

Math CBM

- The number of correctly written digits in 2 minutes from the end-of-year curriculum
- Correct digits
 - Not correct problems or answers
 - 2 minutes

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Math CBM

- Student(s) are given a sheet of math problems and pencil
- Student(s) complete as many math problems as they can in 2 minutes
- At the end of 2 minutes the number of correctly written *digits* is counted

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Making Math CBM probes/forms

- Identify the skills in the year-long curriculum
- Determine the weight of skills in the curriculum
- Create 30 alternate test forms
 - each form samples the entire year's curriculum
 - each form contains the same types of problems
- Resources for creating test forms
 - www.schoolhousetech.com
 - www.superkids.com/aweb/tools/math
 - www.scottbryce.com/mathwork

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4th grade math curriculum

1. **Multidigit addition with regrouping**
2. **Multidigit subtraction with regrouping**
3. **Multiplication facts, factors to 9**
4. **Multiply 3-digit numbers by a 1-digit number**
5. **Multiply 2-digit numbers by a 2-digit number**
6. **Division facts, divisors to 9**
7. **Divide 2-digit numbers by a 1-digit number**
8. **Add/subtract simple fractions, like denominators**
9. **Add/subtract whole number and mixed number**

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Sheet #1		Computation 4				
Password: ARM		Date: _____				
Name: _____						
A	$\frac{1}{3} + \frac{2}{7} =$	B	$1\frac{4}{7} + 3 =$	C	$4\overline{)76}$	
D	$67\overline{)8}$	E	$875\overline{)2}$			
F	$\frac{6}{3.7}$	G	$\frac{9}{3.0}$	H	$244\overline{)7}$	
I	$61\overline{)8}$	J	$91\overline{)0}$			
K	$21\overline{)0}$	L	$\begin{array}{r} 6144 \\ - 6420 \\ \hline \end{array}$	M	$\begin{array}{r} 33 \\ \times 10 \\ \hline \end{array}$	
N	$\frac{6}{3.0}$	O	$71\overline{)0}$			
P	$\begin{array}{r} 95225 \\ - 75268 \\ \hline \end{array}$	Q	$81\overline{)2}$	R	$\begin{array}{r} 1156 \\ \times 2924 \\ \hline \end{array}$	
S	$7\frac{3}{5} : 2 =$	T	$\frac{38}{3.33}$			
U	$\frac{3}{5} + \frac{1}{5} =$	V	$\begin{array}{r} 982 \\ - 97 \\ \hline \end{array}$	W	$\frac{9}{3.5}$	
X	$\frac{4}{3.1}$	Y	$71\overline{)6}$			

Directions for Conducting Math CBM

- Give the child(ren) a math sheet(s) and pencil
- Say “*The sheet on your desk is math facts. There are several types of problems on the sheet. Some are (insert types of problems on sheet). Look at each problem carefully before you answer it. When I say ‘please begin’, start answering the problems. Begin with the first problem and work across the page. Then go to the next row. If you cannot answer the problem, mark an ‘X’ through it and go to the next one. If you finish a page, turn the page and continue working. Are there any questions?*”

Directions for Conducting Math CBM (cont)

- Say “*Please begin*” and start your timer
- Make sure students are not skipping problems in rows and do not skip around or answer only the easy problems
- Say “*Please stop*” at the end of 2 minutes

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Math CBM Scoring Criteria

- If the answer is correct, the student earns the score equivalent to the number of correct digits written using the “longest method” taught to solve the problem, *even if the work is not shown*
- If a problem has been crossed out, credit is given for the correct digits written
- If the problem has not been completed, credit is earned for the correct digits

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Math CBM Scoring Criteria (cont)

- Reversed digits (e.g., 3 as E) or rotated digits, with the exception of 6 & 9 are counted as correct
- Parts of the answer above the line (carries or borrows) are not counted as correct digits
- In multiplication problems, a “0”, “X”, or <blank> counts as a place holder and is scored as a CD

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Math CBM Scoring Criteria (cont)

- A division BASIC FACT is when both the divisor and the quotient are 9 or less. If the answer is correct the total CD always equals 1
- In division problems, remainder zeroes (r 0) are not counted as correct digits
- In division problems, place holders are **not** counted as correct digits

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A “correct digit” is the right numeral in the right place

$\begin{array}{r} 4507 \\ - 2146 \\ \hline 2361 \end{array}$ <p style="text-align: center;">4 correct digits</p>	$\begin{array}{r} 4507 \\ - 2146 \\ \hline 2461 \end{array}$ <p style="text-align: center;">3 correct digits</p>	$\begin{array}{r} 4507 \\ - 2146 \\ \hline 2441 \end{array}$ <p style="text-align: center;">2 correct digits</p>
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Practice Scoring Math CBM

$\begin{array}{r} 15 \\ \times 15 \\ 75 \\ \hline 150 \\ 225 \end{array}$	$\begin{array}{r} 15 \\ \times 15 \\ 70 \\ \hline 150 \\ 220 \end{array}$	$\begin{array}{r} 15 \\ \times 15 \\ 225 \end{array}$	$\begin{array}{r} 15 \\ \times 15 \\ 75 \\ \hline 15 \\ 225 \end{array}$
A	B	C	D
$\begin{array}{r} 15 \\ \times 15 \\ 225 \end{array}$	$\begin{array}{r} 15 \\ \times 15 \\ 75 \\ \hline 15 \\ 225 \end{array}$	$\begin{array}{r} 15 \\ \times 15 \\ 75 \\ \hline 15 \\ 220 \end{array}$	$\begin{array}{r} 15 \\ \times 15 \\ 30 \end{array}$
E	F	G	H

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Math Goals & Objectives

- In 30 weeks, when given a math worksheet containing addition and subtraction problems, Larry will write 45 correct digits with 90% or greater accuracy in 2 minutes.
- In 10 weeks, when given a math worksheet containing addition, subtraction, multiplication, and division problems, Bob will write 80 correct digits with 95% accuracy or greater in 2 minutes.

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Math CBM How often?

- Progress Monitoring (Formative)
 - 1x Week for at-risk & students with disabilities
 - 1x Month for typically developing students
 - 1x Quarter for above average students
- Benchmarking/Norming (Summative)
 - 1x Quarter for all students

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