

PROGRESS MONITORING: What, Why, How, When, Where

Lynn S. Fuchs, Vanderbilt University

and

Ingrid Oxaal, Office of Special
Education Programs, U.S. Department of
Education

Progress Monitoring

- Teachers assess students' academic performance, using brief measures, on a frequent basis
- The major purposes are
 - To describe rate of response to instruction
 - To build more effective programs

Different Forms of Progress Monitoring

Curriculum-Based Assessment (Tucker; Burns)

Find instructional level

Mastery Measurement (Precision Teaching, WIDS)

Tracks short-term mastery of a series of instructional objectives

Curriculum-Based Measurement

In This Presentation ...

We focus on Curriculum-Based Measurement.

CBM is the form of progress monitoring for which the vast majority of scientific support exists.

This Presentation: Three Parts

Part I: Explain what CBM and how it differs from mastery measurement

Part II: Illustrate how CBM, as a form of progress monitoring, can be applied to:

1. Instructional planning
2. IEP development
3. LD Identification via Response-to-Intervention

Part III: OSEP's National Center on Progress Monitoring: What it can do for you

Part I

What CBM is and how it differs from other forms of progress monitoring

Teachers Use CBM to ...

- Describe academic competence at a single point in time
- Quantify the rate at which students develop academic competence over time
- Build more effective programs to increase student achievement

Curriculum-Based Measurement (CBM) . . .

- Result of 25 years of research
- Used across the country
- Demonstrates strong reliability, validity, and instructional utility

Research Shows:

- CBM produces accurate, meaningful information about students' academic levels and their rates of improvement.
- CBM is sensitive to student improvement.
- CBM corresponds well with high-stakes tests.
- When teachers use CBM to inform their instructional decisions, students achieve better.

Most Progress Monitoring: Mastery Measurement

CBM is NOT

Mastery Measurement

MASTERY MEASUREMENT

Tracks Mastery of Short-term Instructional Objectives

To implement Mastery Measurement,
the teacher:

- Determines the sequence of skills in an instructional hierarchy
- For each skill, develops a criterion-referenced test

Hypothetical Fourth-Grade Math Computation Curriculum

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

Multidigit Addition Mastery Test

Name: _____ Date _____

Adding

$$\begin{array}{r} 36521 \\ + 63758 \\ \hline \end{array}$$

$$\begin{array}{r} 53429 \\ + 63421 \\ \hline \end{array}$$

$$\begin{array}{r} 84525 \\ + 75632 \\ \hline \end{array}$$

$$\begin{array}{r} 67842 \\ + 53937 \\ \hline \end{array}$$

$$\begin{array}{r} 57321 \\ + 46391 \\ \hline \end{array}$$

$$\begin{array}{r} 56382 \\ + 94742 \\ \hline \end{array}$$

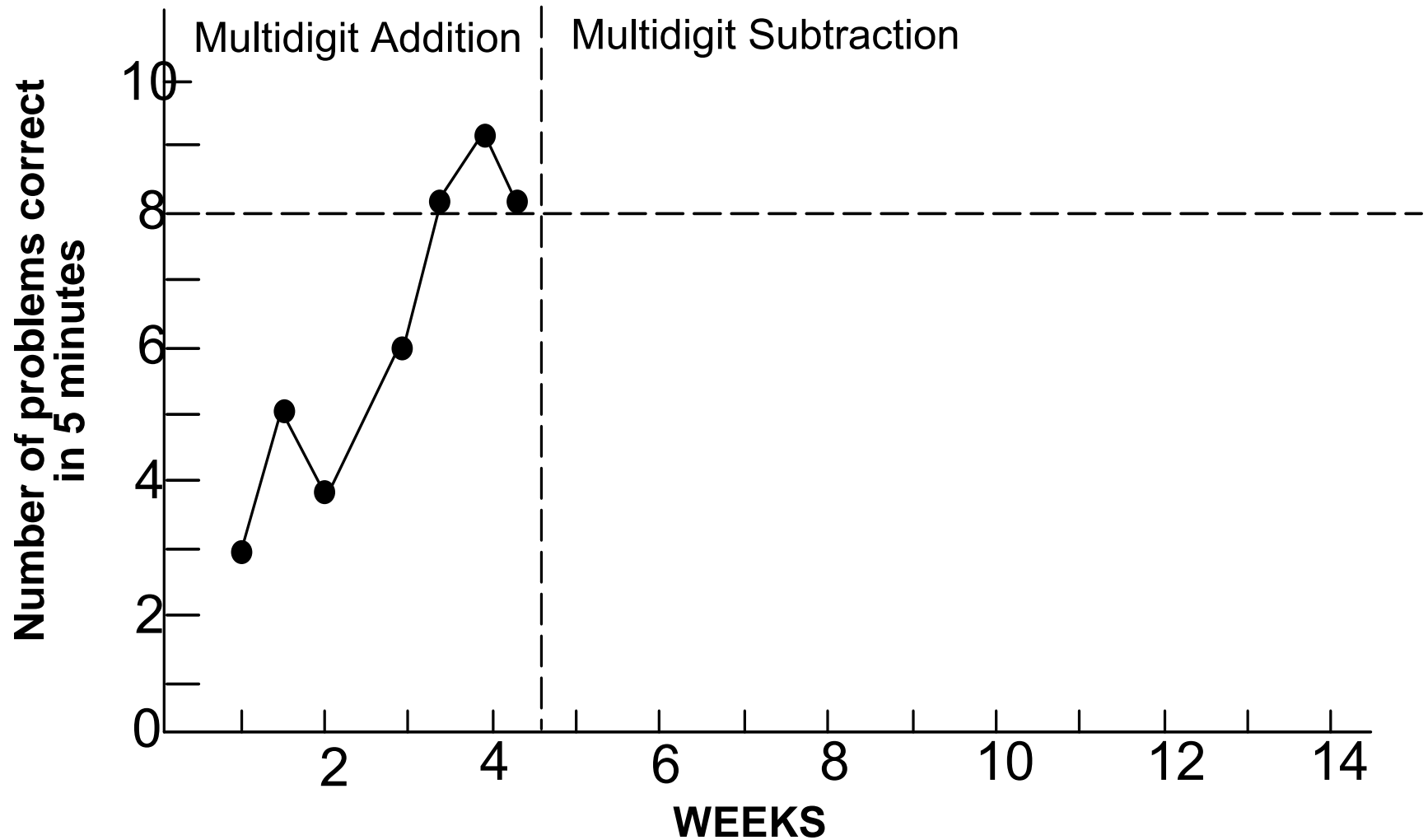
$$\begin{array}{r} 36422 \\ + 57529 \\ \hline \end{array}$$

$$\begin{array}{r} 34824 \\ + 69426 \\ \hline \end{array}$$

$$\begin{array}{r} 32415 \\ + 85439 \\ \hline \end{array}$$

$$\begin{array}{r} 45321 \\ + 86274 \\ \hline \end{array}$$

Mastery of Multidigit Addition



Hypothetical Fourth-Grade Math Computation Curriculum

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

Multidigit Subtraction Mastery Test

Name: _____ Date _____

Subtracting

$$\begin{array}{r} 6521 \\ - 375 \\ \hline \end{array}$$

$$\begin{array}{r} 5429 \\ - 634 \\ \hline \end{array}$$

$$\begin{array}{r} 8455 \\ - 756 \\ \hline \end{array}$$

$$\begin{array}{r} 6782 \\ - 937 \\ \hline \end{array}$$

$$\begin{array}{r} 7321 \\ - 391 \\ \hline \end{array}$$

$$\begin{array}{r} 5682 \\ - 942 \\ \hline \end{array}$$

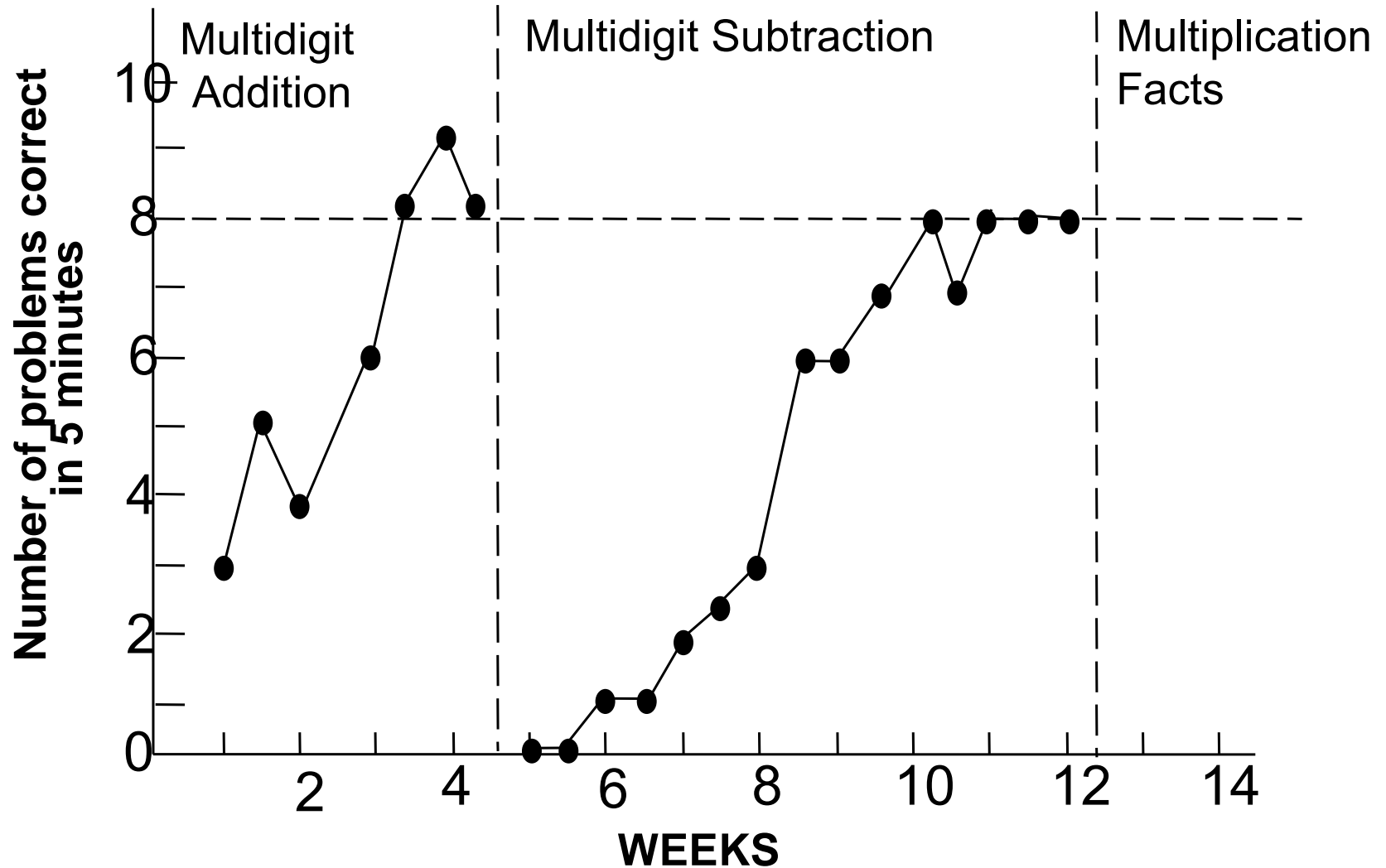
$$\begin{array}{r} 6422 \\ - 529 \\ \hline \end{array}$$

$$\begin{array}{r} 3484 \\ - 426 \\ \hline \end{array}$$

$$\begin{array}{r} 2415 \\ - 854 \\ \hline \end{array}$$

$$\begin{array}{r} 4321 \\ - 874 \\ \hline \end{array}$$

Mastery of Multidigit Addition and Subtraction



Problems with Mastery Measurement

- Hierarchy of skills is logical, not empirical.
- Performance on single-skill assessments can be misleading.
- Assessment does not reflect maintenance or generalization.
- Assessment is designed by teachers or sold with textbooks, with unknown reliability and validity.
- Number of objectives mastered does not relate well to performance on high-stakes tests.

**Curriculum-Based Measurement
(CBM) was designed to address
these problems.**

An Example of CBM:
Math Computation

Hypothetical Fourth-Grade Math Computation Curriculum

Multidigit addition with regrouping

Multidigit subtraction with regrouping

Multiplication facts, factors to 9

Multiply 2-digit numbers by a 1-digit number

Multiply 2-digit numbers by a 2-digit number

Division facts, divisors to 9

Divide 2-digit numbers by a 1-digit number

Divide 3-digit numbers by a 1-digit number

Add/subtract simple fractions, like denominators

Add/subtract whole number and mixed number

- Random numerals within problems
- Random placement of problem types on page

Sheet #1 Computation 4

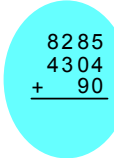
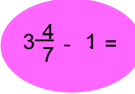
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Name: _____ Date _____

A $\frac{3}{7} - \frac{2}{7} =$	B $1\frac{6}{7} + 3 =$	C $4\overline{)6}$	D $6\overline{)78}$	E $\begin{array}{r} 875 \\ \times 7 \\ \hline \end{array}$
F $\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$	G $\begin{array}{r} 9 \\ \times 0 \\ \hline \end{array}$	H $\begin{array}{r} 244 \\ \times 7 \\ \hline \end{array}$	I $6\overline{)48}$	J $5\overline{)20}$
K $2\overline{)50}$	L $\begin{array}{r} 6144 \\ - 4420 \\ \hline \end{array}$	M $\begin{array}{r} 33 \\ \times 10 \\ \hline \end{array}$	N $\begin{array}{r} 6 \\ \times 0 \\ \hline \end{array}$	O $7\overline{)30}$
P $\begin{array}{r} 95225 \\ + 75268 \\ \hline \end{array}$	Q $8\overline{)32}$	R $\begin{array}{r} 1156 \\ 2824 \\ + 83 \\ \hline \end{array}$	S $7\frac{4}{7} - 2 =$	T $\begin{array}{r} 38 \\ \times 33 \\ \hline \end{array}$
U $\frac{3}{5} + \frac{1}{5} =$	V $\begin{array}{r} 982 \\ - 97 \\ \hline \end{array}$	W $\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$	X $\begin{array}{r} 4 \\ \times 1 \\ \hline \end{array}$	Y $7\overline{)56}$

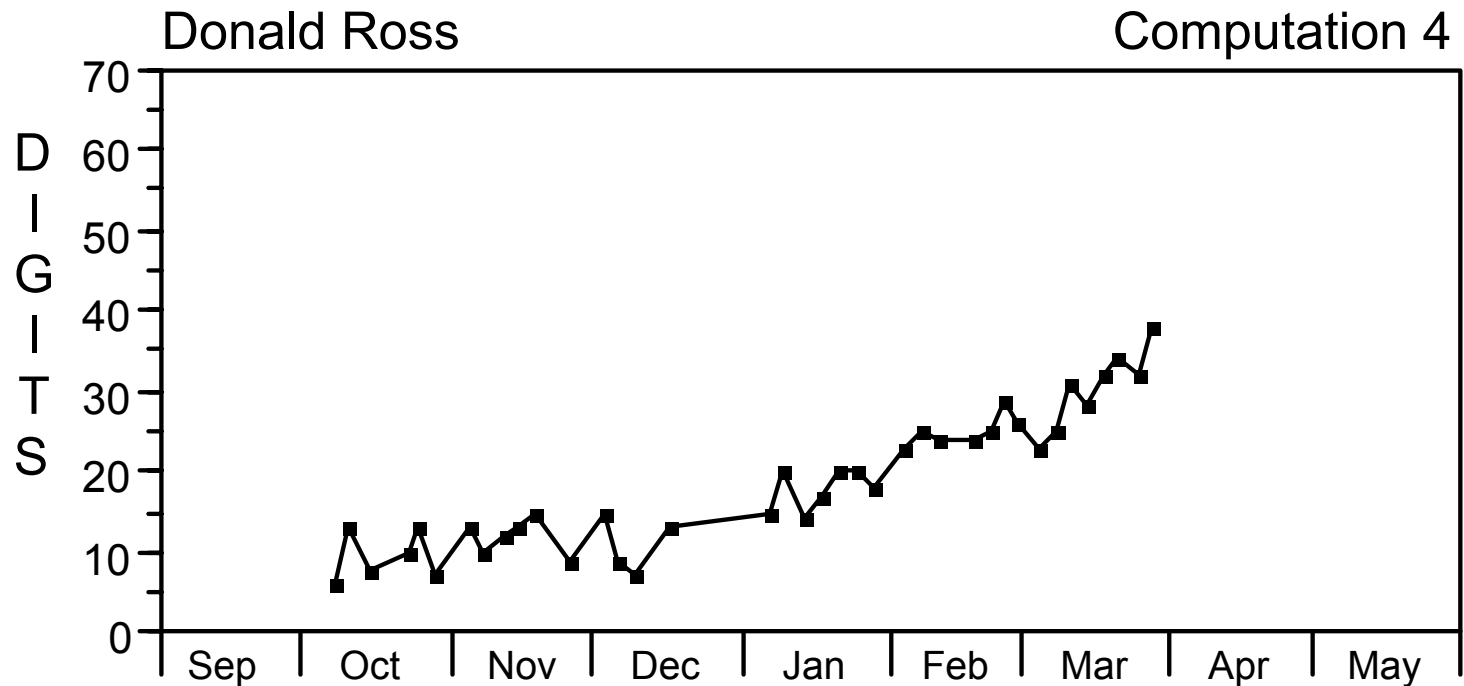
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Name: _____ Date _____

A $9 \overline{)24}$	B $\begin{array}{r} 52852 \\ + 64708 \\ \hline \end{array}$	C $\begin{array}{r} 9 \\ \times 0 \\ \hline \end{array}$	D $4 \overline{)72}$	E  $\begin{array}{r} 8285 \\ 4304 \\ + 90 \\ \hline \end{array}$
F $6 \overline{)30}$	G $\begin{array}{r} 35 \\ \times 74 \\ \hline \end{array}$	H $\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$	I $\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$	J $\frac{2}{3} - \frac{1}{3} =$
K $\begin{array}{r} 32 \\ \times 23 \\ \hline \end{array}$	L $\begin{array}{r} 8 \\ \times 6 \\ \hline \end{array}$	M $5 \overline{)65}$	N $6 \overline{)30}$	O  $3\frac{4}{7} - 1 =$
P $\begin{array}{r} 107 \\ \times 3 \\ \hline \end{array}$	Q $2 \overline{)9}$	R $\begin{array}{r} 416 \\ - 44 \\ \hline \end{array}$	S $\frac{5}{11} + \frac{3}{11} =$	T $\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$
U $4\frac{1}{2} + 6 =$	V $\begin{array}{r} 1504 \\ - 1441 \\ \hline \end{array}$	W $9 \overline{)81}$	X $\begin{array}{r} 130 \\ \times 7 \\ \hline \end{array}$	Y $5 \overline{)10}$

- Random numerals within problems
- Random placement of problem types on page

Donald's Progress in Digits Correct Across the School Year



A “Correct Digit” Is the Right Numeral in the Right Place

$$\begin{array}{r} 4507 \\ - 2146 \\ \hline \underline{2361} \end{array}$$

4

correct
digits

$$\begin{array}{r} 4507 \\ - 2146 \\ \hline \underline{2461} \end{array}$$

3

correct
digits

$$\begin{array}{r} 4507 \\ - 2146 \\ \hline \underline{2441} \end{array}$$

2

correct
digits

One page of a 3-page CBM in math concepts and applications (24 total problems)

(1)

Write the letter in each blank.

- _____ $\overset{\cdot}{z}$ (A) line segment
 _____ $\leftarrow \underset{K}{\quad} \underset{L}{\quad} \rightarrow$ (B) line
 _____ $\underset{M}{\cdot} \rightarrow \underset{N}{\quad}$ (C) point
 _____ (D) ray

(2)

Look at this numbers.:

356.17

Which number is in the hundredths place? _____

(3)

Solve the problem by estimating the sum or difference to the nearest ten.

Jeff wheels his wheelchair for 33 hours a week at school and for 28 hours a week in his neighborhood. About how many hours does Jeff spend each week wheeling his wheelchair?

(4)

Write the number in each blank.

3 ten thousands, 6 hundreds, 8 ones

2 thousands, 8 hundreds, 4 tens, 6 ones

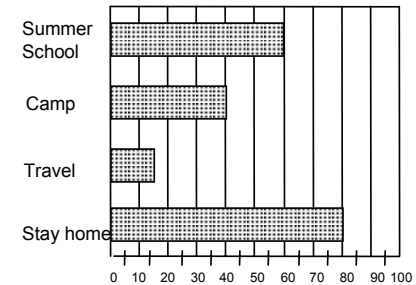
(5)

Write a number in the blank.

1 week = _____ days

(6)

Vacation Plans for Summit School Students



Number of Students

Use the bar graph to answer the questions.

The P.T.A. will buy a Summit School T-Shirt for each student who goes to summer school. Each shirt costs \$4.00. How much money will the P.T.A. spend on these T shirts? \$ _____ .00

How many students are planning to travel during the summer? _____

How many fewer students are planning to go to summer school than planning to stay home? _____

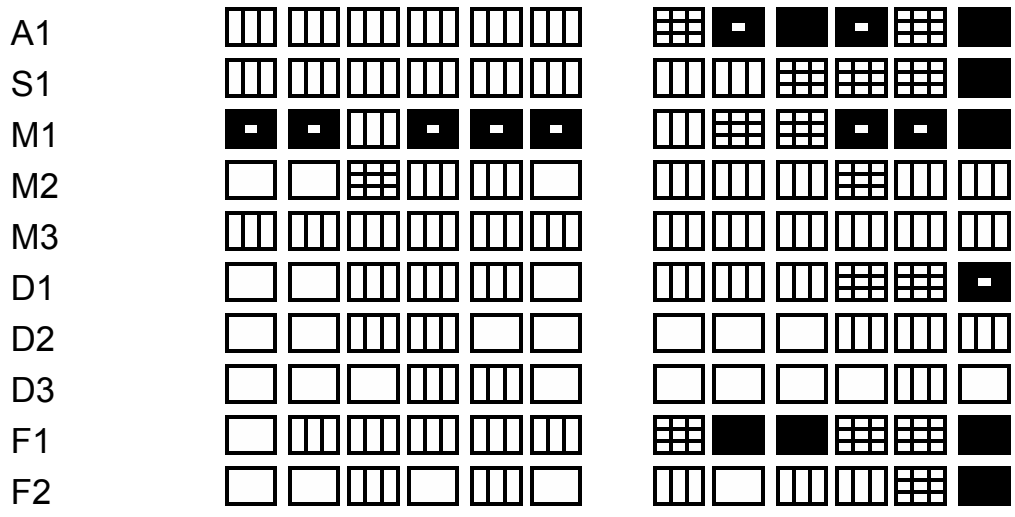
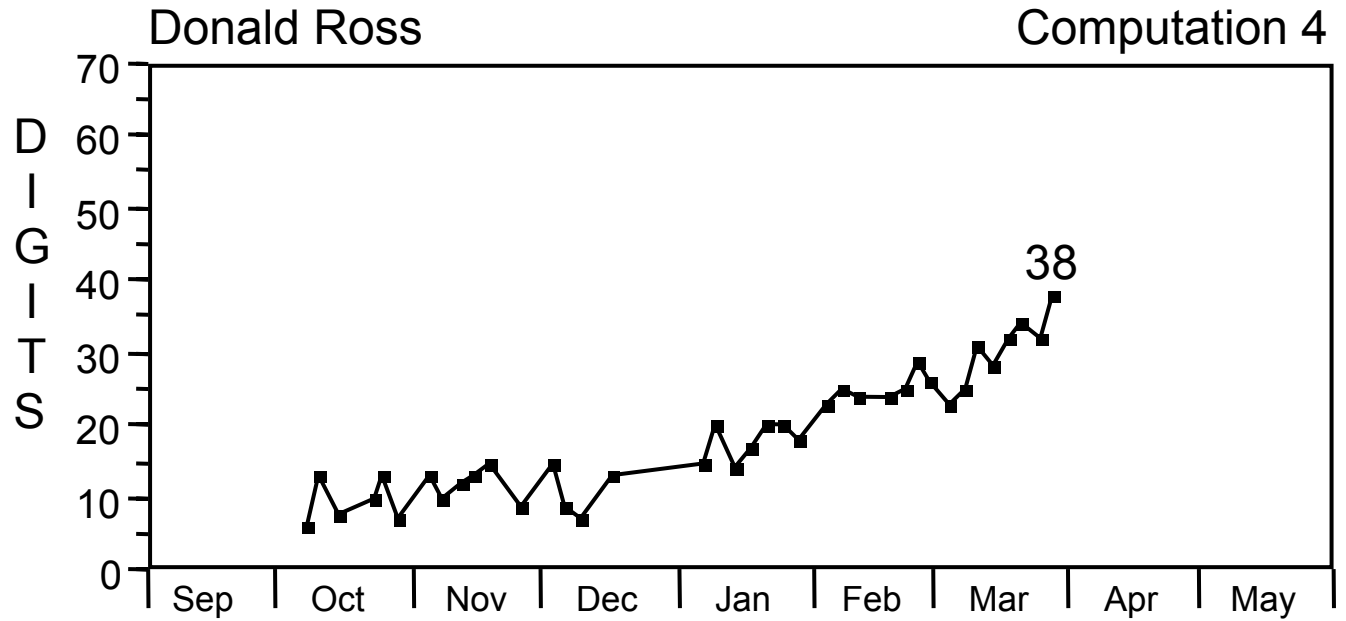
(7)

To measure the distance of the bus ride from school to your house you would use

- (A) meters
 (B) centimeters
 (C) kilometers

Donald's Graph and Skills Profile

**Darker
boxes =
greater
level of
mastery.**



Sampling performance on year-end curriculum for each CBM

- Avoids need to specify a skills hierarchy
- Avoids single-skill tests
- Automatically assesses maintenance/generalization
- Permits standardized procedures for sampling the curriculum, with known reliability and validity
- SO THAT: CBM scores relate well to performance on high-stakes tests

Two Methods for Representing Year-End Performance with CBM

Method #1:

Systematically sample items from the annual curriculum (illustrated in Math CBM, just described)

Method #2:

Identify a global behavior that simultaneously requires the many skills taught in the annual curriculum (illustrated in Reading CBM, to be presented next)

Hypothetical Grade 2 Reading Curriculum

- Phonics
 - cvc patterns
 - cvce patterns
 - cvvc patterns . . .
- Sight Vocabulary
- Comprehension
 - Identification of who/what/when/where
 - Identification of main idea
 - Sequence of events
- Fluency

Grade 2 Reading CBM

- Each week, every student reads aloud from a second-grade passage for 1 minute
- Each week's passage is the same difficulty
- As student reads, teacher marks errors
- Count number of words read correctly
- Graph scores

CBM

- Not interested in making kids read faster
- Interested in kids becoming better readers
- The CBM score is an overall indicator of reading competence
- Students who score high on CBM
 - Are better decoders
 - Are better at sight vocabulary
 - Are better comprehenders
- Correlates highly with high-stakes tests

CBM passage for Correct Words Per Minute

Mom was going to have a baby. Another one! That is all we need thought Samantha who was ten years old. Samantha had two little brothers. They were brats. Now Mom was going to have another one. Samantha wanted to cry.

“I will need your help,” said Mom. “I hope you will keep an eye on the boys while I am gone. You are my big girl!”

Samantha told Mom she would help. She did not want to, thought. The boys were too messy. They left toys everywhere. They were too loud, too. Samantha did not want another baby brother. Two were enough.

Dad took Samantha and her brothers to the hospital. They went to Mom’s room. Mom did not feel good. She had not had the baby. The doctors said it would be later that night. “I want to wait here with you,” said Samantha. “Thank you Samantha. But you need to go home. You will get too sleepy. Go home with Grandma. I will see you in the morning,” said Mom.

That night Samantha was sad. She knew that when the new baby came home that Mom would not have time for her. Mom would spend all of her time with the new baby.

The next day Grandma woke her up. “Your mom had the baby last night,” Grandma said. “We need to go to the hospital. Get ready. Help the boys get ready, too.”

Samantha slowly got ready. She barely had the heart to get dressed. After she finished, she helped the boys. They sure were a pain! And now another one was coming. Oh brother!

Soon they were at the hospital. They walked into Mom’s room. Mom was lying in the bed. Her tummy was much Smaller. Samantha . . .

What We Look For in CBM

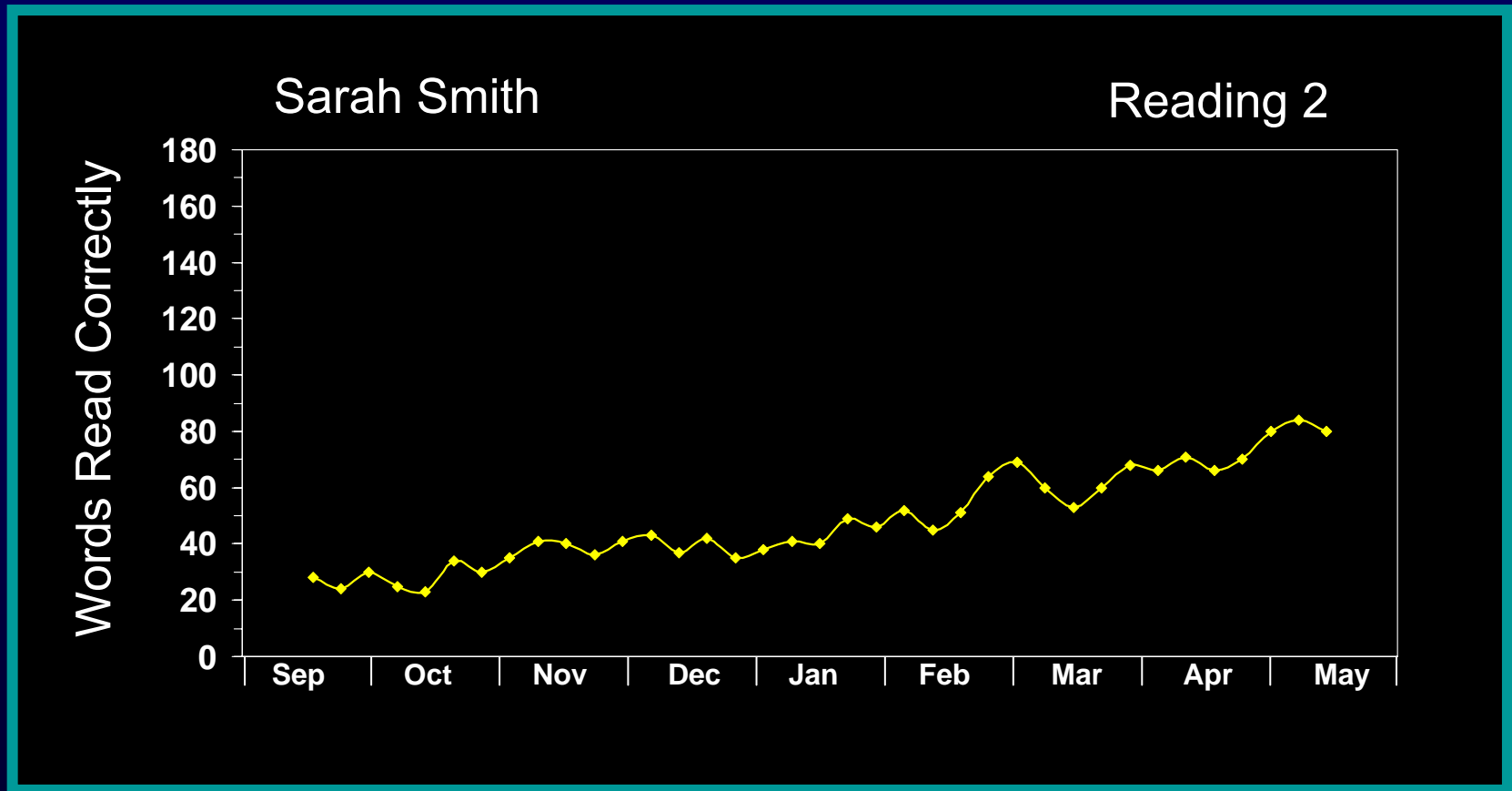
INCREASING SCORES:

Student is becoming a better reader.

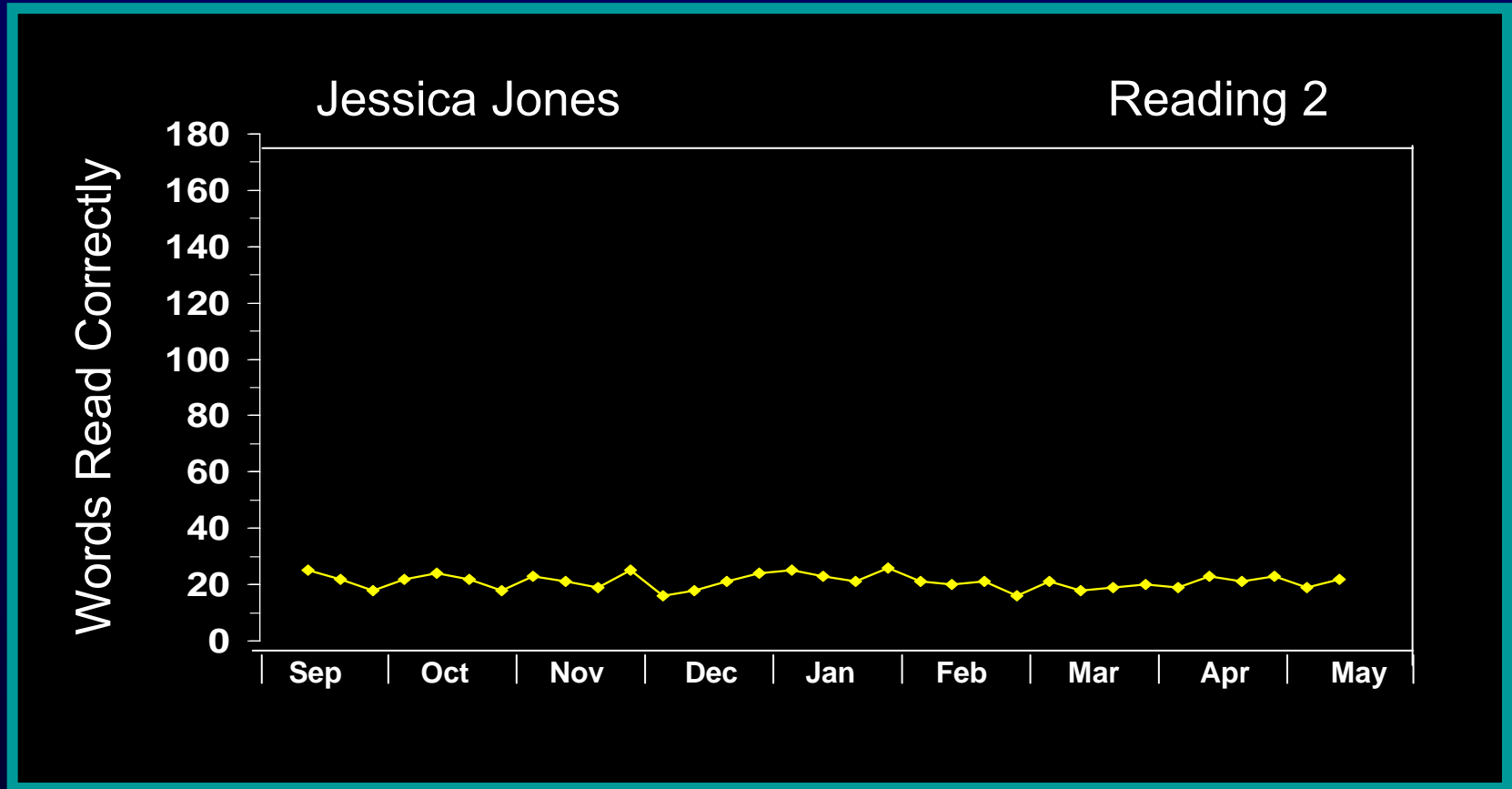
FLAT SCORES:

Student is not profiting from instruction and requires a change in the instructional program.

Sarah's Progress on Words Read Correctly



Jessica's Progress on Words Read Correctly



Reading CBM

- Kindergarten: Letter-Sound Fluency
- Grade 1: Word-Identification Fluency
- Grades 2-3: Passage Reading Fluency
- Grades 4-6: Maze Fluency

Kindergarten Letter-Sound Fluency

Teacher: *Say the sound
that goes with each
letter.*

Time: 1 minute

p U z u y

i t R e w

O a s d f

v g j S h

k m n b V

Y E i c x

...

Kindergarten Letter-Sound Fluency

- Alternate-passage stability (3 weeks): .92 - .94
- Criterion validity with WRMT: .58 - .71
- Predictive Validity with CBM (Fall 1-Spring 1): .64
- Predictive Validity with TerraNova (Fall 1-Spring 1): .53

First Grade

Word-Identification Fluency

- Alternate-passage stability (3 weeks): .97
- Criterion validity with WRMT: .75 - .93
- Predictive Validity with CBM (30 weeks): .68 - .87
- Predictive Validity with TerraNova (30 weeks): .62 - .76

Grades 2-3

Passage Reading Fluency

- Number of words read aloud correctly in 1 minute on end-of-year passages

CBM passage for Correct Words Per Minute

Jason Fry ran home from school. He had to pack his clothes. He was going to the beach. He packed a swimsuit and shorts. He packed tennis shoes and his toys. The Fry family was going to the beach in Florida.

The next morning Jason woke up early. He helped Mom and Dad pack the car, and his sister, Lonnie, helped too. Mom and Dad sat in the front seat. They had maps of the beach. Jason sat in the middle seat with his dog, Ruffie. Lonnie sat in the back and played with her toys.

They had to drive for a long time. Jason looked out the window. He saw farms with animals. Many farms had cows and pigs but some farms had horses. He saw a boy riding a horse. Jason wanted to ride a horse, too. He saw rows of corn growing in the fields. Then Jason saw rows of trees. They were orange trees. He sniffed their yummy smell. Lonnie said she could not wait to taste one. Dad stopped at a fruit market by the side of the road. He bought them each an orange.

Grades 2-3

Passage Reading Fluency

- Alternate-passage stability (3 weeks): .92
- Criterion validity with WRMT: .70 - .89
- Predictive validity with CBM (30 weeks): .72 - .86
- Predictive validity with TerraNova (30 weeks): .65 - .72

Grades 4-6

Maze Fluency

Number of words replaced correctly in 2.5 minutes on end-of-year passages from which every 7th word has been deleted and replaced with 3 choices

Computer Maze

A SCARY NOISE

Ray lived in Georgia. He was born there and had _____ friends. One day Dad had come home _____ work to say that they would have _____ move far away. Dad worked in _____ factory. The factory had closed and Dad _____ a new job. Dad had found a _____ job and now they had to move.

Ray _____ sad because he did not want _____ leave his school. He did not _____ to leave his friends.

"I am _____, son," said Dad.

"It is OK," _____ Ray with a smile. He did _____ want Dad to feel bad.

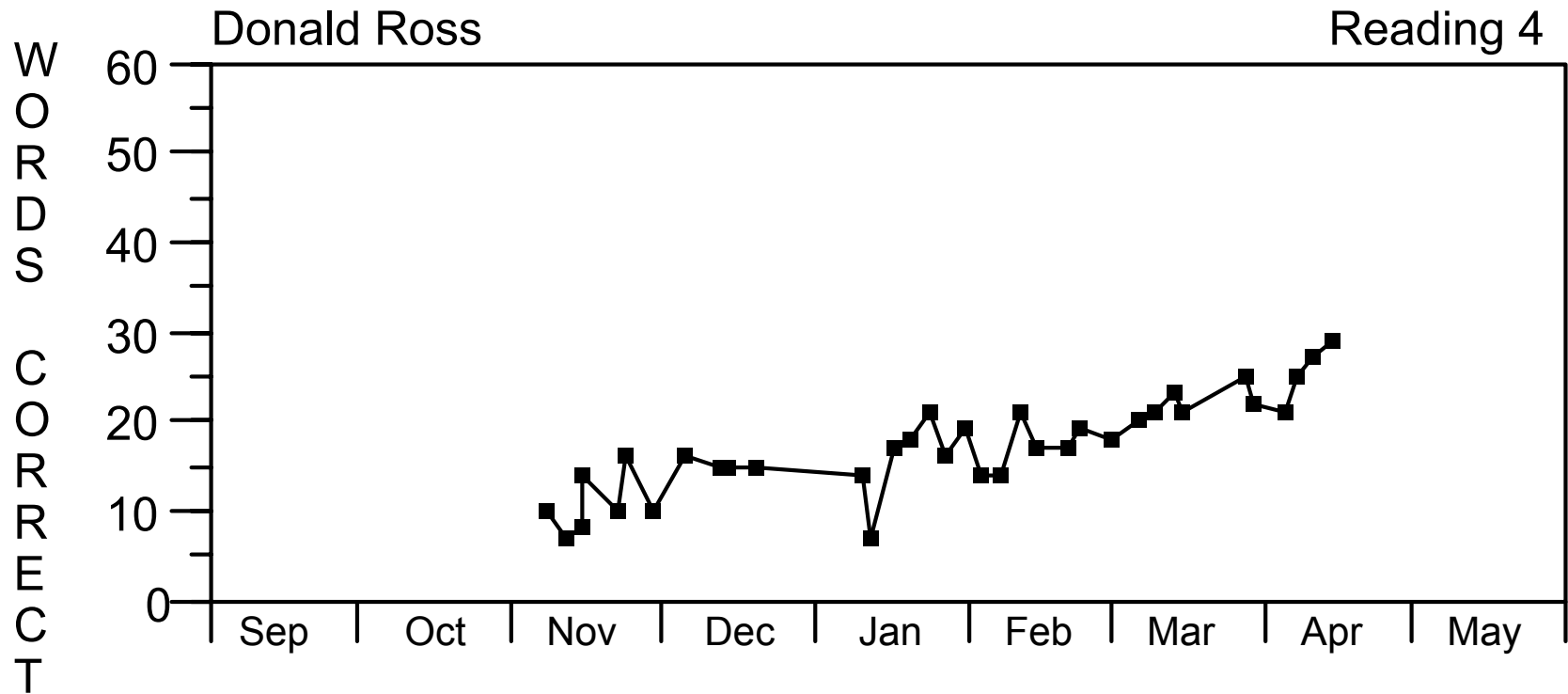
They _____ up the car and moved to a _____ state. Their new

Grades 4-6

Maze Fluency

- Alternate-passage stability (3 weeks): .94
- Criterion validity with WRMT: .71 - .93
- Predictive Validity with CBM (30 weeks): .70 - .84
- Predictive Validity with TerraNova (30 weeks): .67 - .74

Donald's Progress on Words Selected Correctly for CBM Maze Task



Part II

Using CBM to Strengthen Instructional Planning

Strengthening Instructional Planning with CBM

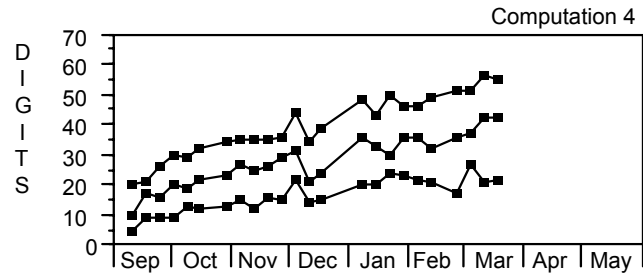
For Groups of Students

For group planning, the focus is on the class report.

CLASS SUMMARY

Teacher: Mrs. Smith

Report through 3/17



Students to Watch

Jonathan Nichols
Amanda Ramirez
Anthony Jones
Erica Jernigan
Icon

Most Improved

Icon
Michael Elliott
Jonathan Nichols
Michael Sanders
Matthew Hayes

Areas of Improvement: Computation

M1 Multiplying basic facts
M2 Multiplying by 1 digit
M3 Multiplying by 2 digits
D1 Dividing basic facts

Whole Class Instruction: Computation

M3 Multiplying by 2 digits

58% of your students are either COLD or COOL on this skill.

Small Group Instruction: Computation

S1 Subtracting

Cindy Lincoln Michael Sanders
Icon
Kaitlin Laird
Michael Elliott

Group Skills Profile -- by problem type for each student

CLASS SKILLS PROFILE - Computation

Teacher: Mrs. Smith

Report through 3/17

Name	A1	S1	M1	M2	M3	D1	D2	D3	F1	F2
Adam Qualls	■	■	■	▤	▤	▤	▤	▤	■	▤
Amanda Ramirez	■	▤	■	▤	▤	▤	▤	□	■	□
Anthony Jones	▤	▤	■	▤	▤	▤	▤	▤	□	□
Aroun Phung	■	■	■	■	■	■	▤	▤	■	■
Becca Jarrett	■	■	■	■	▤	■	▤	▤	■	■
Charles McBride	■	■	■	■	▤	■	▤	▤	■	■
Cindy Lincoln	▤	▤	■	■	▤	■	■	□	▤	■
David Anderson	▤	▤	■	■	▤	▤	▤	▤	■	■
Emily Waters	■	■	■	■	▤	■	■	▤	■	■
Erica Jernigan	■	▤	■	▤	▤	▤	▤	□	□	□
Gary McKnight	■	■	■	■	▤	■	▤	▤	■	■
Icon										
Jenna Clover	■	■	■	■	▤	■	▤	□	■	■
Jonathan Nichols	■	▤	■	■	▤	■	□	□	▤	▤
Jung Lee	■	■	■	■	■	■	■	■	■	■
Kaitlin Laird	■	▤	■	▤	▤	▤	▤	□	■	■
Kathy Taylor	■	■	■	■	■	▤	▤	▤	■	■
Matthew Hayes	■	■	■	■	■	▤	▤	▤	■	■
Michael Elliott	■	□	■	■	▤	■	▤	▤	▤	■
Michael Sanders	▤	▤	■	▤	▤	▤	▤	□	■	▤
Samantha Spain	▤	■	■	■	▤	■	■	■	■	■
Vicente Gonzalez	■	■	■	■	■	▤	□	□	■	□
Victoria Dillard	■	▤	■	■	▤	■	▤	▤	■	▤
Yasmine Sallee	■	■	■	■	■	■	■	■	■	□

□ COLD. Not tried	0	1	0	0	0	0	2	8	2	5
▤ COOL. Trying these.	3	8	0	5	14	3	16	10	3	3
▤ WARM. Starting to get it.	2	1	0	1	3	6	0	2	0	1
■ VERY WARM. Almost have it.	5	3	8	4	0	4	0	1	1	0
■ HOT. You've got it!	13	10	15	13	6	10	5	2	17	14

**Ranked
Scores --
Average
of Last
Two
CBM
Scores
and the
Slope --
Average
Weekly
Increase**

RANKED SCORES - Computation

Teacher: Mrs. Smith

Report through 3/17

<u>Name</u>	<u>Score</u>	<u>Growth</u>
Samantha Spain _____	57 _____	+1.89
Aroun Phung _____	56 _____	+1.60
Gary McKnight _____	54 _____	+1.14
Yasmine Sallee _____	53 _____	+1.34
Kathy Taylor _____	53 _____	+1.11
Jung Lee _____	53 _____	+1.23
Matthew Hayes _____	51 _____	+1.00
Emily Waters _____	48 _____	+1.04
Charles McBride _____	43 _____	+1.12
Michael Elliott _____	42 _____	+0.83
Jenna Clover _____	42 _____	+0.78
Becca Jarrett _____	41 _____	+1.14
David Anderson _____	38 _____	+0.79
Cindy Lincoln _____	36 _____	+1.04
Kaitlin Laird _____	35 _____	+0.71
Victoria Dillard _____	34 _____	+0.64
Vicente Gonzalez _____	29 _____	+0.28
Adam Qualls _____	26 _____	+0.60
Michael Sanders _____	25 _____	+0.70
Jonathan Nichols _____	25 _____	+2.57
Amanda Ramirez _____	23 _____	+0.85
Anthony Jones _____	19 _____	+0.05
Erica Jernigan _____	18 _____	+0.23
Icon _____	0 _____	+0.00

Peer-Tutoring Assignments based on students' recent CBM scores and Skills Profile

PEER TUTORING ASSIGNMENTS

Teacher: Mrs. Smith

Report through 3/17

M2 Multiplying by 1 digit

First Coach

Second Coach

■ Samantha Spain
■ Kathy Taylor
■ Aroun Phung
■ Emily Waters
■ Charles McBride
■ David Anderson

Icon
▢ Erica Jernigan
▢ Adam Qualls
▢ Michael Sanders
▢ Amanda Ramirez
▢ Anthony Jones

M3 Multiplying by 2 digits

First Coach

Second Coach

■ Matthew Hayes
▣ Cindy Lincoln
■ Jung Lee
■ Yasmine Sallee
■ Vicente Gonzalez
▣ Jenna Clover

▢ Becca Jarrett
▢ Kaitlin Laird
▢ Victoria Dillard
▢ Gary McKnight
▢ Michael Elliott
▢ Jonathan Nichols

**ID of
students
whose
progress
is poor
compared
to peers**

CLASS STATISTICS: Computation

Teacher: Mrs. Smith

Report through 3/17

Score

Average score	39.5
Standard deviation	12.6
Discrepancy criterion	26.9

Slope

Average slope	+0.98
Standard deviation	0.53
Discrepancy criterion	+0.45

Students identified with dual discrepancy criterion

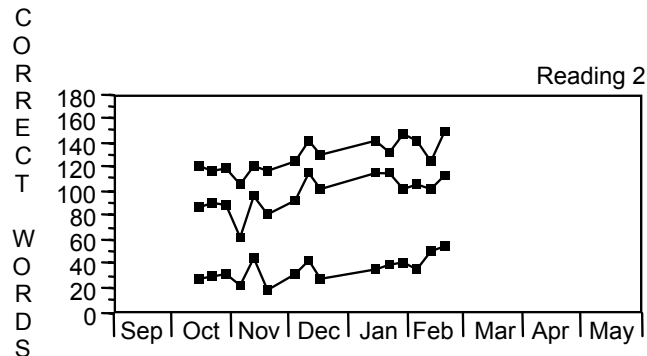
	<u>Score</u>	<u>Slope</u>
Anthony Jones	19.0	+0.05
Erica Jernigan	18.0	+0.23

Group Report in Reading

- Class Graph
- Students in Bottom 25%
- Most Improved Across Last Few Weeks
- Students Who Could Benefit from Instruction in Comprehension, Fluency, and Decoding

CLASS SUMMARY

Teacher: Mrs. Jones
Report through 2/15



Students to Watch

Shana Harmon
Mario Houston
Jalisha Sizemore
Ladarius Freeman
Nathanial Anderson

Most Improved

Jalisha Sizemore
Ladarius Freeman
Mario Houston
Shana Harmon
Nathanial Anderson

Comprehension Activities

Adam Brown	Jermaine Jones	Sam Nelson
Andrew Jones	Kenzie Williams	Wilson Carter
Angela Adams	Melanie White	
Carolyn Hudson	Quenton Miller	
Cathryn O'Connel	Russell Carson	

Fluency Practice

Phonics Instruction

MAT/LAST

Ladarius Freeman
Mario Houston
Nathanial Anderson

TIME

Ladarius Freeman
Mario Houston
Nathanial Anderson

CAR

BEAT

HAPPY

Jalisha Sizemore
Shana Harmon

PUBLIC

Jalisha Sizemore
Shana Harmon

RUNNING

Group Skills

Profile in

Reading

targeting need

for

comprehension,

fluency, and

decoding

instruction

CLASS SKILLS PROFILE

Teacher: Mrs. Jones

Report through 2/15

Name	Comprehension	Fluency	MAT/LAST	TIME	CAR	BEAT	HAPPY	PUBLIC	RUNNING
Adam Brown.....	C.....	.....						
Andrew Jones.....	C.....	.....						
Angela Adams.....	C.....	.....						
Carolyn Hudson.....	C.....	.....						
Cathryn O'Connel.....	C.....	.....						
Jalisha Sizemore.....			■	■	■	■	▣	▣	■
Jermaine Jones.....	C.....	.....						
Kenzie Williams.....	C.....	.....						
Ladarius Freeman.....			▣	▣	■	▣	■	▣	▣
Mario Houston.....			▣	▣	■	▣	▣	▣	▣
Melanie White.....	C.....	.....						
Nathaniel Anderson.....			▣	▣	▣	▣	▣	▣	▣
Quenton Miller.....	C.....	.....						
Russell Carson.....	C.....	.....						
Sam Nelson.....	C.....	.....						
Shana Harmon.....			■	■	■	■	▣	▣	■
Wilson Carter.....	C.....	.....						

▣ Cold. Missing most of these words.

▣ Warm. Getting some of these words right.

■ Hot. Getting most of these words right.

MAT/LAST: closed syllable, short vowel, e.g., bed, top, hit, cat bump, mast, damp

TIME: final e, long vowel, e.g., cake, poke, same, woke, mine, rose, gate

CAR: vowel r-controlled, e.g., fur, nor, per, sir, her, tar

BEAT: two vowels together, e.g., soap, maid, lean, loaf, paid, meal

HAPPY: divide between two like consonants, e.g., lesson, bubble, battle, giggle,

PUBLIC: divide between unlike consonants, e.g., elbow, walrun, doctor, victim, admit

RUNNING: dividing between double consonant with suffix, e.g., batter, sipped, hitting, tanned, bitten

Students meeting or not meeting end-of-year benchmark

Class Scores

Teacher: Mrs. Jones
Report through 2/15

<u>Name</u>	<u>Score</u>	<u>Growth</u>
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*** The following student(s) are currently at or above end-of-year benchmark.**

Jermaine Jones_____	146_____	+1.17
Kenzie Williams_____	133_____	+1.32
Wilson Carter_____	132_____	+3.05
Carolyn Hudson_____	132_____	+2.37
Cathryn O'Connel_____	123_____	+0.80
Angela Adams_____	122_____	+0.30
Sam Nelson_____	120_____	-0.31
Andrew Jones_____	115_____	+0.49
Russell Carson_____	106_____	+1.40
Adam Brown_____	105_____	+1.61
Quenton Miller_____	104_____	+2.61
Melanie White_____	93_____	+1.55
Shana Harmon_____	77_____	+0.69

*** The following student(s) are currently below end-of-year benchmark.**

Mario Houston_____	58_____	+0.95
Jalisha Sizemore_____	54_____	+1.21
Ladarius Freeman_____	38_____	+0.90

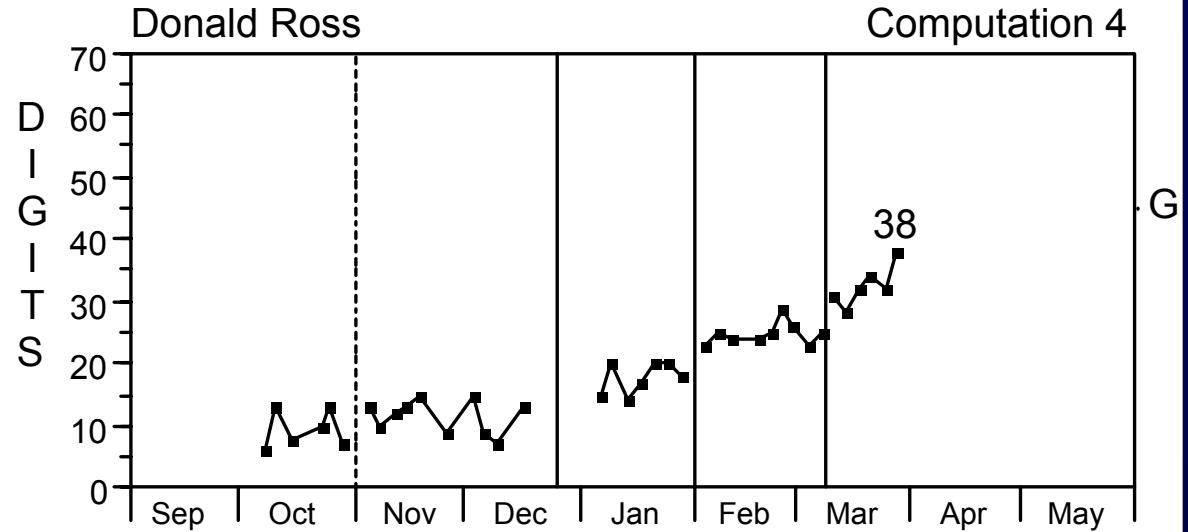
*** The following student(s) are currently below previous year's benchmark.**

Nathaniel Anderson_____	17_____	+0.45
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Strengthening Instructional Planning with CBM

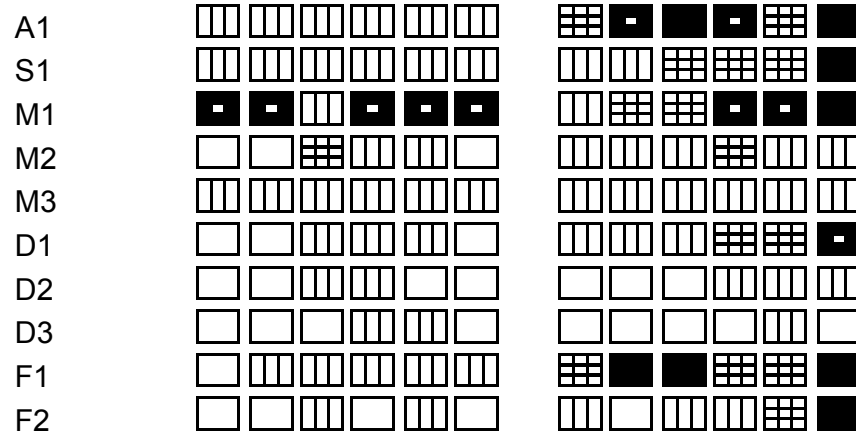
For Individual Students

CBM is also used for individual decision making.

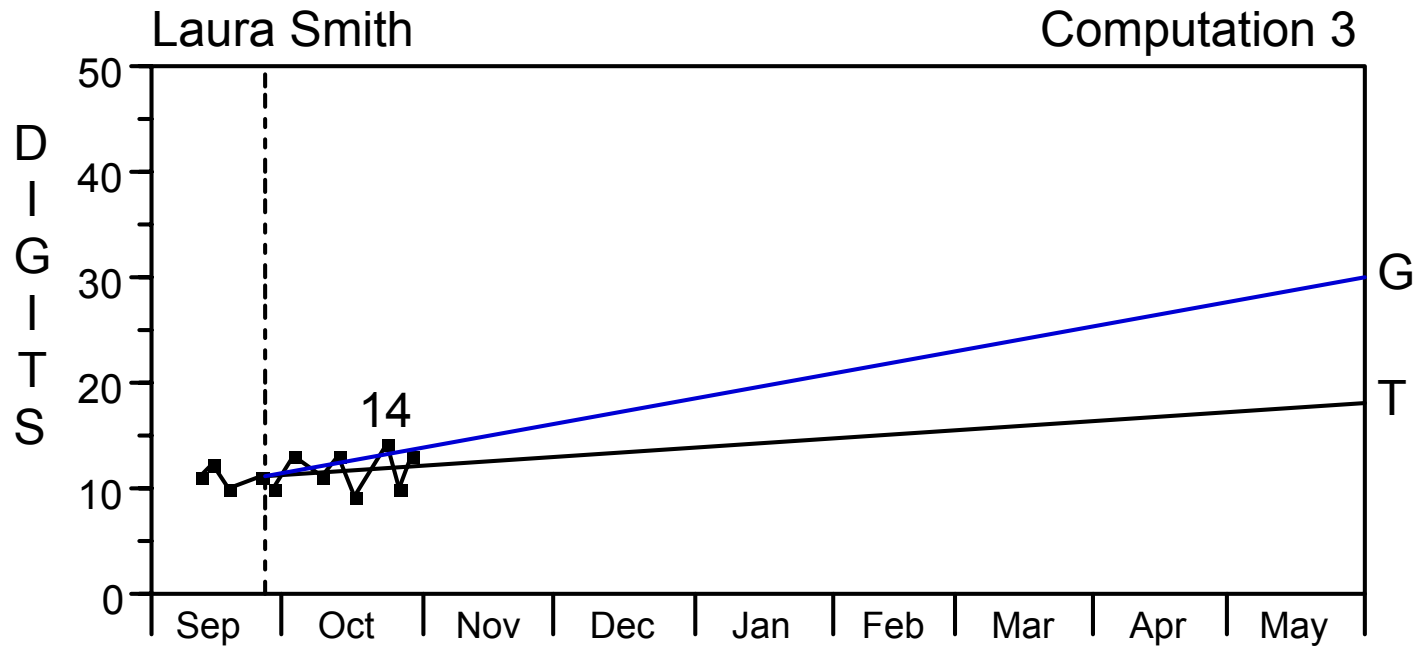


Wait. Not enough scores for decision.

You need at least 8 scores to make a decision.



Trend of student data is less steep than goal line: Make a teaching change.

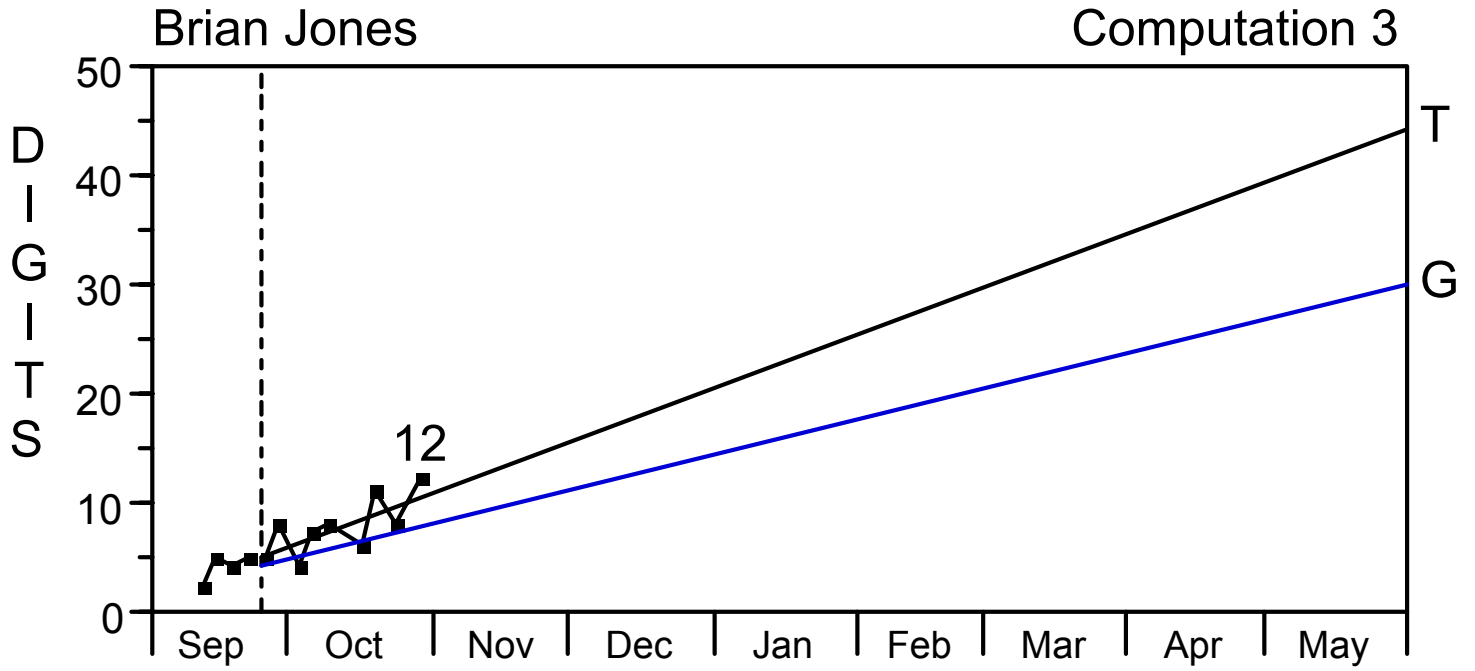


Uh-oh! Make a teaching change.

Student's rate of progress is less than the goal line.

A1					
S1					
S2					
M1					
M2					
D1					

Trend of student data is steeper than goal line: Raise the goal.



OK!! Raise the goal.

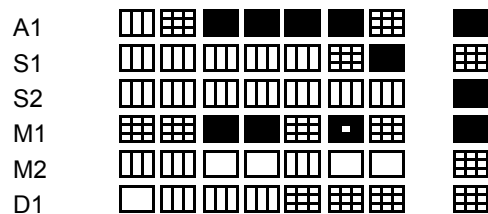
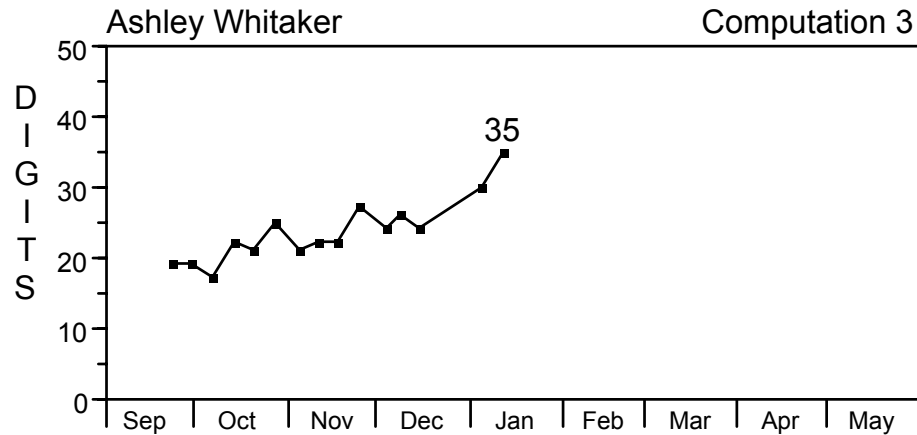
Student's rate of progress exceeds the goal line

A1					
S1					
S2					
M1					
M2					
D1					

CBM Feedback to Students

- Encouraging goal-directed behavior
- Motivating students to work hard

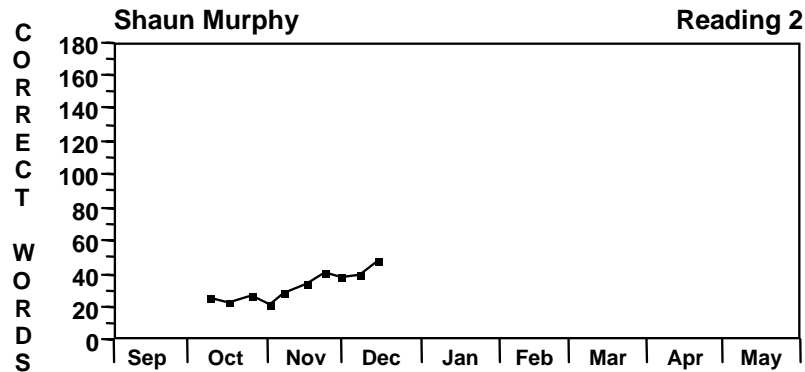
**Graphs
are
printed to
provide
student
feedback
every two
weeks.**



- A1 Adding
- S1 Subtracting with regrouping
- S2 Subtracting with regrouping with 0
- M1 Multiplying basic facts
- M2 Multiplying
- D1 Dividing basic facts

- HOT. You've got it!
- VERY WARM. Almost have it.
- WARM. Starting to get it.
- COOL. Trying these.
- COLD. Not tried

Reading feedback for individual student: Graph and Decoding Skills Profile



MAT/LAST			
TIME			
CAR			
BEAT			
HAPPY			
PUBLIC			
RUNNING			

MAT/LAST: closed syllable, short vowel, e.g., bed, top, hit, cat bump, mast, damp

TIME: final e, long vowel, e.g., cake, poke, same, woke, mine, rose, gate

CAR: vowel r-controlled, e.g., fur, nor, per, sir, her, tar

BEAT: two vowels together, e.g., soap, maid, lean, loaf, paid, meal

HAPPY: divide between two like consonants, e.g., lesson, bubble, battle, giggle,

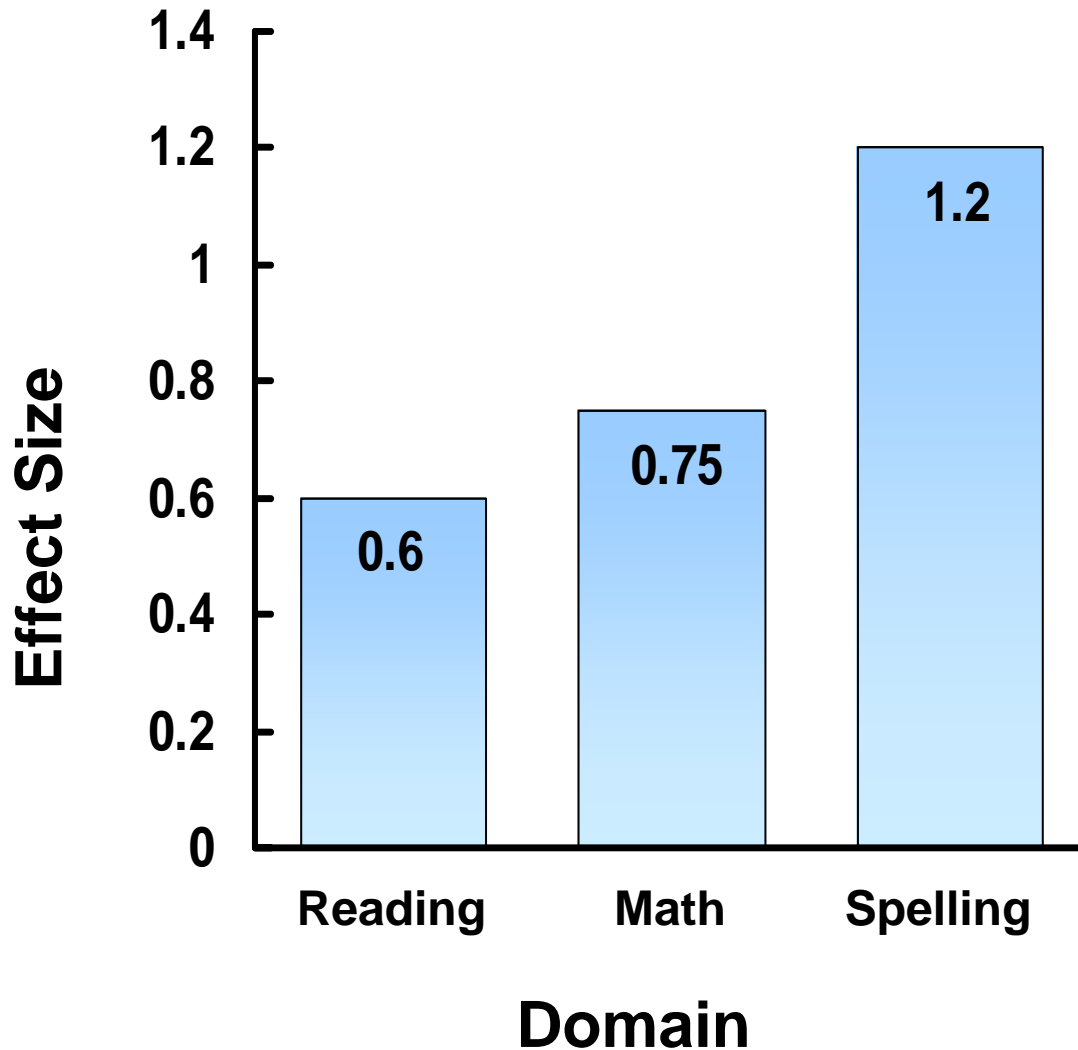
PUBLIC: divide between unlike consonants, e.g., elbow, walrun, doctor, victim, admit

RUNNING: dividing between double consonant with suffix, e.g., batter, sipped, hitting, tanned, bitten

Questions student ask themselves about CBM graphs

- Are my scores going up?
- What's my highest score? Can I beat it in the next 2 weeks?
- What skill do I want to work hard on in the next 2 weeks to increase my CBM score?

Effect Sizes for CBM



Many of the Slides Reflect Computer Applications

Facilitate CBM Implementation

Enhance Instructional Decision Making

Example: Computer Application
for Reading CBM

How Computers Help Administer CBM

Skip

Mom was going to have a baby. Another one! That is all we

Skip

need tho

Skip

little bro

Skip

one. Sar

Skip

"I w

Skip

on the b

Skip

Sar

Skip

though.

Skip

were too

Skip

were end

Skip

Dad took Samantha and her brothers to the hospital. They went

Skip

to Mom's room. Mom did not feel good. She had not had the baby.

Start Test

I want you to read this story to me.
You'll have 1 minute to read. When I say 'Begin,' start reading aloud at the top of the page. Do your best reading. If you have trouble with a word, I'll tell it to you. Do you have any questions?

Say 'Begin' and click 'Begin' to start test.

Cancel **Begin**

<--

Skip this story

Save

-->

0:00

Caroline Story 6

Mom was going to have a baby. Another one! That is all we
 need thought Samantha who was ten years old. Samantha had two
 little brothers. They were brats. Now Mom was going to have another
 one. Samantha wanted to cry.

"I will need your help," said Mom. "I hope you will keep an eye
 on the boys while I am gone. You are my big girl!"

Samantha told Mom she would help. She did not want to,
 though. The boys were too messy. They left toys everywhere. They
 were too loud, too. Samantha did not want another baby brother. Two
 were enough.

Dad took Samantha and her brothers to the hospital. They went
 to Mom's room. Mom did not feel good. She had not had the baby.

<--

-->

0:07

Caroline Story 6

Skip Mom was going to have a baby. ~~Another~~ one! That is all we
 Skip need ~~thought~~ Samantha who was ten years old. Samantha had two
 Skip little brothers. They were ~~brats~~. Now Mom was going to have ~~another~~
 Skip one. Samantha wanted to cry.

Skip "I will need your help," said Mom. "I hope you will keep an eye
 Skip on the boys while I am gone. You are my big girl!"

Skip Samantha told Mom she would help. She did not want to,
 Skip though. The boys were too messy. They left toys everywhere. They
 Skip were too loud, too. Samantha did not want another baby brother. Two
 Skip were enough.

Skip Dad took Samantha and her brothers to the hospital. They went
 Skip to Mom's room. Mom did not feel good. She had not had the baby.

<--

Skip this story

Save

-->

1:00

CBM Diagnostic Analysis

Additional CBM information to help
guide instructional planning

CBM Diagnostic Analysis

CBM Levels Used to Determine:

- Who needs comprehension instruction
- Who needs fluency development
- Who needs decoding instruction

CBM Diagnostic Analysis

For students who need decoding:

- Administer brief decoding inventory (once every 3 weeks)
- Decoding inventory is computer-managed

Decoding Cut-Off is Met → Decoding Battery

- Identify Decoding Skills for Instruction
 - 60 nonsense words
 - Ordered from easiest (via IRT)
 - Basals and ceilings (to minimize false negatives)
 - 6 words for each of 10 decoding skills
 - Mastery criterion for each skill, at each grade (to enhance stability and concurrent validity)
 - Student reads from paper
 - Teacher marks on computer, which prompts teacher re. basals/ceilings
 - Computer
 - Codes each word as right/wrong
 - Sorts words into 10 skills
 - Applies mastery criteria
 - Identifies 2 nonmastered skills at lowest point in typical curriculum⁷⁵

How Computers Help Administer Decoding Inventory

Caroline



- 1 . runk ?
- 2 . mip

- 3 . bor
- 4 . pift
- 5 . bift
- 6 . jor
- 7 . wunk ?

- 8 . lemmit
- 9 . zatting
- 10 . nasp
- 11 . sug
- 12 . yad ?

- 13 . dapping
- 14 . battum
- 15 . yod
- 16 . kur
- 17 . zote ?
- 18 . seg

- 19 . lattum
- 20 . yitter
- 21 . poat
- 22 . telben
- 23 . vike
- 24 . leat ?

- 25 . dar
- 26 . mur
- 27 . foat
- 28 . pide
- 29 . gar
- 30 . fesp ?

- 31 . dob
- 32 . femmit
- 33 . yadder
- 34 . gappel
- 35 . keal
- 36 . telbis ?

- 37 . lote
- 38 . ridnip
- 39 . vade
- 40 . tade
- 41 . togging ?
- 42 . vappel

- 43 . memzif
- 44 . kogging
- 45 . waig
- 46 . taig
- 47 . demsug ?
- 48 . nater

- 49 . fesrip
- 50 . bowunk
- 51 . viping
- 52 . wapor
- 53 . polide ?
- 54 . wabor ?

- 55 . polibe
- 56 . siler
- 57 . siper
- 58 . bater
- 59 . niping ?

Continue

Caroline



- 1. runk
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Caroline

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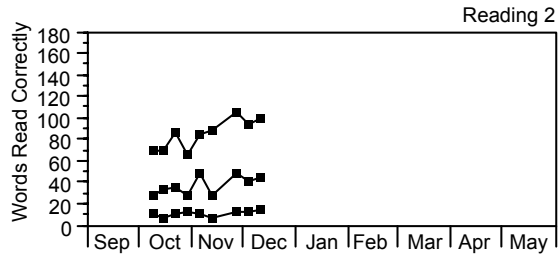
Continue

CBM Diagnostic Analysis

Provides information about which decoding skills to teach to which students

CLASS SUMMARY

Teacher: Mrs. Brown
Report through 12/13



Students to Watch

Anthony Jones
Tyler Morris
Zack Preseton
Joey Morrison
Demonte Davis

Most Improved

Hernando Rijo
Elise McDonald
Samantha Cannon
Brianna Parks
Javari Jones

Comprehension Activities

Jessica Stevens
Nathaniel Ray
Roderick Brown
Samantha Cannon

Fluency Practice

Christian Hunter
Hernando Rijo

Phonics Instruction

MAT/LAST

Anna Faver
Anthony Jones
Brianna Parks
Demonte Davis
Joey Morrison
Rena Hedden
Richard Carter
Tyler Morris
Zack Preseton

TIME

Anna Faver
Anthony Jones
Brianna Parks
Dante Sewell
Demonte Davis
Elise McDonald
Javari Jones
Joey Morrison
Rena Hedden
Richard Carter
Tiffany Francis
Tyler Morris
Zack Preseton

CAR

Dante Sewell
Elise McDonald
Javari Jones
Tiffany Francis

BEAT

HAPPY

PUBLIC

RUNNING

Part II (cont'd)

Using CBM to Develop IEPs

CBM and IEPs

- Improve special education accountability and effectiveness
- Eliminate focus on IEP short-term objectives

Mastery Measurement IEPs

Mastery of a series of short-term objectives

➤ IEPs with short-term objectives

Tests change as mastery is demonstrated

Technical problems for quantifying progress

Objectives are not equal intervals

Cannot index maintenance

No reliability/validity

Unmanageable IEPs

Mastery Measurement IEP

- Current Performance Level
 - Student performs at grade 3 on computational math.
- Goal
 - By year's end, student will increase performance by one grade level.
- Objectives
 - By 10/1, student will master additional with regrouping.
 - By 11/1, student will master multiplication facts.
 - By 12/1, student will mastery multiplying 2-digit numbers, no regrouping.
 -

CBM

Monitor performance on year-end goal

➤ IEPs with long-term goal

Each weekly test: Equivalent difficulty, assessing performance on year-end goal

Technical advantages for quantifying progress:

Scores are equal interval units (slopes)

Automatically indexes maintenance

Strong reliability/validity

Manageable IEPs

Living Document (ambitious goals and stronger learning)

CBM IEP

- Current Performance Level

Given 25 problems representing grade 4 curriculum, student writes 20 correct digits in 3 minutes.

- Goal

In 30 weeks, given 25 problems representing grade 4 curriculum, student will write 55 digits correct in 3 minutes.

- Objectives

Each week, given 25 problems representing grade 4 curriculum, student will write 1 additional correct digit in 3 minutes.

CBM IEP

- Current Performance Level

Given passages representing grade 3 material, students reads 27 words correct in 1 minute.

- Goal

Given passages representing grade 3 material, students will read 72 words correct in 1 minute

- Objective

Each week, given passages representing grade 3 material, students will read 1.5 additional words correct in 1 minute.

Setting IEPs Goals with CBM Year-End Benchmarks

- K: 40 letter sounds per min
- 1: 50 words correct per min from lists
- 2: 75 words correct per min from text
- 3: 100 words correct per min from text
- 4: 20 replacements to text per 2.5 min
- 5: 25 replacements to text per 2.5 min
- 6: 30 replacements to text per 2.5 min

Setting IEPs Goals with CBM Year-End Benchmarks

Example for First-Grader

Current Performance Level: 5 words correct per minute from lists

Goal reflects the First-Grade Benchmark: 50 words correct

Objective: $(50 \text{ words} - 5 \text{ words}) / 30 \text{ weeks} = \text{XX}$ increase per week

Setting IEPs Goals with CBM Slopes

- K: .5 letter sounds increase/week
- 1: 1.5 words correct increase/week from lists
- 2: 1.0 words correct increase/week from text
- 3: 0.75 words correct increase/week from text
- 4-6: 0.5 replacements to text increase/week
2.5 min

Setting IEP Goals with CBM Slopes

Example for First Grader

Current Performance Level: 5 words correct per
minute from lists

Goal reflects increase of 1.5 words/week: 30
weeks X 1.5 words = 45

Objective is the expected slope: 1.5 words/week

Part II (cont'd)

Using CBM for LD Identification via Response-to- Intervention

Using CBM to Identify Non-Responders for LD Identification

- Traditional assessment for identifying students with learning disabilities relies on intelligence and achievement tests
- Alternative framework is conceptualized as non-responsiveness to otherwise effective instruction
- Operationalize unresponsiveness as CBM dual-discrepancy
 - CBM level is below classmates
 - CBM slope (rate of learning) is rate below classmates

Using CBM to Identify Non-Responders for LD Identification

- All students do not ultimately achieve same degree of reading competence
- Just because reading growth is low, student doesn't automatically receive special education services
- If learning rate is similar to other classmates, student is profiting from the regular education environment

Using CBM to Identify Non-Responders for LD Identification

- If a low-performing student does not grow where other students are thriving, special intervention should be considered
- Alternative instructional methods must be tested to address mismatch between student's learning requirements and requirements in conventional instructional program

Case Study: Mrs. Wilson's Class

CLASS GRAPH

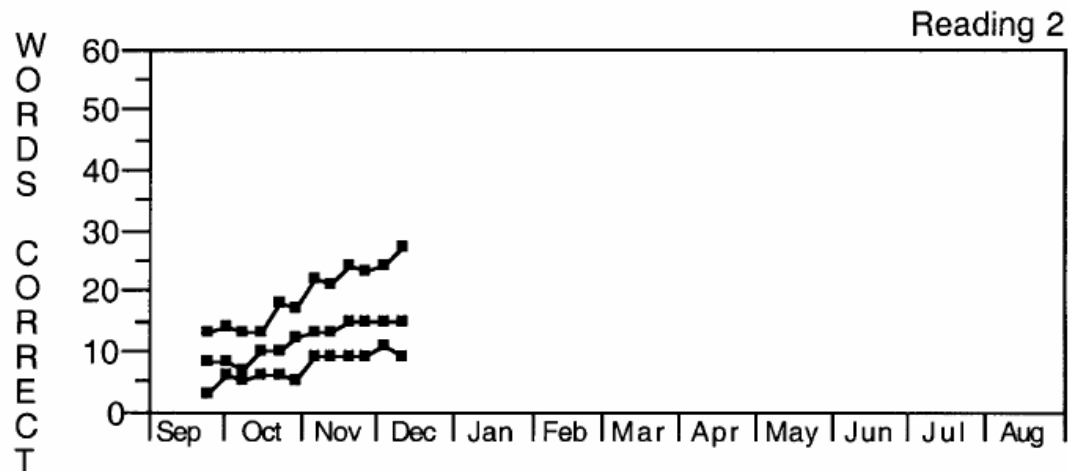
School: Eastside

Teacher: Mrs. Wilson

December 3

Class Report

Page 1



Students to Watch (lowest 25%):

Karla Copeland

Brandon Watts

Angela Phillips

Nicole Wolfe

Beau King

William Carlson

Case Study #3: Mrs. Wilson's Class

RANKED SCORES

Class Report

School: Eastside
Teacher: Mrs. Wilson
December 3

Page 2

<u>Name</u>	<u>Score</u>	<u>Percent</u>	<u>Slope</u>
Jeff Griswold	34	97%	+0.45
Shala Joiner	27	100%	+0.29
Danielle Stevens	27	96%	+1.00
Josh Brown	23	98%	+0.30
Jacob McElroy	23	96%	+0.40
Erin Watson	23	100%	+0.22
Don Larkins	22	98%	+0.39
Ellis Carpenter	20	98%	+0.34
Shane Ralston	19	97%	+0.35
Rachel Robinson	19	95%	+0.15
David Byers	18	95%	+0.27
Allison Burns	18	95%	+0.47
Lauren Picard	18	97%	+0.38
Kenneth Farmer	17	97%	+0.33
Kayla Stewart	17	94%	+0.25
Marshall McShane	16	89%	+0.27
Josh Kincaid	15	97%	+0.33
Anita Horn	15	100%	+0.23
Michael Murphy	15	88%	+0.21
Kim Lee	15	86%	+0.42
Karla Copeland	13	96%	+0.34
Brandon Watts	12	93%	+0.21
Angela Phillips	12	96%	+0.54
Nicole Wolfe	11	92%	+0.24
Beau King	6	87%	+0.22
William Carlson	3	50%	-----

Case Study: Mrs. Wilson's Class

Class Statistics

Level: Class Mean = 17.9 ($SD = 6.6$)

Discrepancy Criterion: 11.3

Slope: Class Mean = 0.34 ($SD = 0.10$)

Discrepancy Criterion: 0.24

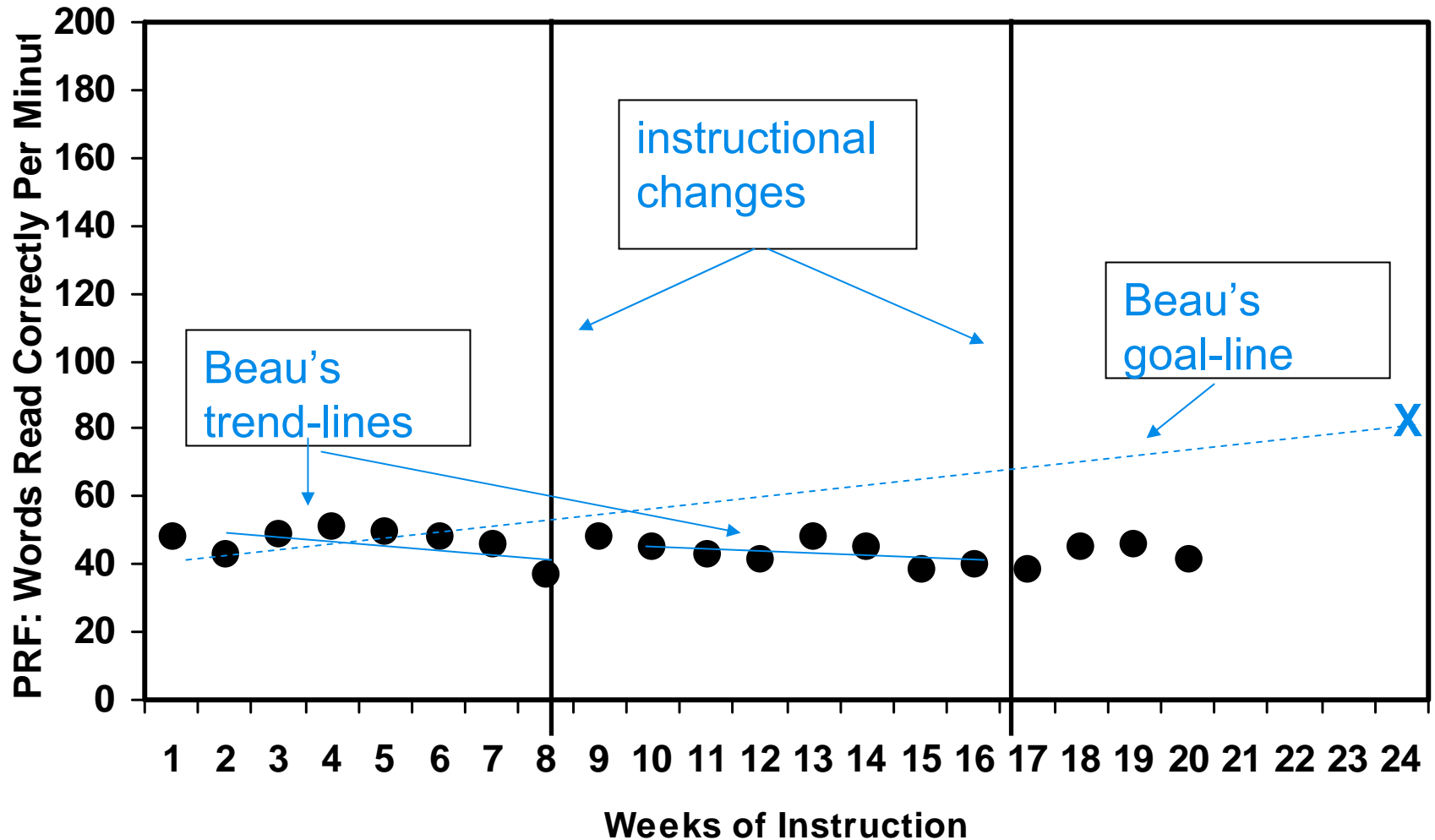
Students Identified with Dual Discrepancy:

Beau King: Level = 6; Slope = 0.22

Case Study: Beau King in Mrs. Wilson's Class

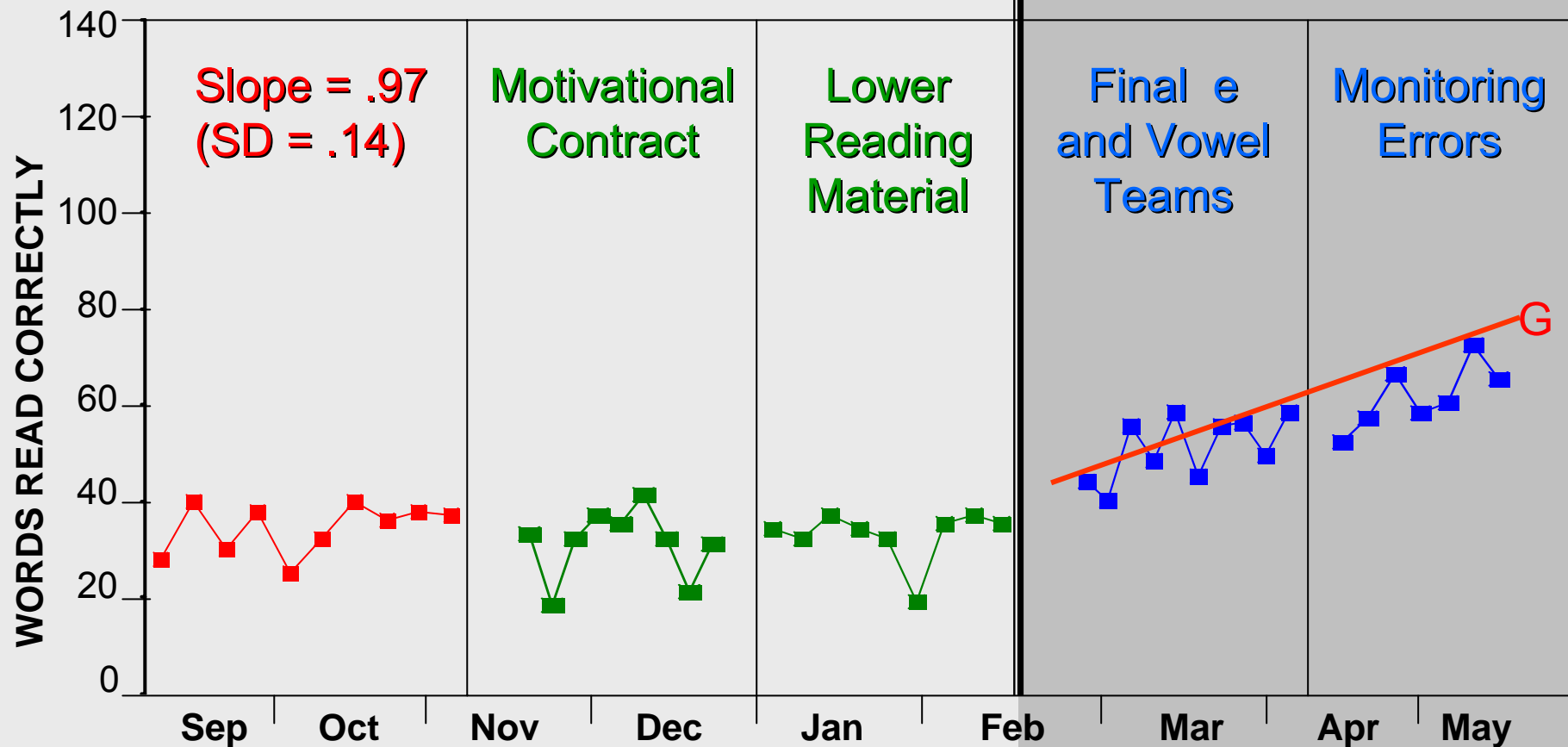
Intensify or tailor instruction in an attempt to eliminate dual discrepancy (eliminate poor instruction as an explanation for poor performance and learning)

Beau King



Regular Education

Special Education



FR2

MOTIVATIONAL CONTRACT: self monitoring completion of classroom work during reading instructional period, especially reading library books during class reading period, with negotiated reward

LOWER READING MATERIAL: identifying, with assistance of librarian, high interest library books of lower, more appropriate difficulty level

FINAL e AND VOWEL TERMS: Mnemonics instruction in decoding final e and vowel team words, with systematic planning for transfer to decoding in natural text

MONITORING ERRORS: Reading aloud into a tape recorder. Then, listening to herself read while reading silently, and identifying and correcting errors that fail to preserve the meaning of the text. Mixing this with repeated reading activities.

Fuchs Research, 8/11/2003

For CBM Materials

- Reading probes

diana.j.phillips@vanderbilt.edu

- Math probes and/or software:

“Monitoring Basic Skills Progress”

Pro-Ed: 512-451-3246

- Web math system:

www.digitallearning.com

Part III

OSEP's National Center on Progress Monitoring and What It Can Do For You

What is the National Center on Student Progress Monitoring?

- Funded by the U.S. Department of Education, Office of Special Education Programs
- National technical assistance and dissemination center
- Housed at the American Institutes for Research in conjunction with Lynn Fuchs and Doug Fuchs at Vanderbilt University

Mission

- To provide technical assistance to states and districts and disseminate information about progress monitoring practices proven to work in different academic content areas (Gr. K-5).

Academic Areas

- Pre-reading (phonological awareness and letter sound correspondence) at K
- Early reading (decoding and fluency at the word level and text level) at grades 1-3
- Continued reading development (fluency in text and comprehension) at grades 4-5

Academic Areas Continued

- Math computation at K-5
- Math concepts and applications at K-5
- Spelling at grades 1-5
- Written expression at grades 1-5

Integrated program of services will:

- Raise *knowledge and awareness* by
 - Forming partnerships and Communicating with:
 - States,
 - Districts,
 - Associations,
 - Technical assistance providers,
 - Institutions of higher education,
 - Other interested groups

Integrated program of services will:

- Provide *implementation support* for using and sustaining proven progress monitoring practices to States and districts

Integrated program of services will:

- Provide for *national dissemination* by
 - developing resources;
 - supporting on-going information sharing
 - advanced web services,
 - regional meetings,
 - a national conference.

How can you get involved in the National Center on Student Progress Monitoring?

- Visit the web site www.studentprogress.org
- Participate in trainings
- Become a demonstration site
- Sign-up for and share information on our listserv
- Participate in Web-based discussion groups

Contact the National Student Progress Monitoring Center

- Web site www.studentprogress.org
- E-mail studentprogress@air.org

