 Correct Digits in 2 minutes

Mrs. Braniff decides to collect 3 baseline observations of Brian using math computation probes. Because his results from day to day may vary, she also chooses to estimate his baseline (starting) performance by selecting the median/middle value from the 3 data points.

Response to Intervention

Form: Progress-Monitoring Section

PROGRESS-MONITORING

D. Determine Intervention Timespan: The intervention will last _____ instructional weeks and end on ___/___/___.

E. Set a Performance Goal: What goal is the student expected to achieve if the intervention is successful?
At the end of the intervention, it is predicted that the student will reach this performance goal:

F. Decide How Student Progress is to Be Summarized: Select a method for summarizing student progress ('outcome') attained when the intervention ends. *Student progress at the end of the intervention is to be summarized by:*

- Selecting the **median** value from the final ____ data-points (e.g.,3).
- Computing the **mean** value from the final ____ data-points (e.g.,3).
- [For time-series graphs]: Calculating the **value on the graph trend line** at the point that it intercepts the intervention end date.

G. Evaluate the Intervention Outcome:

At the end of the intervention, compare student progress to goal. If **actual progress** meets or exceeds **goal**, the intervention is judged successful.

The student's ACTUAL Progress (Step F) is:

	▶
--	---

The PERFORMANCE GOAL for improvement (Step E) is:

	▶
--	---

Progress-Monitoring	5. Date: ___/___/___ Obsv: _____
1. Date: ___/___/___ Obsv: _____	6. Date: ___/___/___ Obsv: _____
2. Date: ___/___/___ Obsv: _____	7. Date: ___/___/___ Obsv: _____
3. Date: ___/___/___ Obsv: _____	8. Date: ___/___/___ Obsv: _____
4. Date: ___/___/___ Obsv: _____	9. Date: ___/___/___ Obsv: _____

Response to Intervention

Example: Progress-Monitoring Section

PROGRESS-MONITORING

D. Determine Intervention Timespan: The intervention will last 6 instructional weeks and end on 1 / 13 /2012

E. Set a Performance Goal: What goal is the student expected to achieve if the intervention is successful?

At the end of the intervention, it is predicted that the student will reach this performance goal:

40 Correct Digits in 2 minutes

F. Decide How Student Progress is to Be Summarized: Select a method for summarizing student progress ('outcome') attained when the intervention ends. *Student progress at the end of the intervention is to be summarized by:*

- Selecting the **median** value from the final data-points (e.g.,3).
- Computing the **mean** value from the final 2 data-points (e.g.,3).
- [For time-series graphs]: Calculating the **value on the graph trend line** at the point that it intercepts the intervention end date.

G. Evaluate the Intervention Outcome:

At the end of the intervention, compare student progress to goal. If **actual progress** meets or exceeds **goal**, the intervention is judged successful.

The student's ACTUAL Progress (Step F) is:	▶ 42
The PERFORMANCE GOAL for improvement (Step E) is:	▶ 40

Progress-Monitoring	5. Date: <u>01 / 06 /2012</u> Obsv: <u>41</u>
1. Date: <u>12 / 02 /2011</u> Obsv: <u>29</u>	6. Date: <u>01 / 13 /2012</u> Obsv: <u>43</u>
2. Date: <u>12 / 09 /2011</u> Obsv: <u>34</u>	7. Date: <u> </u> / <u> </u> / <u> </u> Obsv: <u> </u>
3. Date: <u>12 / 16 /2011</u> Obsv: <u>35</u>	8. Date: <u> </u> / <u> </u> / <u> </u> Obsv: <u> </u>
4. Date: <u>12 / 22 /2011</u> Obsv: <u>39</u>	9. Date: <u> </u> / <u> </u> / <u> </u> Obsv: <u> </u>

Form: Determine Intervention Timespan

D. Determine Intervention Timespan: The intervention will last _____ instructional weeks and end on ___/___/___.

Intervention ‘Timespan’: How Long is Long Enough?

Any intervention should be allowed sufficient time to demonstrate whether it is effective. The limitation on how quickly an intervention can be determined to be ‘effective’ is usually the sensitivity of the measurement tools. As a rule, behavioral interventions tend to show effects more quickly than academic interventions—because academic skills take time to increase, while behavioral change can be quite rapid.

A good rule of thumb for classroom interventions is to allow 4-8 instructional weeks to judge the intervention.

Example: Determine Intervention Timespan

D. Determine Intervention Timespan: The intervention will last 6 instructional weeks and end on 1 / 13 /2012

Mrs. Braniff plans for the intervention to last 6 instructional weeks. She looks up the end date for the intervention on the school calendar and enters it into the form.

Form: Performance Goal

E. Set a Performance Goal: What goal is the student expected to achieve if the intervention is successful?
At the end of the intervention, it is predicted that the student will reach this performance goal:

The outcome goal for an intervention can be estimated as follows:

- If there are research academic norms or local norms available (e.g., DIBELS), these can be useful to set a goal criterion.
- The teacher can screen a classroom to determine average performance.
- The teacher can select 3-4 'typical' students in the class, administer an academic measure (e.g., curriculum-based measurement writing) to calculate a 'micro-norm'.
- The teacher can rely on 'expert opinion' of what is a typical level of student performance.

Example: Performance Goal

E. Set a Performance Goal: What goal is the student expected to achieve if the intervention is successful?

At the end of the intervention, it is predicted that the student will reach this performance goal:

40 Correct Digits in 2 minutes

Mrs. Braniff sets the student goal at the conclusion of the intervention to be 40 Correct Digits in 2 minutes. This goal is based on research norms.

Curriculum-Based Measurement: Math Computation (Adapted from Deno & Mirkin, 1977)

Grade	Digits Correct in 2 Minutes	Digits Incorrect in 2 Minutes
1-3	20-38	6-14
4 & Up	40-78	6-14

Comments: These math computation norms are still widely referenced. However, the norms were collected nearly 30 years ago and may not be widely representative because they were drawn from a relatively small sample of students. Additionally, the norms make no distinction between easy and more challenging math computation problem types. Because of these limitations, these norms are best regarded as a rough indicator of 'typical' student math computation skills.

Form: How Progress to Be Summarized

- F. **Decide How Student Progress is to Be Summarized:** Select a method for summarizing student progress ('outcome') attained when the intervention ends. *Student progress at the end of the intervention is to be summarized by:*
- Selecting the **median** value from the final ____ data-points (e.g.,3).
 - Computing the **mean** value from the final ____ data-points (e.g.,3).
 - [For time-series graphs]: Calculating the **value on the graph trend line** at the point that it intercepts the intervention end date.
-

Example: How Progress to Be Summarized

- F. **Decide How Student Progress is to Be Summarized:** Select a method for summarizing student progress ('outcome') attained when the intervention ends. *Student progress at the end of the intervention is to be summarized by:*
- Selecting the **median** value from the final ____ data-points (e.g.,3).
 - Computing the **mean** value from the final 2 data-points (e.g.,3).
 - [For time-series graphs]: Calculating the **value on the graph trend line** at the point that it intercepts the intervention end date.
-

Mrs. Braniff decides to summarize the student's intervention outcome by selecting the last two data points and averaging them (mean).

Form: Progress-Monitoring Data

Progress-Monitoring	
1. Date: ___/___/___ Obsv: _____	5. Date: ___/___/___ Obsv: _____
2. Date: ___/___/___ Obsv: _____	6. Date: ___/___/___ Obsv: _____
3. Date: ___/___/___ Obsv: _____	7. Date: ___/___/___ Obsv: _____
4. Date: ___/___/___ Obsv: _____	8. Date: ___/___/___ Obsv: _____
	9. Date: ___/___/___ Obsv: _____

Example: Progress-Monitoring Data



Progress-Monitoring	5. Date: <u>01 / 06 /2012</u> Obsv: <u>41</u>
1. Date: <u>12 / 02 /2011</u> Obsv: <u>29</u>	6. Date: <u>01 / 13 /2012</u> Obsv: <u>43</u>
2. Date: <u>12 / 09 /2011</u> Obsv: <u>34</u>	7. Date: <u> / / </u> Obsv: <u> </u>
3. Date: <u>12 / 16 /2011</u> Obsv: <u>35</u>	8. Date: <u> / / </u> Obsv: <u> </u>
4. Date: <u>12 / 22 /2011</u> Obsv: <u>39</u>	9. Date: <u> / / </u> Obsv: <u> </u>

Mrs. Braniff administers Brian a CBM multiplication math facts probe weekly during the intervention and records the results on the form.

Form: Evaluate the Intervention Outcome

G. Evaluate the Intervention Outcome:



At the end of the intervention, compare student progress to goal. If actual progress meets or exceeds goal, the intervention is judged successful.

The student's ACTUAL Progress (Step F) is:	
The PERFORMANCE GOAL for improvement (Step E) is:	

Example: Evaluate the Intervention Outcome

G. Evaluate the Intervention Outcome:

At the end of the intervention, compare student progress to goal. If **actual progress** meets or exceeds **goal**, the intervention is judged successful.

The student's ACTUAL Progress (Step F) is:	 42
The PERFORMANCE GOAL for improvement (Step E) is:	 40

At the end of the intervention, Mrs. Braniff find that the student's actual progress (42 CDs in 2 mins) exceeds the intervention goal of 40 CDs. The intervention is judged to be a success.



Team Activity: Structuring Student Data Collection

At your tables:

- Talk about ways that you routinely collect data in your classrooms.
- Discuss how you can apply the ‘structuring student data collection’ framework presented in this workshop to different kinds of classroom data.

10:00

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CBM 'Self-Check' Activity

At your table:

- Review the items on the 'CBM: Workshop Skills Self-Check' (pp. 10-11 in the SUPPLEMENTAL packet).
- For each item, rate whether your group feels that you are all 'ready' or 'not ready' to begin practicing the skill in your school setting.
- Be prepared to discuss the results of your 'self-check' with the large group.

Curriculum-Based Measurement: An Introduction: Workshop Skills Self-Check

Directions: In each of the sections below, rate the degree to which you feel 'ready' or 'not ready' to apply these CBM skills in a school setting.

I would judge my skills/knowledge/ability in these <i>CBM Oral Reading Fluency</i> topics as:	<i>Not Ready</i> I need more formal training before using the skill(s) in a school setting.	<i>Ready</i> I have enough training to begin practicing the skill(s) in a school setting.
<input type="checkbox"/> Standardized procedures for administering CBM ORF probes to students.	NOT READY	READY
<input type="checkbox"/> Scoring of CBM ORF probes (including scoring 'omitted lines').	NOT READY	READY
<input type="checkbox"/> Interpreting student performance on CBM ORF probes, using research norms.	NOT READY	READY
<input type="checkbox"/> Familiarity with online tools and resources for finding or creating ORF passages. (DIBELS Next; EasyCBM; Intervention Central Reading Fluency Passages Generator).	NOT READY	READY

I would judge my skills/knowledge/ability in these <i>CBM Maze</i> topics as:	<i>Not Ready</i> I need more formal training before using the skill(s) in a school setting.	<i>Ready</i> I have enough training to begin practicing the skill(s) in a school setting.
<input type="checkbox"/> Standardized procedures for administering CBM Maze probes to students.	NOT READY	READY
<input type="checkbox"/> Scoring of CBM Maze probes.	NOT READY	READY
<input type="checkbox"/> Interpreting student performance on CBM Maze probes, using research norms.	NOT READY	READY
<input type="checkbox"/> Familiarity with online tools and resources for finding or creating Maze passages. (DIBELS Next; Intervention Central Maze Passages Generator).	NOT READY	READY

05:00

Activity: 'Next Steps': CBM Portfolio

- Create a plan to use at least 1 CBM approach to monitor at least 1 student before the February follow-up CBM training date.

CBM Pilot Project

1. Goal: You are to select at least 1 CBM area and 1 student to monitor—and will bring your progress-monitoring data to our February meeting.
2. Select at least 1 CBM area to use in student monitoring: Reading Fluency, Comprehension (Maze), Written Expression, Math Computation.
3. Locate or create materials for use in progress-monitoring.
4. Collect baseline data for your target student.
5. Monitor the student weekly.
6. Bring your data to the follow-up meeting.