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Making Data Matter: Using CBM in RtI Decision Making Process

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Why Response to Intervention? Why now?

- Approaches to identifying students with learning problems and learning disabilities:
  - Traditional IQ/Achievement Discrepancy
  - Response-to-Intervention

Why Use RTI Instead of IQ/Achievement Discrepancy?

- Education of All Handicapped Children Act (1975) defined "underachievement" as a discrepancy between IQ and Achievement
- IQ/Achievement discrepancy has been criticized:
  - IQ test do not necessarily measure intelligence
  - Discrepancy between IQ and achievement may be inaccurate
  - Rests on a "Wait to Fail" approach

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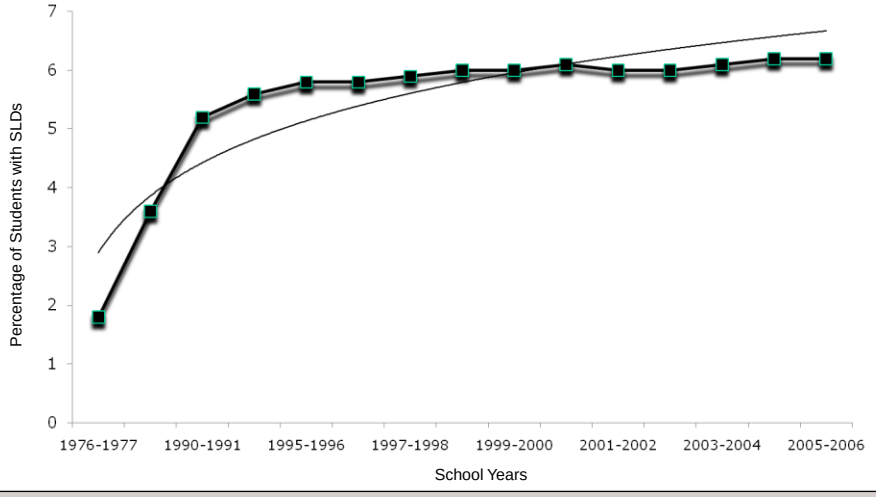
Why Use RTI Instead of IQ/Achievement Discrepancy?



Why Use RTI Instead of IQ/Achievement Discrepancy?

- RTI is an alternative framework for "underachievement": unexpected failure to benefit from validated instruction.
- RTI eliminates poor instructional quality as an explanation for learning problems.
- Students are identified as LD only after not responding to effective instruction.
  - Poor instructional quality is ruled out as an explanation for poor student performance.
- Students are provided intervention early!
  - RTI does not wait for students to fail!

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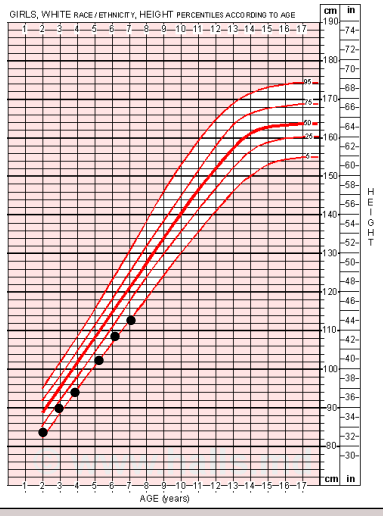
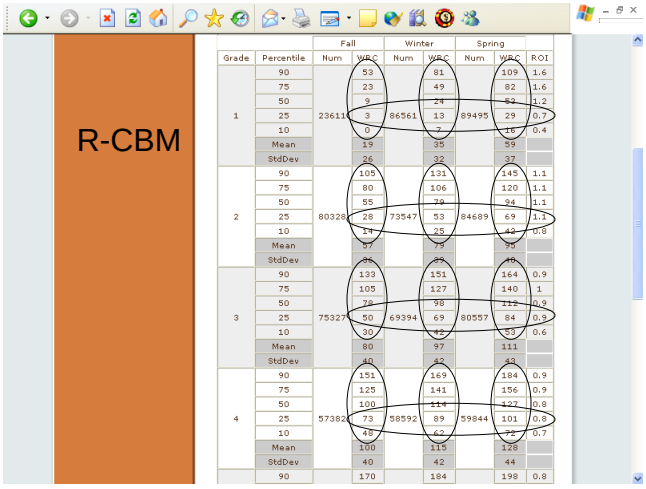
Why Use RTI Instead of IQ/Achievement Discrepancy?

Special interventions (or education) are considered only when a "dual discrepancy," in response to validated instruction is observed.



"Dual Discrepancy" refers then to how a child's progress compares to others "at one point in time" AND the "rate of growth" over time.

Why Use RTI Instead of IQ/Achievement Discrepancy?



		Fall		Winter		Spring		
Grade	Percentile	Num	WRC	Num	WRC	Num	WRC	ROI
1	90		53		81		109	1.6
	75		23		49		82	1.6
	50		9		24		52	1.2
	25	23611	3	86561	13	89495	29	0.7
	10		0		7		16	0.4
	Mean		19		35		59	
	StdDev		26		32		37	
2	90		105		131		145	1.1
	75		80		106		120	1.1
	50		55		79		94	1.1
	25	80328	28	73547	53	84689	69	1.1
	10		14		25		42	0.8
	Mean		57		75		96	
	StdDev		35		35		40	
3	90		133		151		164	0.9
	75		105		127		140	1
	50		78		98		112	0.9
	25	75327	50	69394	69	80557	84	0.9
	10		30		42		58	0.6
	Mean		80		97		111	
	StdDev		40		42		43	
4	90		151		169		184	0.9
	75		125		141		156	0.9
	50		100		114		127	0.8
	25	57382	73	58592	89	59844	101	0.8
	10		45		62		72	0.7
	Mean		100		115		128	
	StdDev		40		42		44	
	90		170		184		198	0.8

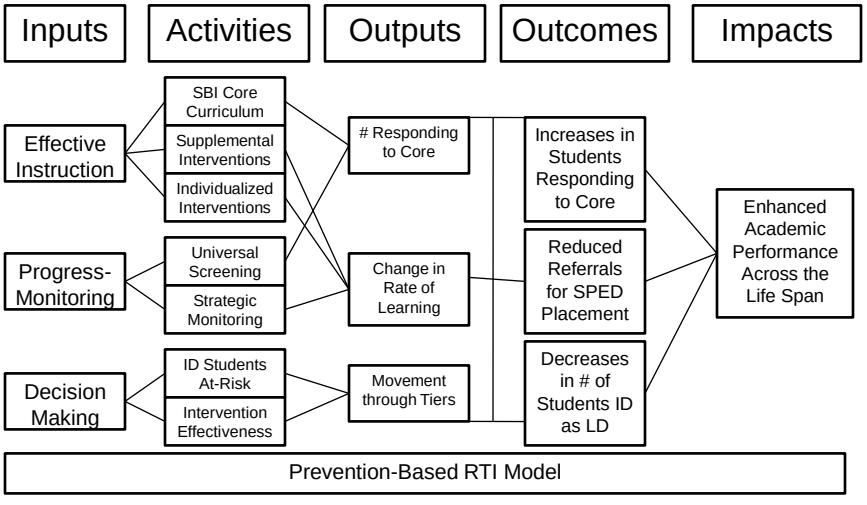
Approaches to Implementing RTI: Five Dimensions

- Number of tiers
- How at-risk students are identified
- Nature of Tier 2 preventative intervention
- How "response" is defined
- What happens to under-responders

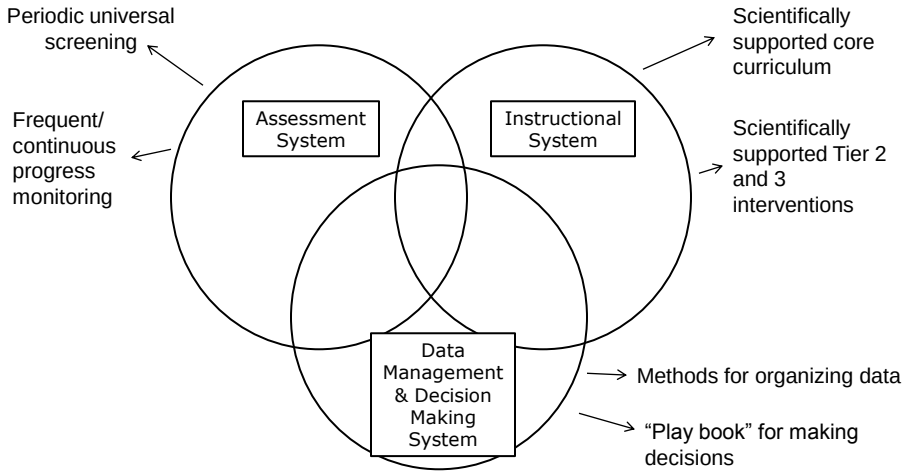
Our Approach to Implementing RTI

- Four tiers
- Designate risk status using *universal benchmarks* and *progress monitoring*
- Use commercially available *manualized* interventions in Tier 3
- Use individualized *problem-solving* in Tier 3
- Define response to intervention via *slope* (i.e., rate of growth over time) and *final status* (i.e., universal benchmark).
- Under-responders may go through a comprehensive evaluation to answer questions and distinguish LD, BD, and MR

RTI Logic Model



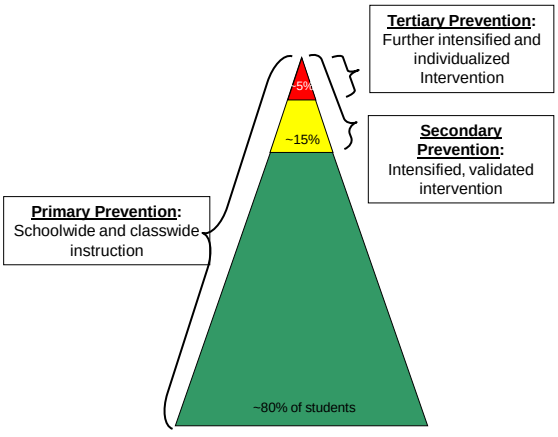
Before we even begin however .....



Once we have these things in place .....

- Multi-tier prevention system that identifies and intervenes with students who are exhibiting academic difficulties
- Public health population based methods
  - Primary prevention
  - Secondary prevention
  - Tertiary prevention

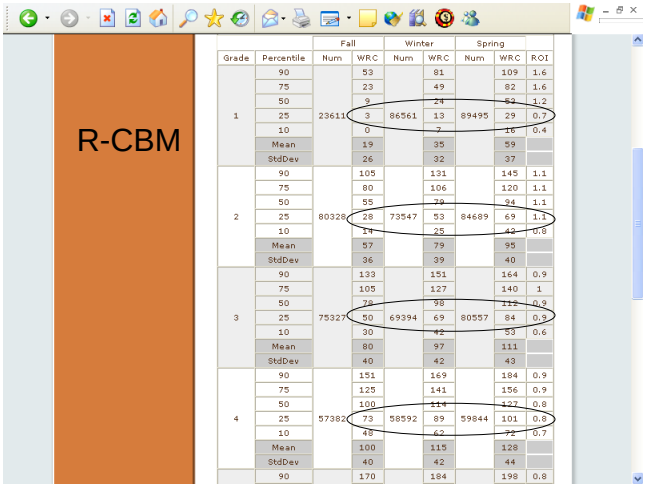
Continuum of Schoolwide Support



Basics of RTI: Tier 1 (Primary Prevention)

- All students receive a scientific validated core curriculum (instructional system)
- All students are periodically screened using universal assessment (assessment system)
- Students whose performance falls below benchmark expectations are considered to be possibly at-risk (decision making system)
  - The progress of these students is monitored for 4 to 6 weeks to:
    - Confirm risk: these under-responsive students move into Tier 2
    - Disconfirm risk: these responsive students remain in Tier 1 primary prevention

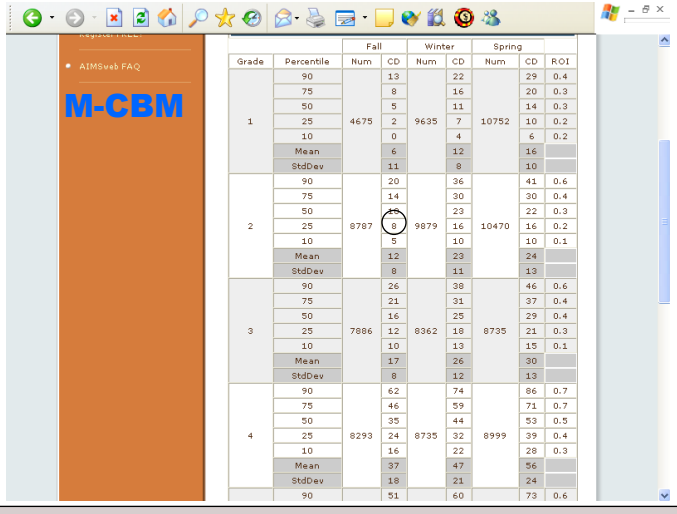
Tier 1: Determining Risk Status



Grade	Percentile	Fall Num	Fall WRC	Winter Num	Winter WRC	Spring Num	Spring WRC	Spring ROI
1	90	23611	53	86561	81	89495	109	1.6
	75		23		49		82	1.6
	50		9		24		52	1.2
	25		3		13		29	0.7
	10		0		7		16	0.4
	Mean		19		35		59	
	StdDev		26		32		37	
2	90	80328	105	73547	131	84689	145	1.1
	75		80		106		120	1.1
	50		55		79		94	1.1
	25		28		53		69	1.1
	10		14		25		42	0.8
	Mean		57		79		95	
	StdDev		36		39		40	
3	90	75327	133	69394	151	80557	164	0.9
	75		105		127		140	1
	50		78		98		112	0.9
	25		50		69		84	0.9
	10		30		42		53	0.6
	Mean		80		97		111	
	StdDev		40		42		43	
4	90	57382	151	58592	169	59844	184	0.9
	75		125		141		156	0.9
	50		100		114		127	0.8
	25		73		89		101	0.8
	10		48		62		72	0.7
	Mean		100		115		128	
	StdDev		40		42		44	
	90		170		184		198	0.8

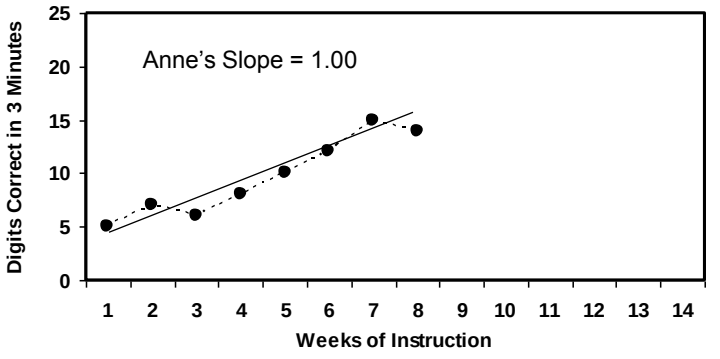
Tier 1: Determining Risk Status

On her Fall benchmark assessment Anne is only able to compute 5 digits correct.



Grade	Percentile	Fall Num	Fall CD	Winter Num	Winter CD	Spring Num	Spring CD	Spring ROI
1	90	4675	13	9635	22	10752	29	0.4
	75		8		16		20	0.3
	50		5		11		14	0.3
	25		2		7		10	0.2
	10		0		4		6	0.2
	Mean		6		12		16	
	StdDev		11		8		10	
2	90	8787	20	9879	36	10470	41	0.6
	75		14		30		30	0.4
	50		10		23		22	0.3
	25		8		16		16	0.2
	10		5		10		10	0.1
	Mean		12		23		24	
	StdDev		8		11		13	
3	90	7886	26	8362	38	8735	46	0.6
	75		21		31		37	0.4
	50		16		25		29	0.4
	25		12		18		21	0.3
	10		10		13		15	0.1
	Mean		17		26		30	
	StdDev		8		12		13	
4	90	8293	62	8735	74	8999	86	0.7
	75		46		59		71	0.7
	50		35		44		53	0.5
	25		24		32		39	0.4
	10		16		22		28	0.3
	Mean		37		47		56	
	StdDev		18		21		24	
	90		51		60		73	0.6

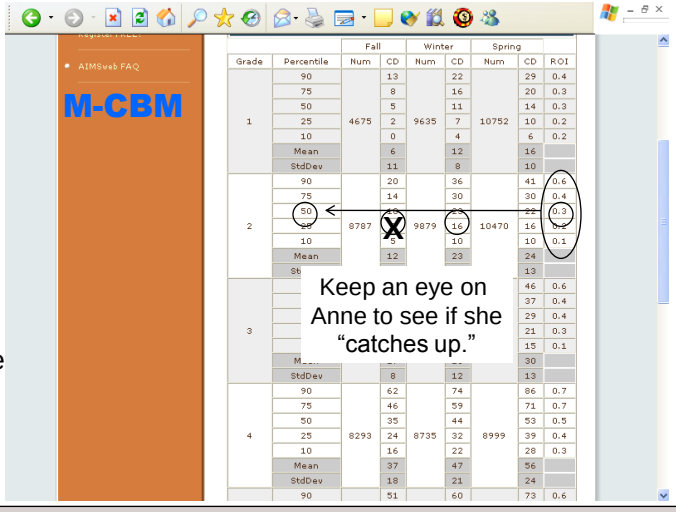
Tier 1: Determining Risk Status



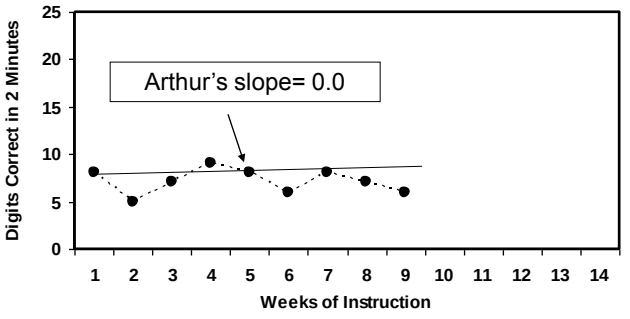
Tier 1: Determining Risk Status

Anne is improving on average 1 digit correct per week.

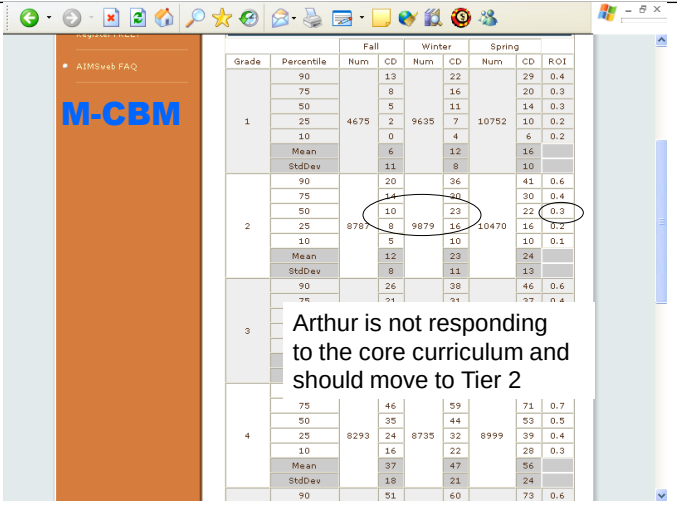
Anne can now compute 14-15 digits correct in 3 minutes.



Tier 1: Determining Risk Status



Tier 1: Determining Risk Status



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Tier 1 Primary Prevention Review

- All students receive a scientific validated core curriculum (instructional system)
- All students are periodically screened using universal assessment (assessment system)
- Suspected at-risk students remain in Tier 1 primary prevention and their progress is monitored for 4–6 weeks:
  - Students with adequate slopes (i.e., rate of growth is equal to or exceeds peer expectations) remain in Tier 1primary prevention.
  - Students with less than adequate slopes move to Tier 2 secondary prevention.

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RTI's Multiple Measurement Perspectives

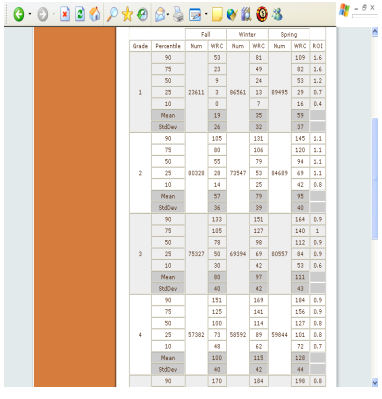
- *Screening Assessment*
  - A form of measurement where outcomes are referenced to a normative distribution or criterion of reference
  - Within SRBI, screening assessments are used to compare an individual's performance with that of a peer group or criterion value
  - Example, periodic universal screening to determine possible risk
  - Individual student data are collected at one point in time, summarized, and compared to peer group standards
- *Progress Monitoring (Formative) Assessment*
  - A form of assessment that produces scores that have meaning independent of peer comparisons
  - Within SRBI, progress monitoring or formative assessments are used to describe an individual's performance in general areas (e.g., reading, math) over time
  - Often summarized in time-series graphs

RTI's Multiple Measurement Perspectives

- *Diagnostic Assessment*
  - A form of assessment that attempts to pinpoint areas of weakness and/or concern
  - Within SRBI, diagnostic assessment is used to target specific areas of instructional focus
  - Example, a phonics assessment might be used pinpoint specific weaknesses that are specific targets for intervention
  - Specific improvement is generally indexed via mastery of the skills/objectives being taught
  - Generalized improvement is measured using progress monitoring assessments

SRBI's Multiple Measurement Perspectives

- *Screening Assessment*



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	90		151		169		184	0.9
	75		125		141		156	0.9
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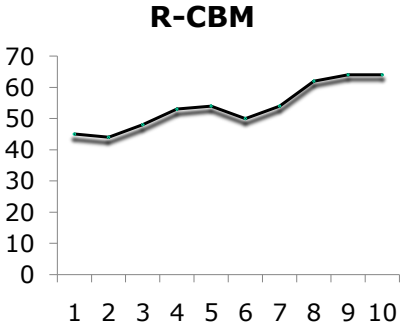
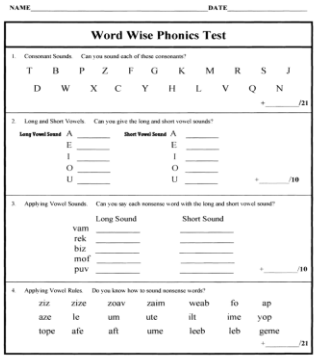
	10		48		62		72	0.7
	Mean		100		115		128	
	StdDev		40		42		44	
	90		170		184		198	0.8

- *Progress Monitoring (Formative) Assessment*



SRBI's Multiple Measurement Perspectives

- *Diagnostic Assessment*



NAME_____ DATE_____

Word Wise Phonics Test

1. Consonant Sounds. Can you sound each of these consonants?

T B P Z F G K M R S J
D W X C Y H L V Q N

+_____/21

2. Long and Short Vowels. Can you give the long and short vowel sounds?

Long Vowel Sound		Short Vowel Sound	
A	_____	A	_____
E	_____	E	_____
I	_____	I	_____
O	_____	O	_____
U	_____	U	_____

+_____/10

3. Applying Vowel Sounds. Can you say each nonsense word with the long and short vowel sound?

	Long Sound	Short Sound
vam	_____	_____
rek	_____	_____
biz	_____	_____
mof	_____	_____
puv	_____	_____

+_____/10

4. Applying Vowel Rules. Do you know how to sound nonsense words?

ziz	zize	zoav	zaim	weab	fo	ap
aze	le	um	ute	ilt	ime	yop
tope	afe	aft	ume	leeb	leb	geme

+_____/21

National Center on Response to Intervention (www.rti4success.org)

NCRTI defines **screening** assessment as: "screening that involves brief assessments that are valid, reliable, and evidenced based [that] are conducted with all students or targeted groups of students to identify students who are at risk of academic failure and, therefore, likely to need additional or alternative forms of instruction to supplement the convention general education approach."

Reliability	Validity	Classification/ Diagnostic Accuracy	Generalizability
Test-Retest	Concurrent	Sensitivity	Replication
Alternate Form	Predictive	Specificity	Resampling
Split-Half		PPP	G-theory
Internal Consistency		NPP	

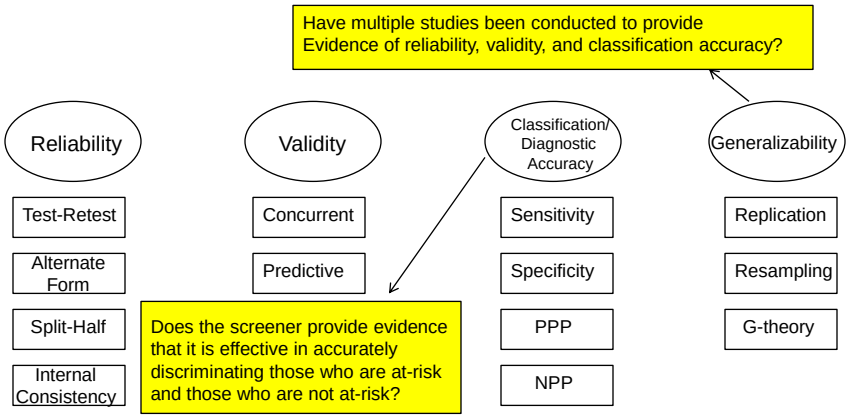
NCRTI Example

TOOLS	AREA	Classification Accuracy	Generalizability	Reliability	Validity	Disaggregated Reliability, Validity, and Classification Data for Diverse Populations	Efficiency			
							Administration Format	Administration & Scoring Time	Scoring Key	Norms/ Benchmarks
AIMSweb	Reading Curriculum Based Measurement (R-CBM)	◐	Moderate High	●	●	~~~	Individual	2 Minutes	Yes	Yes
Dynamic Indicators of Basic Early Literacy Skills (DIBELS)	Letter Naming Fluency	○	Moderate Low	●	◐	~~~	Individual	2 Minutes	Yes	Yes
	Nonsense Word Fluency	◐	Moderate Low	●	◐	○	Individual	2 Minutes	Yes	Yes
	Oral Reading Fluency	◐	Moderate High	●	◐	◐	Individual	2 Minutes	Yes	Yes
	Phoneme Segmentation Fluency	○	Moderate Low	◐	○	◐	Individual	2 Minutes	Yes	Yes
Scholastic	Phonics Inventory - Screener Version	◐	Moderate High	●	◐	~~~	Individual Group	10 Minutes	Computer Scored	No
STAR	Early Literacy	◐	Broad	●	◐	●	Individual Group	10 Minutes	Computer Scored	Yes
	Reading	◐	Moderate High	●	●	●	Individual Group	10 Minutes	Computer Scored	Yes
STEEP	Oral Reading Fluency	●	Moderate High	●	◐	~~~	Individual	1 Minute	Yes	Yes

Chart Legend: ● Convincing Evidence | ◐ Partially Convincing Evidence | ○ Unconvincing Evidence | ~~~ No Evidence Submitted

What if my screener has not been evaluated?

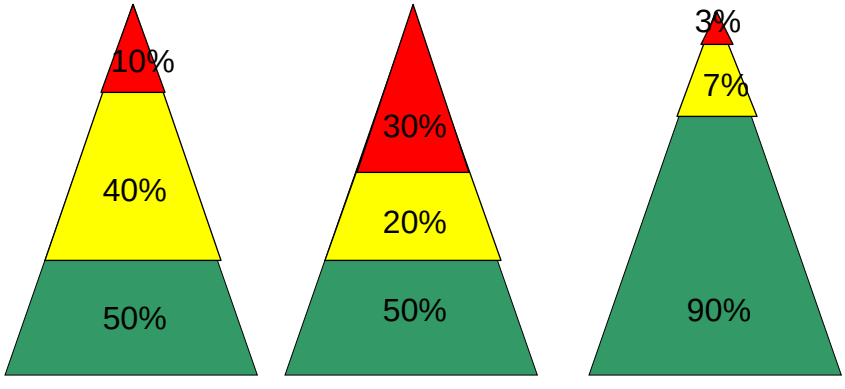
A thorough and critical self-evaluation needs to be conducted to determine if and to what extent the current screening instrument provides evidence of:



Decision Making Using RTI Screening Assessment

- Once adequate reliability, validity, and classification/diagnostic accuracy conditions are satisfied
- RTI screening measures can be used to:
  - Evaluate the overall quality of the general education program
    - Number and percentage of students who are responding to the core curriculum program
  - Determine those students for whom the general education program is insufficient for ensuring adequate academic development thus placing them at risk for further academic difficulty

Decision Making Using SRBI Screening Assessment

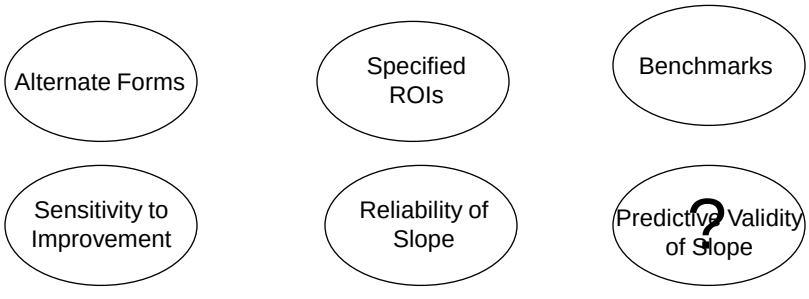


Decision Making Using RTI Screening Assessment

- If reliability, validity, and classification/diagnostic accuracy conditions have not been satisfied
- SRBI screening measures cannot and should not be used to:
  - Evaluate the overall quality of the general education program
  - Determine those student for whom the general education is insufficient for ensuring adequate academic development

National Center on Response to Intervention

NCRTI defines absolute progress monitoring as "repeated measurement of academic performance to inform instruction of individual students in general and special education [which] is conducted at least monthly to (a) estimate rates of improvement, (b) identify students who are not demonstrating adequate progress, and/or (c) compare the efficacy of different forms of instruction to design more effective, individualized, instruction."



NCRTI Example

General Outcome Measures Mastery Measures

TOOLS	AREA	Reliability of the Performance Level Score	Reliability of the Slope	Validity of the Performance Level Score	Predictive Validity of the Slope of Improvement	Alternate Forms	Sensitive to Student Improvement	End-of-Year Benchmarks	Rates of Improvement Specified	Norms Disaggregated for Diverse Populations	Disaggregated Reliability and Validity Data
AIMSweb	Math	●	●	●	●	◐	◐	●	●	No	●
	Oral Reading	●	●	●	●	●	◐	●	●	No	●
	Test of Early Literacy - Letter Naming Fluency	●	●	●	●	●	◐	●	●	No	●
	Test of Early Literacy - Letter Sound Fluency	●	●	●	●	●	◐	●	●	No	●
	Test of Early Literacy - Nonsense Word Fluency	●	●	●	●	●	◐	●	●	No	●

Chart Legend: ● Convincing Direct Evidence | ◐ Partially Convincing Evidence or Convincing Indirect Evidence | ○ Unconvincing Evidence | ..... No Evidence Submitted

Decision Making Using RTI Progress Monitoring Formative Assessment

- Once adequate reliability, validity, and sensitivity, specified rates of improvement/growth, and benchmarks are demonstrated
- RTI formative progress monitoring can be used to:
  - Summarize a student's rate of growth and response to intervention over time, and
  - Determine whether or not the intervention has resulted in sufficient response

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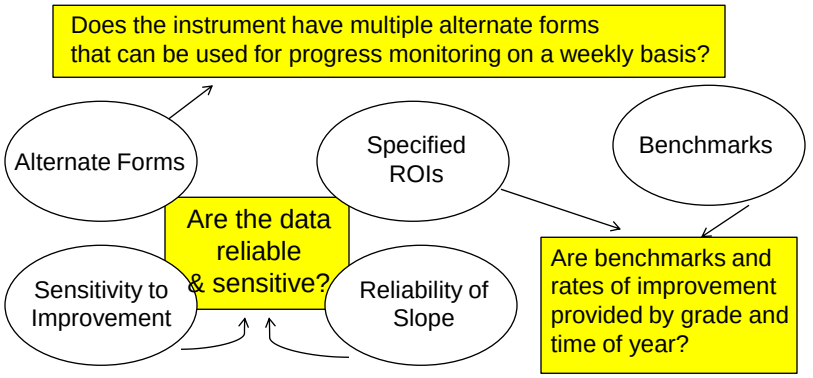
What if My Formative Progress Monitoring Instrument Has Not Been Evaluated?

A thorough and critical self-evaluation needs to be conducted to determine if and to what extent the current formative progress monitoring instrument provides evidence of:



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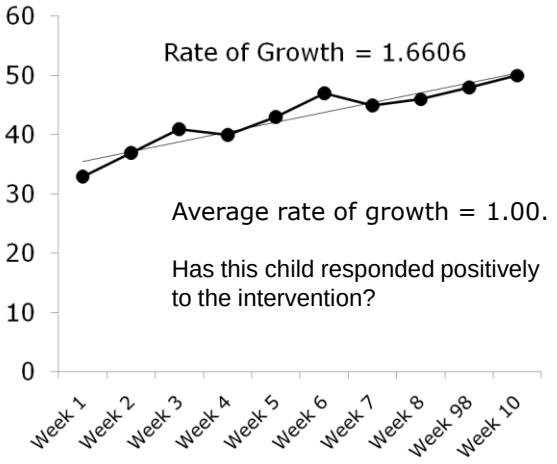
Decision Making Using RTI Progress Monitoring Formative Assessment

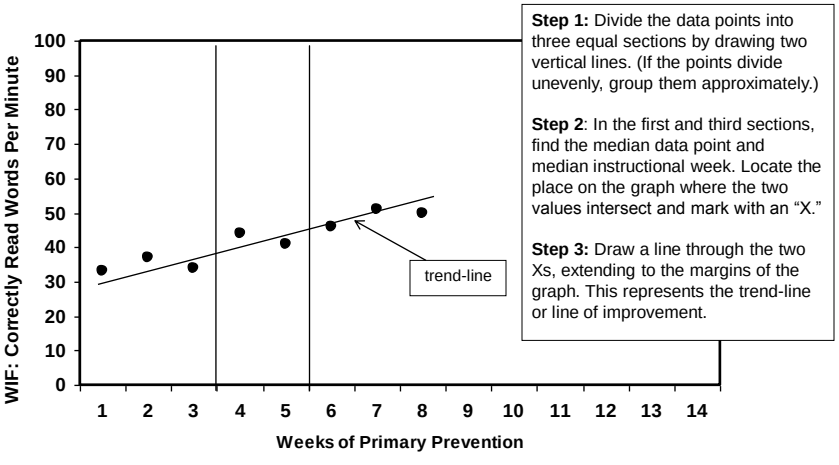
- If reliability, validity, and sensitivity, specified rates of improvement/growth, and benchmarks are demonstrated
- SRBI formative progress monitoring measures cannot and should not be used to:
  - Summarize a student's rate of growth and response to intervention over time, and
  - Determine whether or not the intervention has resulted in sufficient response

Decision Making Using RTI Progress Monitoring Formative Assessment

- If your instrument has published rate of growth information
  - Find the average rate of growth expectation that corresponds to grade level of the progress monitoring material that you are using
  - Set a goal that exceed this rate of growth by a factor of 1.5



Summarizing Ongoing Progress Monitoring Data

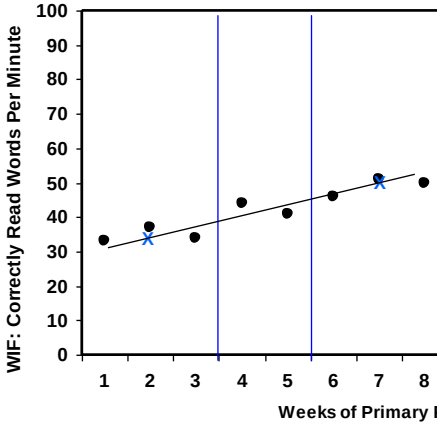


Step 1: Divide the data points into three equal sections by drawing two vertical lines. (If the points divide unevenly, group them approximately.)

Step 2: In the first and third sections, find the median data point and median instructional week. Locate the place on the graph where the two values intersect and mark with an "X."

Step 3: Draw a line through the two Xs, extending to the margins of the graph. This represents the trend-line or line of improvement.

Calculating a Trend Line



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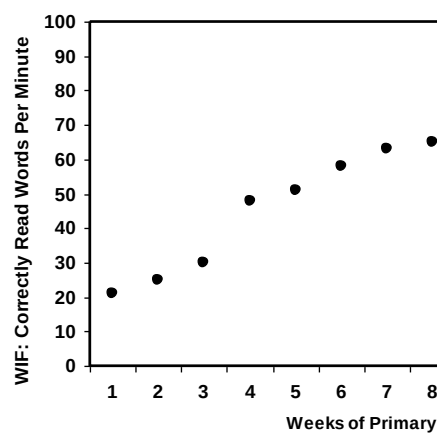
Practice Calculating a Trend Line



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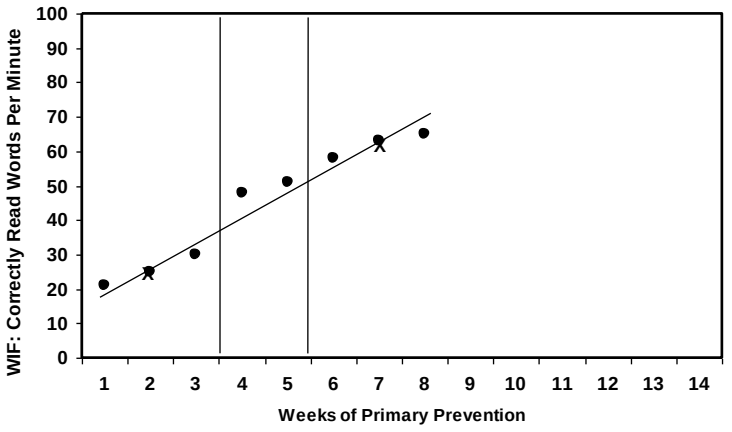
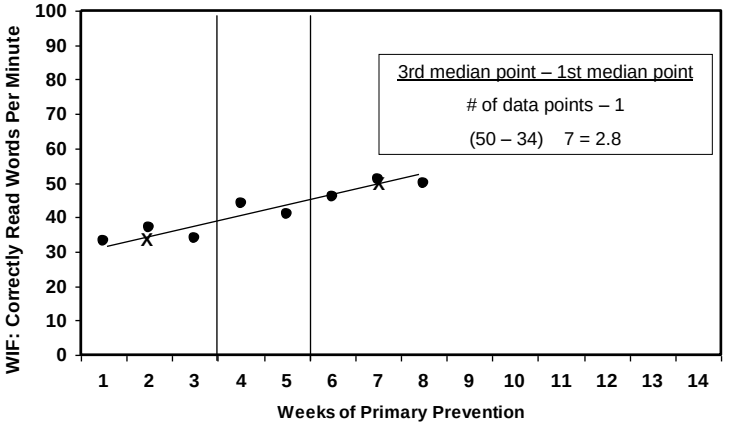
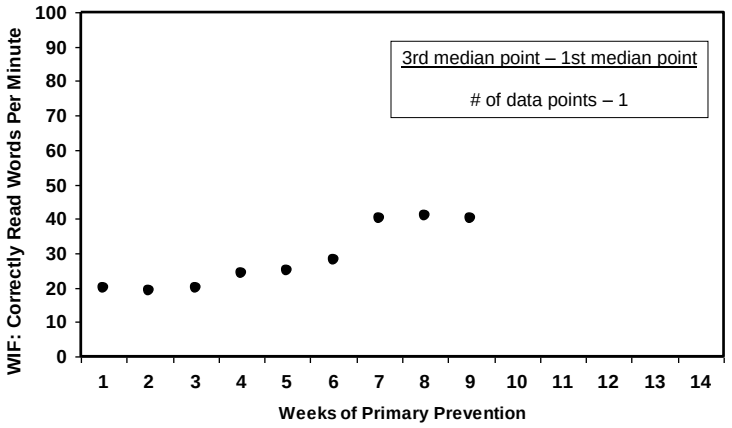
Practice Calculating a Trend Line



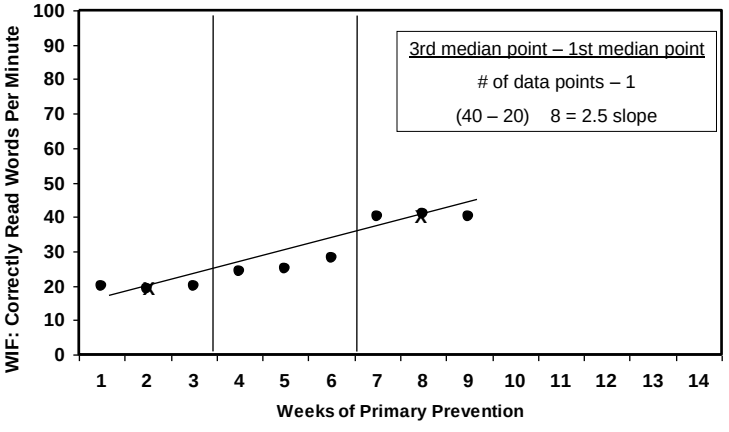
Turning the Trend Line into a Slope



Practice Calculating a Slope



Practice Calculating a Slope



Forms of Progress Monitoring

In ongoing progress monitoring we summarize an individual's scores over time.

The resultant slope tells us how much on average a student grew from one week to the next.

How do we get the progress monitoring data?

What We Use

Curriculum-Based Measurement

One Form of Progress Monitoring

Reading CBM

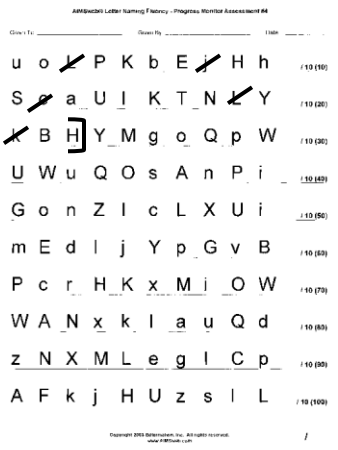
Grade	CBM Measure
Kindergarten	Letter Naming Fluency Letter Sound Fluency Phoneme Segmentation Fluency
Grade 1	Phoneme Segmentation Fluency Nonsense Word Fluency Passage Reading Fluency (Maze)
Grade 2	Passage Reading Fluency (Maze)
Grade 3	Passage Reading Fluency Maze
Grade 4	Passage Reading Fluency Maze
Grade 5	Passage Reading Fluency Maze
Grade 6	Passage Reading Fluency Maze

Letter Naming Fluency

- Student says the names of letters for 1 minute.
- Score is the number of correct letters named.

Letter Naming Fluency

- Abby's LNF:
  - Attempted 23 letters in 1 minute.
  - Misidentified 5 letters.
  - 23-5=18
  - Abby's LNF score is 18.



Letter Sound Fluency

- Student says the sounds of letters for 1 minute.
- Score is the number of correct sounds.

Letter Sound Fluency

- Drew's LSF:
  - Attempted 38 letter sounds in 1 minute.
  - Mispronounced 3 letter sounds.
  - 38-3=35
  - Drew's LSF score is 35.

AIMSweb® Letter Sound Fluency – Progress Monitor Assessment #4

Given To _____ Given By _____ Date ___

a	y	m	p	n	e	v	b	f	c	/ 10 (10)
z	r	u	g	c	~~b~~	e	l	k	p	/ 10 (20)
g	k	j	y	n	d	p	t	h	~~r~~	/ 10 (30)
~~j~~	u	b	g	m	a	t	e	z	f	/ 10 (40)
z	b	i	u	n	e	g	m	f	r	/ 10 (50)
k	s	z	y	d	o	g	p	u	h	/ 10 (60)
w	i	p	j	o	g	n	b	a	k	/ 10 (70)
m	j	c	r	g	i	h	v	a	p	/ 10 (80)
k	u	v	o	a	c	t	h	n	j	/ 10 (90)
u	s	t	g	j	e	n	v	l	o	/ 10 (100)

/ _

Phoneme Segmentation Fluency

- Tamika's PSF:
  - Was presented 60 possible phonemes in 1 minute.
  - Failed to produce 7 phonemes.
  - 60-7=53
  - Tamika's PSF score is 53.

AIMSweb® Phoneme Segmentation Fluency – Progress Monitor Assessment #4

Given To _____ Given By _____ Date ___

winds	/w/ /i/ /n/ ~~/d/~~ /z/	few	~~/f/~~ ~~/y/~~ /oo/	/ 8 (8)
swung	/s/ /w/ ~~/a/~~ /ng/	drive	/d/ /r/ /ie/ ~~/v/~~	/ 8 (16)
stole	/s/ /t/ /oa/ /l/	asked	/a/ /s/ /k/ ~~/t/~~	/ 8 (24)
same	/s/ /ai/ /m/	shape	/sh/ /ai/ /p/	/ 6 (30)
it	/i/ /t/	fair	/f/ /ai/ /r/	/ 5 (35)
nap	/n/ /a/ /p/	you	/y/ /oo/	/ 6 (40)
sort	/s/ /or/ /t/	picked	/p/ /i/ /k/ ~~/t/~~	/ 7 (47)
chest	/ch/ /e/ ~~/s/~~ /t/	paid	/p/ /ai/ /d/	/ 7 (54)
bit	/b/ /i/ /t/	hug	/h/ /u/ /g/	/ 6 (60)
match	/m/ /a/ /ch/	dog	/d/ /o/ /g/	/ 6 (66)
sign	/s/ /ie/ /n/	can	/k/ /a/ /n/	/ 6 (72)
done	/d/ /u/ /n/	be	/b/ /ea/	/ 5 (77)
parks	/p/ /ar/ /k/ /s/	breathe	/b/ /r/ /ea/ /th/	/ 8 (85)
tracks	/t/ /r/ /a/ /k/ /s/	oil	/oi/ /l/	/ 7 (92)
that	/th/ /a/ /t/	store	/s/ /t/ /or/	/ 6 (98)

_ / _

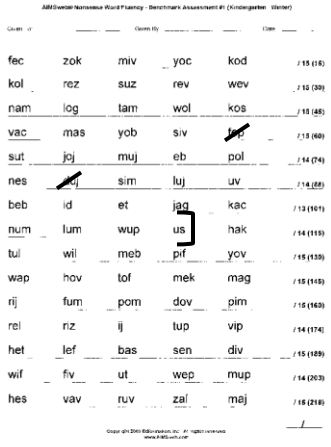
Nonsense Word Fluency

- Student reads nonsense words for 1 minute.
- Score is the correct number of letter-sounds that are produced.

fec	zok	miv	yoc	kod
kol	rez	suz	rev	wev
nam	log	tam	wol	kos
vac	mas	yob	siv	fep
sut	joj	muj	eb	pol
nes	duj	sim	luj	uv
beb	id	et	jag	kac
num	lum	wup	us	hak
tul	wil	meb	pif	yov
wap	hov	tof	mek	mag
rij	fum	pom	dov	pim
rel	riz	ij	tup	vip
het	lef	bas	sen	div
wif	fiv	ut	wep	mup
hes	vav	ruv	zal	maj

Nonsense Word Fluency

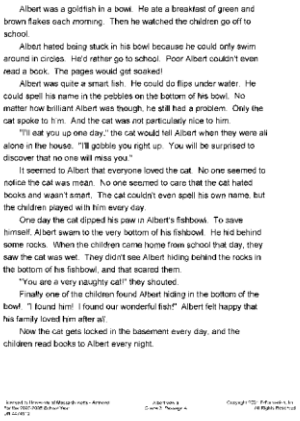
- Johnnie's NWF:
  - Attempted 112 letter-sounds in 1 minute.
  - Mispronounced 2 letter-sounds.
  - 112-2=100
  - Johnnie's LSF score is 35.



fec	zok	miv	yoc	kod	/ 15 (15)
kol	rez	suz	rev	wev	/ 15 (30)
nam	log	tam	wol	kos	/ 15 (45)
vac	mas	yob	siv	~~fep~~	/ 15 (60)
sut	joj	muj	eb	pol	/ 14 (74)
~~nes~~	duj	sim	luj	uv	/ 14 (88)
beb	id	et	jag	kac	/ 13 (101)
num	lum	wup	us	hak	/ 14 (115)
tul	wil	meb	pif	yov	/ 15 (130)
wap	hov	tof	mek	mag	/ 15 (145)
rij	fum	pom	dov	pim	/ 15 (160)
rel	riz	ij	tup	vip	/ 14 (174)
het	lef	bas	sen	div	/ 15 (189)
wif	fiv	ut	wep	mup	/ 14 (203)
hes	vav	ruv	zal	maj	/ 15 (218)
					/

Passage Reading Fluency

- Student reads as many words as they can aloud in 1 minute.
- Score is the number of words read correctly.



Albert was a goldfish in a bowl. He ate a breakfast of green and brown flakes each morning. Then he watched the children go off to school.

Albert hated being stuck in his bowl because he could only swim around in circles. He'd rather go to school. Poor Albert couldn't even read a book. The pages would get soaked!

Albert was quite a smart fish. He could do flips under water. He could spell his name in the pebbles on the bottom of his bowl. No matter how brilliant Albert was though, he still had a problem. Only the cat spoke to him. And the cat was *not* particularly nice to him.

"I'll eat you up one day," the cat would tell Albert when they were all alone in the house. "I'll gobble you right up. You will be surprised to discover that no one will miss you."

It seemed to Albert that everyone loved the cat. No one seemed to notice the cat was mean. No one seemed to care that the cat hated books and wasn't smart. The cat couldn't even spell his own name, but the children played with him every day.

One day the cat dipped his paw in Albert's fishbowl. To save himself, Albert swam to the very bottom of his fishbowl. He hid behind some rocks. When the children came home from school that day, they saw the cat was wet. They didn't see Albert hiding behind the rocks in the bottom of his fishbowl, and that scared them.

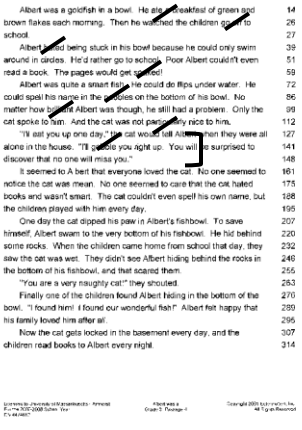
"You are a very naughty cat!" they shouted.

Finally one of the children found Albert hiding in the bottom of the bowl. "I found him! I found our wonderful fish!" Albert felt happy that his family loved him after all.

Now the cat gets locked in the basement every day, and the children read books to Albert every night.

Passage Reading Fluency

- Toni's R-CBM:
  - Attempted 136 words in 1 minute.
  - Made 8 reading errors.
  - 136-8=128.
  - Toni's R-CBM score is 128.



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brown flakes each morning. Then he watched the children go off to 26
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Albert hated being stuck in his bowl because he could only swim 39
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Now the cat gets locked in the basement every day, and the 307
children read books to Albert every night. 314

Maze

- Student circles correct words for 3 minutes.
- Score is the number of correct replacements.

"Where are you going, Dad?" I ask excitedly. I wonder if something interesting is **(followed, happening, shuffling)**.

"I'm going to search for some **(deer, stop, pink)**. Would you like to come along? **(Who, Want, We'll)** take a trek in the woods." **(replies, eating, ground)** Dad.

"I love going for walks. **(Her, Live, Wait)** for me!" I reply.

"I want **(for, to, and)** go too!" yells Mike, my younger **(brother, clicks, headed)**. "Please help me tie my shoes!"

"**(We'll, Deer, Don't)** worry, Mike. I will help you. **(His, Dad, If)** always waits for both of us," **(Me, I, We)** explain calmly.

We live in the **(country, brother, wouldn't)** with huge trees behind our house. **(During, wonder, always)** the different seasons of the year, **(my, so, us)** brother and I like to walk **(along, during, before)** the **paths** that go through the **(search, some, trees)**. Dad usually goes with us and **(teaches, myself, stomps)** us things about nature.

It's a **(her, love, fall)** afternoon and our shuffling feet make **(turns, quite, away)** a racket through the dry leaves. **(Dad, Deer, Puts)** **tells** us to try to be **(quiet, away, eating)**. He doesn't want us to scare **(you, the, an)** deer away.

"Shhhh!" says Dad. "Stop **(and, puts, or)** listen!"

My little brother and I **(both, snort, stop)**, but we don't hear anything.

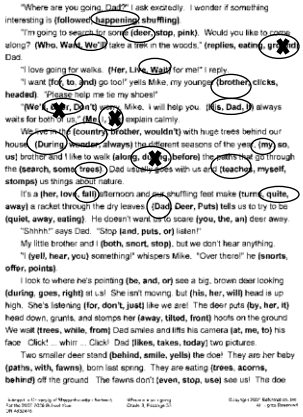
"I **(yell, hear, you)** something!" whispers Mike. "Over there!" he **(snorts, offer, points)**.

I look to where he's pointing **(be, and, or)** see a big, brown deer looking **(during, goes, right)** at us! She isn't moving, but **(his, her, will)** head is up high. She's listening **(for, don't, just)** like we are! The deer puts **(by, her, it)** head down, grunts, and stomps her **(away, tilted, front)** hoofs on the ground. We wait **(trees, while, from)** Dad smiles and lifts his camera **(at, me, to)** his face. Click! ... whirr ... Click! Dad **(likes, takes, today)** two pictures.

Two smaller deer stand **(behind, smile, yells)** the doe! They are her baby **(paths, with, fawns)**, born last spring. They are eating **(trees, acorns, behind)** off the ground. The fawns don't **(even, stop, use)** see us! The doe

Maze

- Juan's Maze Fluency:
  - Circled 15 correct answers.
  - Circled 4 incorrect answers.
  - Juan's maze score is 15.



Sentence Verification Technique

- Student reads passage silently.
- When finished turns paper over & answers questions regarding what was just read.
- Score is the number of correct sentences endorsed.

Read the story below slowly and carefully.

A GOOD MEAL

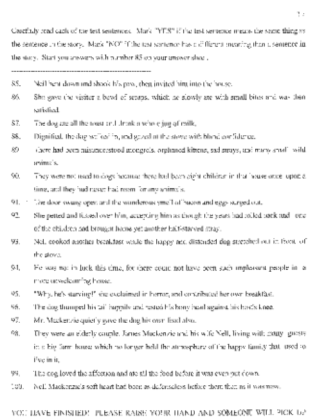
He was in luck this time, for there could not have been pleasanter people or a more welcoming house for miles around. They were an elderly couple, James Mackenzie and his wife Nell, living alone now in a big farmhouse which still held the atmosphere of a large, cheerful family living and laughing and growing up in it. They were well used to dogs, for there had been eight children in that house once upon a time, and a consequent succession of pets who had always started their adopted life out in the yard but invariably found their way into the household on the wildest pretexts of the children. There had been misunderstood mongrels, orphaned kittens, sad strays, and many small wild animals. Nell Mackenzie's soft heart had been as defenseless before them then as it was now.

She gave the visitor a bowl of scraps, which he bolted down in ravenous gulps, looking up then for more. "Why, he's starving!" she exclaimed in horror, and contributed her own breakfast. She petted and fussed over him, accepting him as though the years had rolled back and one of the children had brought home yet another half-starved stray. He basked in the affection, and emptied the bowl almost before it reached the ground. Without a word Mr. Mackenzie passed over his plate as well. Soon the toast was gone too, along with a jug of milk. At last, distended and happy, the old dog stretched out by the warmth of the stove while Nell cooked another breakfast.

WHEN YOU HAVE FINISHED, TURN THE PAGE AND ANSWER THE TEST QUESTIONS. DO NOT TURN BACK TO THE STORY

Sentence Verification Technique

- Olivia's SVT:
  - Endorsed 12 correct answers.
  - Endorsed 4 incorrect answers.
  - Olivia's score is 12.



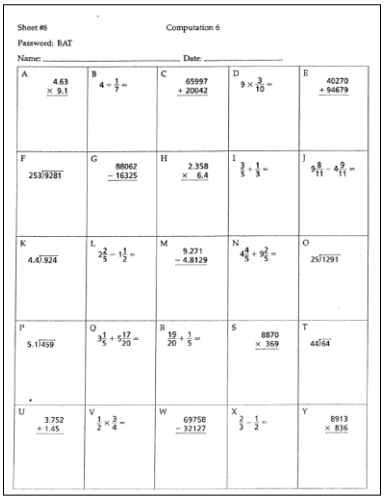
Carefully read each of the test sentences. Mark "YES" if the test sentence means the same thing as the sentence in the story. Mark "NO" if the test sentence has a different meaning than a sentence in the story. Start your answers with number 85 on your answer sheet.

85. Nell bent down and shook his paw, then invited him into the house.
86. She gave the visitor a bowl of scraps, which he slowly ate with small bites and was then satisfied.
87. The dog ate all the toast and drank a whole jug of milk.
88. Dignified, the dog walked in, and gazed at the stove with bland confidence.
89. There had been misunderstood mongrels, orphaned kittens, sad strays, and many small wild animals.
90. They were not used to dogs because there had been eight children in that house once upon a time, and they had never had room for any animals.
91. The door swung open and the wonderous smell of bacon and eggs surged out.
92. She petted and fussed over him, accepting him as though the years had rolled back and one of the children had brought home yet another half-starved stray.
93. Nell cooked another breakfast while the happy and distended dog stretched out in front of the stove.
94. He was not in luck this time, for there could not have been such unpleasant people in a more unwelcoming house.
95. "Why, he's starving!" she exclaimed in horror, and contributed her own breakfast.
96. The dog thumped his tail happily and rested his bony head against his host's knee.
97. Mr. Mackenzie quietly gave the dog his own food also.
98. They were an elderly couple, James Mackenzie and his wife Nell, living with many guests in a big farm house which no longer held the atmosphere of the happy family that used to live in it.
99. The dog loved the affection and ate all the food before it was even put down.
100. Nell Mackenzie's soft heart had been as defenseless before them then as it was now.

YOU HAVE FINISHED! PLEASE RAISE YOUR HAND AND SOMEONE WILL PICK UP

Mathematics Computations

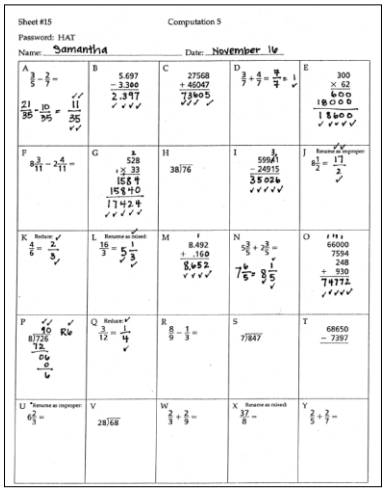
- Student answers math computations problems for a set amount of time.
- Score is the number of digits answered correctly.


Sheet #8 Computation 6
Password: BAT
Name: _____ Date: _____

A $\frac{4.63}{\times\ 9.1}$	B $4 \div \frac{1}{7} =$	C $\frac{65997}{+\ 20042}$	D $9 \times \frac{3}{10} =$	E $\frac{40270}{+\ 94679}$
F $253\overline{)9281}$	G $\frac{88062}{-\ 16325}$	H $\frac{2.358}{\times\ 6.4}$	I $\frac{3}{5} + \frac{1}{3} =$	J $9\frac{8}{11} - 4\frac{9}{11} =$
K $4.4\overline{)7.924}$	L $2\frac{2}{5} - 1\frac{1}{2} =$	M $\frac{9.271}{-\ 4.8129}$	N $4\frac{4}{5} + 9\frac{2}{5} =$	O $25\overline{)1291}$
P $5.1\overline{)459}$	Q $3\frac{1}{5} \div 5\frac{17}{20} =$	R $\frac{19}{20} + \frac{1}{5} =$	S $\frac{8870}{\times\ 369}$	T $44\overline{)64}$
U $\frac{3.752}{+\ 1.45}$	V $\frac{1}{2} \times \frac{3}{4} =$	W $\frac{69758}{-\ 32127}$	X $\frac{2}{3} - \frac{1}{2} =$	Y $\frac{8913}{\times\ 836}$

Mathematics Computations

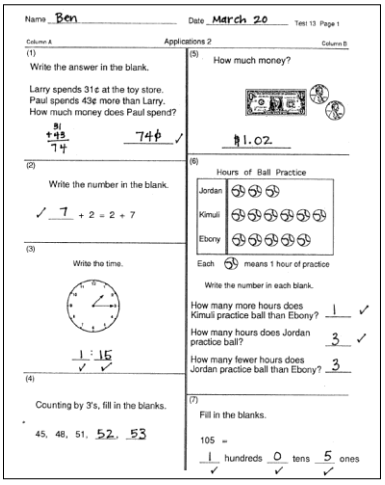
- Samantha's M-CBM:
  - Samantha answered 53 digits in the answer correct in 3 minutes.
  - Samantha's M-CBM score is 53.
  - OR
  - Samantha answered 84 total digits correct in 3 minutes.
  - Samantha's M-CBM score is 84.


Sheet #15 Computation 5
Password: HAT
Name: Samantha Date: November 14

A $\frac{1}{5} - \frac{2}{7} =$ $\frac{21}{35} - \frac{10}{35} = \frac{11}{35}$	B $\frac{5.697}{-\ 3.300}$ 2.397	C $\frac{27568}{+\ 46047}$ 73605	D $\frac{3}{7} + \frac{4}{7} = \frac{7}{7} = 1$	E $\frac{300}{\times\ 62}$ 600 18000 18600
F $8\frac{3}{11} - 2\frac{4}{11} =$	G $\frac{528}{\times\ 33}$ 1584 15840 17424	H $38\overline{)76}$	I $\frac{59941}{-\ 24915}$ 35026	J Rename as improper: $8\frac{1}{2} = \frac{17}{2}$
K Reduce: $\frac{4}{6} = \frac{2}{3}$	L Rename as mixed: $\frac{16}{3} = 5\frac{1}{3}$	M $\frac{8.492}{+\ .160}$ 8652	N $5\frac{3}{5} + 2\frac{2}{5} =$ $7\frac{5}{5} = 8\frac{1}{5}$	O 66000 7594 248 $+\ 930$ 74772
P $\frac{10}{8\overline{)726}}$ R10 $\frac{72}{06}$ $\frac{-6}{6}$	Q Reduce: $\frac{3}{12} = \frac{1}{4}$	R $\frac{8}{9} - \frac{1}{3} =$	S $7\overline{)847}$	T $\frac{68650}{-\ 7397}$
U Rename as improper: $6\frac{2}{3} =$	V $28\overline{)168}$	W $\frac{2}{3} + \frac{2}{9} =$	X Rename as mixed: $\frac{37}{8} =$	Y $\frac{2}{5} + \frac{2}{7} =$

Mathematics Concepts & Applications

- Ben's Concepts & Applications test:
  - Ben answered 21 blanks correctly in 8 minutes.
  - Ben's M-CBM score is 21.



Name Ben Date March 20 Test 13 Page 1

Column A — Applications 2 — Column B

(1) Write the answer in the blank.

Larry spends 31¢ at the toy store. Paul spends 43¢ more than Larry. How much money does Paul spend?

81 / +43 / 74 — 74¢ ✓

(2) Write the number in the blank.

✓ 7 + 2 = 2 + 7

(3) Write the time.

1 : 15 ✓ ✓

(4) Counting by 3's, fill in the blanks.

45, 48, 51, 52, 53

(5) How much money?

$1.02

(6) Hours of Ball Practice

Jordan	3
Kimuli	4
Ebony	5

Each = means 1 hour of practice

Write the number in each blank.

How many more hours does Kimuli practice ball than Ebony? 1 ✓

How many hours does Jordan practice ball? 3 ✓

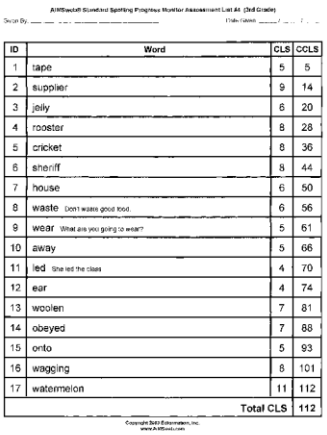
How many fewer hours does Jordan practice ball than Ebony? 3

(7) Fill in the blanks.

105 = 1 hundreds 0 tens 5 ones ✓ ✓ ✓

Spelling

- Student is dictated a list spelling words with a new word presented every 7 or 10 seconds for 2 minutes.
- Score is the number of letter-sequences correct.



AIMSweb® Standard Spelling Progress Monitor Assessment List A4 (3rd Grade)

Scored By _____ Date Given _____

ID	Word	CLS	CCLS
1	tape	5	5
2	supplier	9	14
3	jelly	6	20
4	rooster	8	28
5	cricket	8	36
6	sheriff	8	44
7	house	6	50
8	waste Don't waste good food.	6	56
9	wear What are you going to wear?	5	61
10	away	5	66
11	led She led the class	4	70
12	ear	4	74
13	woolen	7	81
14	obeyed	7	88
15	onto	5	93
16	wagging	8	101
17	watermelon	11	112
		Total CLS	112

Spelling

- Alex's S-CBM test:
  - Alex produced 70 correct letter-sequences (CLS) in 2 minutes.
  - Alex's S-CBM score is 70.

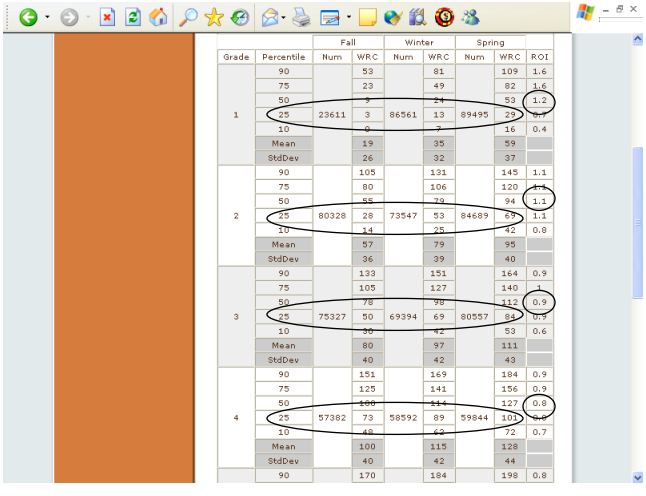
Written Expression

- Student is provided a story starter.
- Allowed 1 minute to think about what they are going to write and 3 minutes to write.
- Scored for total words written, % words spelled correctly, word sequences correct.
- Alex's WE-CBM test:
  - Alex produced 29 TWW.
  - Alex produced 90% CS.
  - Alex produced 29 WSC.

Basics of RTI: Tier 2 (Secondary Prevention)

- Use the same goal setting and decision making standards as in Tier 1
- In addition to the core curriculum, students in Tier 2 receive supplemental manualized intervention for 10 to 15 weeks
- At the end of Tier 2 intervention, student benchmark and growth status is evaluated
  - Students at or above benchmark return to Tier 1
  - Students below benchmark, but making adequate (or exceeding) growth progress may be maintained in Tier 2
  - Students below benchmark and continuing to demonstrate poor growth progress (i.e., under-responding) are moved to Tier 3

Basics of RTI: Tier 2



Grade	Percentile	Fall Num	Fall WRC	Winter Num	Winter WRC	Spring Num	Spring WRC	ROI
1	90		53		81		109	1.6
	75		23		49		82	1.6
	50		3		24		53	1.2
	25	23611	3	86561	13	89495	29	0.7
	10		0		7		16	0.4
	Mean		19		35		59	
	StdDev		26		32		37	
2	90		105		131		145	1.1
	75		80		106		120	1.1
	50		55		79		94	1.1
	25	80328	28	73547	53	84689	69	1.1
	10		14		25		42	0.8
	Mean		57		79		95	
	StdDev		36		39		40	
3	90		133		151		164	0.9
	75		105		127		140	1
	50		78		98		112	0.9
	25	75327	50	69394	69	80557	84	0.9
	10		30		42		53	0.6
	Mean		80		97		111	
	StdDev		40		42		43	
4	90		151		169		184	0.9
	75		125		141		156	0.9
	50		100		114		127	0.9
	25	57382	73	58592	89	59844	101	0.8
	10		48		62		72	0.7
	Mean		100		115		128	
	StdDev		40		42		44	
	90		170		184		198	0.8

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Basics of RTI: Tier 3 (Secondary Prevention)

- Again, use the same goal setting and decision making standards as in Tier 1
- In addition to the core curriculum, students in Tier 3 receive intervention for 10 to 15 weeks based on *problem-solving assessment*
  - Diagnostic assessment may be conducted
  - Intervention is usually more intense and frequent
- At the end of Tier 3 intervention, student benchmark and growth status is evaluated
  - Students at or above benchmark return to Tier 1
  - Students below benchmark, but making adequate (or exceeding) growth progress may be maintained in Tier 3
  - Students below benchmark and continuing to demonstrate poor growth progress (i.e., under-responding) are considered for a comprehensive evaluation

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Basics of RTI: Tier 4 (Tertiary Prevention)

- Students are now typically receiving special education services
- Two slightly different assessment tasks need to be addressed now that students have demonstrated under-responsiveness in grade level material

1. Must determine a suitable difficulty level for progress monitoring
   - Conduct a survey level assessment
2. IEP goals need to be configured
   - Aggregated end of the year benchmark estimates
   - Aggregated rate of improvement (growth) estimates
   - Intra-individual framework

- Progress monitoring is ongoing and continuous

Basics of RTI: Tier 4 (Tertiary Prevention)

- Conducting a survey level assessment in reading:
  - Administer three passages at a lower level than the student's current grade level:
    - Fewer than 10 correct words, use early literacy tasks
    - Between 10 and 50 words, but less than 85–90% correct, move to next lower level of test and administer three passages at this level
    - More than 50 correct words, move to highest level of text where student reads 10–50 words
- Maintain appropriate level for entire year

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Basics of RTI: Tier 4 (Tertiary Prevention)

- Conducting a survey level assessment in math:
  - Administer math probes at a lower level than the student's current grade level:
  - If average score is less than 10, move down one level
  - If average score is between 10 and 15, use this level
  - If average score is greater than 15, reconsider grade-level material
- Maintain appropriate level for entire year

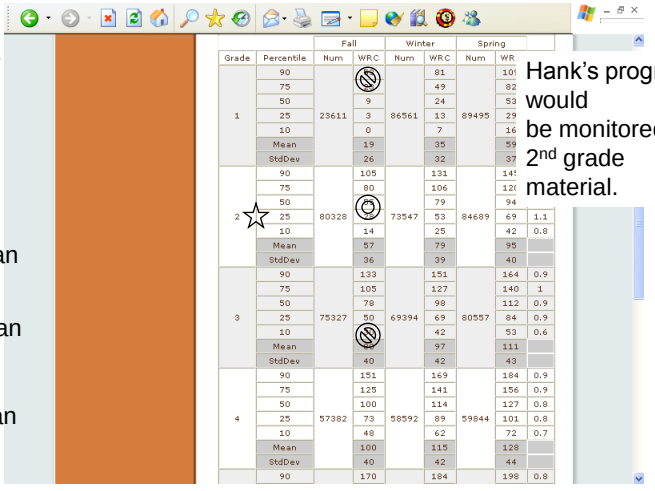
Basics of RTI: Tier 4 (Tertiary Prevention)

Hank is currently in grade 4 and receives supportive Tier 4 intervention in reading.

3rd grade median = 22 wc/m

2nd grade median = 34 wc/m

1st grade median = 45 wc/m



Grade	Percentile	Fall Num	Fall WRC	Winter Num	Winter WRC	Spring Num	Spring WR	
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	75				49		82	
	50		9		24		53	
	25		3		13		29	
	10		0		7		16	
	Mean		19		35		59	
	StdDev		26		32		37	
2	90	80328	105	73547	131	84689	14	
	75		80		106		12	
	50				79		94	
	25				53		69	1.1
	10		14		25		42	0.8
	Mean		57		79		95	
	StdDev		36		39		40	
3	90	75327	133	69394	151	80557	164	0.9
	75		105		127		140	1
	50		78		98		112	0.9
	25		56		69		84	0.9
	10				42		53	0.6
	Mean				97		111	
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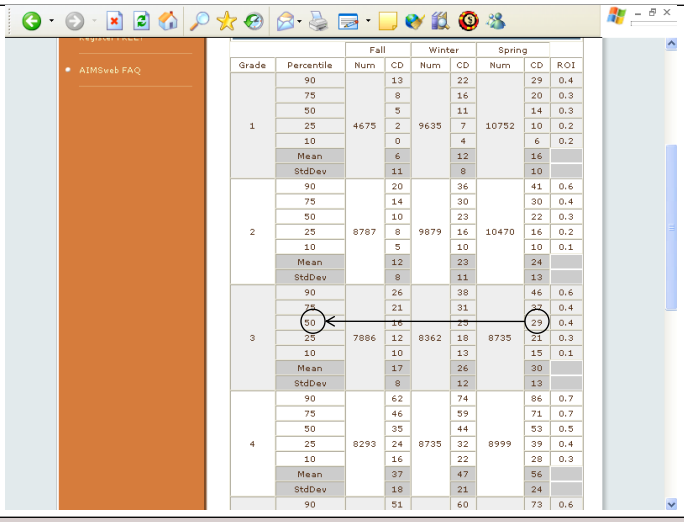
	10		48		62		72	0.7
	Mean		100		115		128	
	StdDev		40		42		44	
	90		170		184		198	0.8

Hank's progress would be monitored in 2nd grade material.

Basics of RTI: Tier 4 Goal Setting

- End-of-year benchmarking
  - Identify appropriate grade-level benchmark
  - Mark benchmark on student graph with an X
  - Draw goal-line from the baseline CBM scores to X

Basics of RTI: Tier 4 Goal Setting



AIMSweb FAQ

Grade	Percentile	Fall Num	Fall CD	Winter Num	Winter CD	Spring Num	Spring CD	Spring ROI
1	90		13		22		29	0.4
	75		8		16		20	0.3
	50		5		11		14	0.3
	25	4675	2	9635	7	10752	10	0.2
	10		0		4		6	0.2
	Mean		6		12		16	
	StdDev		11		8		10	
2	90		20		36		41	0.6
	75		14		30		30	0.4
	50		10		23		22	0.3
	25	8787	8	9879	16	10470	16	0.2
	10		5		10		10	0.1
	Mean		12		23		24	
	StdDev		8		11		13	
3	90		26		38		46	0.6
	75		21		31		37	0.4
	50		16		25		29	0.4
	25	7886	12	8362	18	8735	21	0.3
	10		10		13		15	0.1
	Mean		17		26		30	
	StdDev		8		12		13	
4	90		62		74		86	0.7
	75		46		59		71	0.7
	50		35		44		53	0.5
	25	8293	24	8735	32	8999	39	0.4
	10		16		22		28	0.3
	Mean		37		47		56	
	StdDev		18		21		24	
	90		51		60		73	0.6

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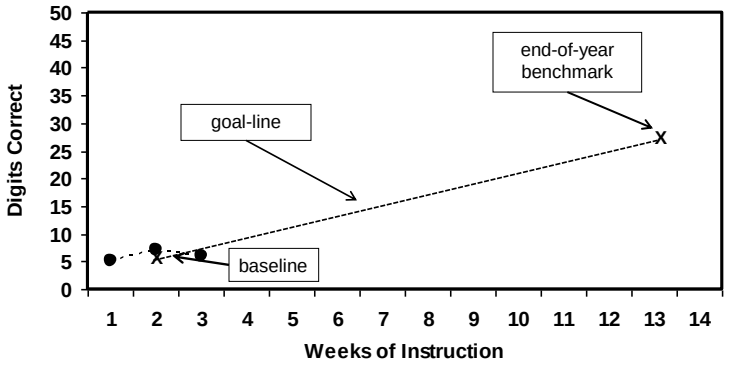
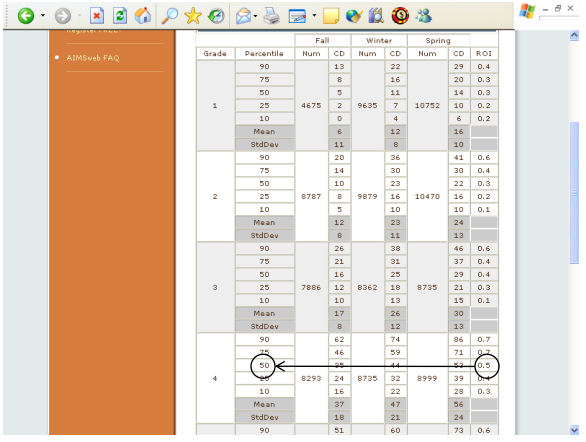
Basics of RTI: Tier 4 Goal Setting



Basics of RTI: Tier 4 Goal Setting

- Rate of improvement (growth) estimates



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	25		2		7		10	0.2
	10		0		4		6	0.2
	Mean		6		12		16	
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	25		8		16		16	0.2
	10		5		10		10	0.1
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	75		21		31		37	0.4
	50		16		25		29	0.4
	25		12		18		21	0.3
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	25		24		32		39	0.4
	10		16		22		28	0.3
	Mean		37		47		56	
	StdDev		18		21		24	
	90		51		60		73	0.6

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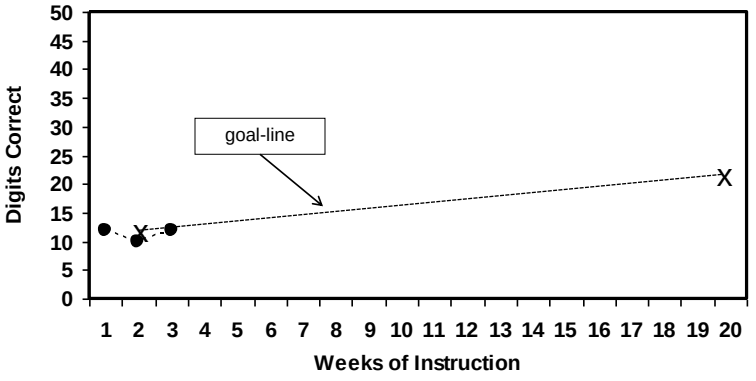
Basics of RTI: Tier 4 Goal Setting

- Using rate of improvement (growth) estimates
  - First three scores average (baseline) = 14
  - Norm for fourth-grade computation = 0.50
  - Multiply norm by number of weeks left in year
    - 16 × 0.50 = 8
  - Add to baseline average
    - 8 + 14 = 22
  - Student's end-of-year goal is 22

Basics of RTI: Tier 4 Goal Setting



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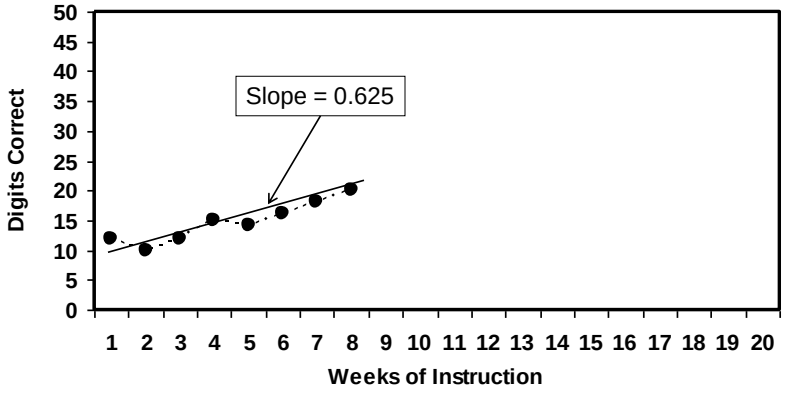
Basics of RTI: Tier 4 Goal Setting

- Using intra-individual rate of improvement (growth) estimates
  - Identify weekly rate of improvement (slope) using at least eight data points
  - Multiply slope by 1.5
  - Multiply by number of weeks until end of year
  - Add to student's baseline score
  - This is the end-of-year goal

Basics of RTI: Tier 4 Goal Setting



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Basics of RTI: Tier 4 Goal Setting

- Intra-individual example
  - Identify weekly rate of improvement using at least eight data points
    - First eight scores slope = 0.625
  - Multiply slope by 1.5
    - 0.625 × 1.5 = 0.9375
  - Multiply by number of weeks until end of year
    - 0.9375 × 12 = 11.25
  - Add to student's baseline score
    - 11.25 + 12.00 = 23.25
  - 23.25 (or 23) is student's end-of-year goal

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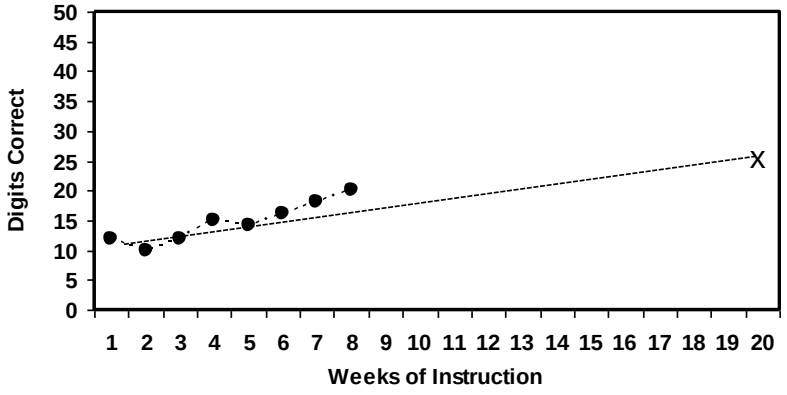
Basics of RTI: Tier 4 Goal Setting



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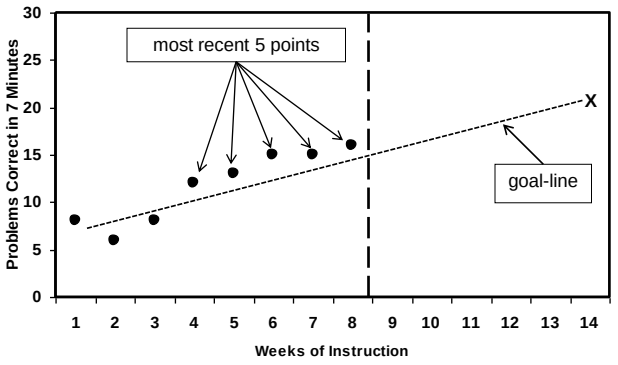
Basics of RTI: Tier 4 Decision Making

- Decision rules for progress monitoring data:
  - Based on the five most recent consecutive scores
  - Based on student's trend-line

Basics of RTI: Tier 4 Decision Making

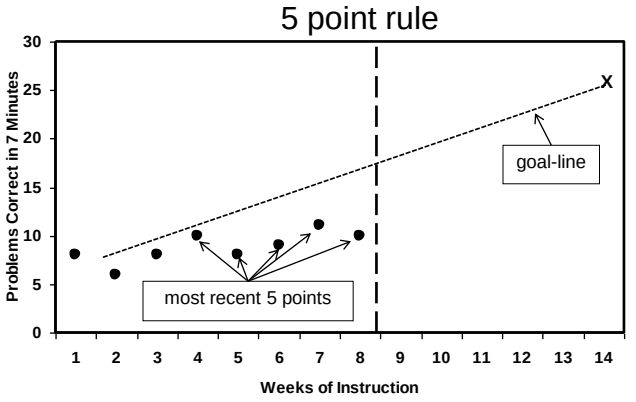
5 point rule



Basics of RTI: Tier 4 Decision Making

- Based on the five most recent consecutive scores
  - If the four most recent consecutive scores are all **above** the goal-line, keep the current intervention and **increase** the goal

Basics of RTI: Tier 4 Decision Making

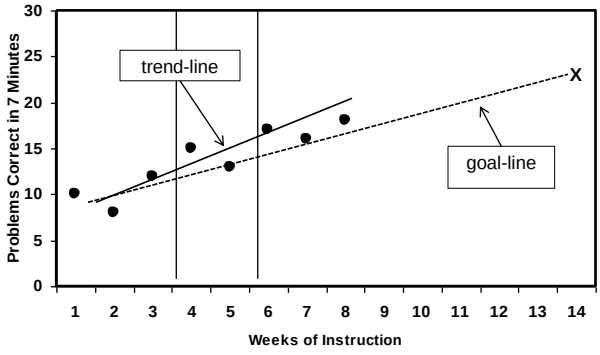


Basics of RTI: Tier 4 Decision Making

- Based on the five most recent consecutive scores
  - If the five most recent consecutive scores are all **above** the goal-line, keep the current intervention and **increase** the goal
  - If the five most recent consecutive scores are all **below** the goal-line, keep the current goal and **modify** the instruction
  - When the five most recent consecutive scores are **neither** above or below the goal-line, **maintain** the current goal and instruction and continue to progress monitor

Basics of RTI: Tier 4 Decision Making

Analysis based on trend



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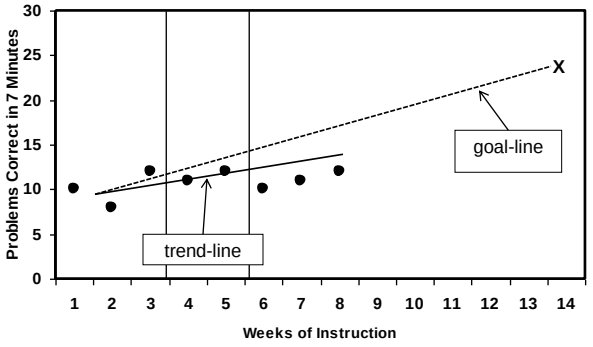
Basics of RTI: Tier 4 Decision Making

- When the trend-line is **steeper** (i.e., accelerating) relative to the goal-line, keep the current intervention and **increase** the goal
- When trend-line is **lower** (i.e., decelerating) relative to the goal-line, keep the current goal and **modify** the instruction
- When the trend-line is **equal** (i.e., parallel) to the goal-line, **maintain** current goal and instruction and continue to progress monitor

Basics of RTI: Tier 4 Decision Making



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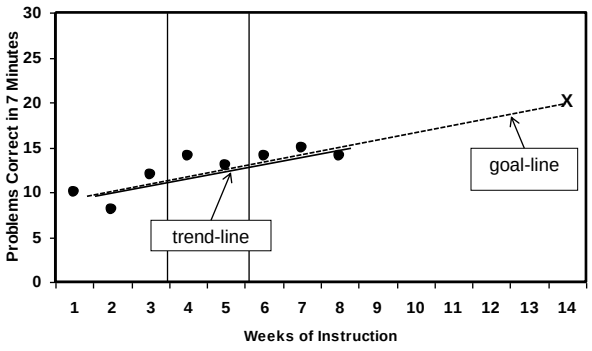

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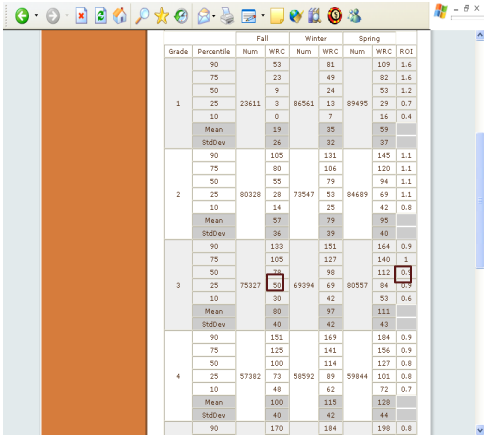
- When the trend-line is **equal** (i.e., parallel) to the goal-line, **maintain** current goal and instruction and continue to progress monitor

Case Study

- Smith Street School uses a four-tier model.
- All students receive reading instruction in a strong research-supported curriculum.
- Over the last three years about 77% of the students in kindergarten through 3rd grade achieve seasonal benchmark targets.

Case Study

- Tier 1 (Primary Prevention)
- Universal screening for students in 3rd grade is ≥ 50 wc/m in the Fall.
- Students suspected to be at-risk are monitored using CBM for 4-6 weeks.
  - Students with a CBM slope ≥ 0.9 increase are considered to be responding to the Tier 1 core curriculum.
  - Students with a CBM slope < 0.9 increase are considered to be under-responding to Tier 1 instruction.



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	Mean		80		97		111	
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	10		48		62		72	0.7
	Mean		100		115		128	
	StdDev		40		42		44	
	90		170		184		198	0.8

Case Study

- Tier 2 (Secondary Prevention)
  - Commercially available manualized intervention:
    - 30 minutes per day/four times a week/10-12 weeks.
  - Intervention focuses on:
    - Phonemic segmentation
    - Alphabetic principle
    - Decoding
    - Encoding
    - Word analysis
    - Vocabulary development
    - Sight word instruction
    - Fluency & comprehension

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Case Study

- Tier 2 (Secondary Prevention)
  - Student progress is monitored weekly.
    - Students with CBM slopes of $\geq$ 0.9 and who meet benchmark standards are considered responsive to Tier 2 *manualized* (standard protocol) intervention and return to Tier 1.
    - Student with CBM slopes of < 0.9 are considered to be under-responding to the manualized intervention and move to Tier 3.

Case Study

- Tier 3 (Secondary Prevention)
  - Students whose CBM slopes are < 0.9 to *manualized* Tier 2 intervention receive an intervention developed through *problem-solving* intervention.
  - Diagnostic assessment is conducted to assist in developing an intervention.
  - Student progress is monitored weekly.
    - Students with CBM slopes of $\geq$ 0.9 and who meet benchmark standards are considered responsive to Tier 3 *problem-solving* intervention and are moved to Tier 1.
    - Student with CBM slopes of < 0.9 are considered to be under-responding to the *problem-solving* intervention and undergo a comprehensive evaluation.

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Case Study

- Comprehensive evaluation
  - Focuses on making distinctions among disabilities:
    - Intellectual/cognitive measures to address LD and mental retardation.
    - Language measures to address LD and language impairments.
    - Systematic direct observation, informant rating scales, interviews, to address LD and emotional/behavior disorders.

Case Study

- Tier 4 (Tertiary Prevention)
  - IEP goals are determined.
  - Student progress is monitored weekly.

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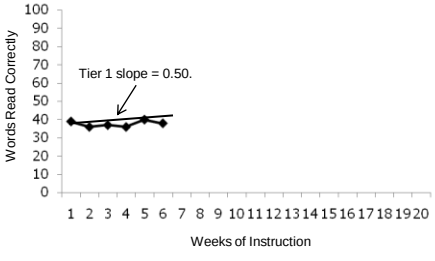
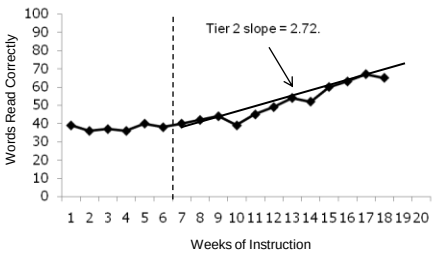
Case Study

- Derek (3rd grade student) was suspected of being at-risk.
  - Fall CBM score was 38 (below cut-off of 50).
- Primary prevention performance was monitored for 6 weeks:
  - Derek's slope was 0.50 (below the 0.9 cut-off).
- Derek was under-responsive to Tier 1 primary prevention.
- Derek was subsequently moved to Tier 2 secondary prevention.



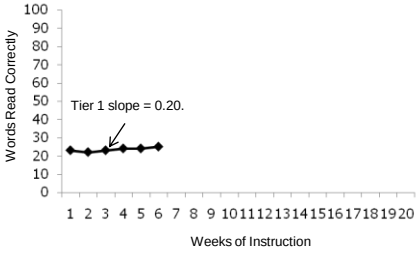
Case Study

- Derek received Tier 2 *manualized* secondary preventative intervention.
  - 30 minutes/four times a week/12 weeks
- Derek's progress was monitored weekly.
  - After 12 weeks Derek's slope was 2.72.
  - 2.72 exceeds the 0.90 cut-off for positive RTI.
  - Derek's Winter benchmark score was 71 which was above the 25th percentile cut-off of 69.
- Derek was returned to Tier 1 and his progress will be assessed at the Spring universal benchmark screening.



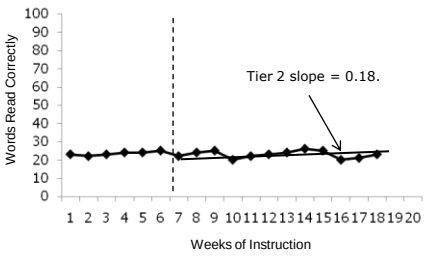
Case Study

- Kevin (3rd grade student) was suspected of being at-risk.
  - Fall CBM score was 24 (below cut-off of 50).
- Primary prevention performance was monitored for 6 weeks:
  - Kevin's slope was 0.20 (below the 0.9 cut-off).
- Kevin was under-responsive to Tier 1 primary prevention.
- Kevin was subsequently moved to Tier 2 secondary prevention.



Case Study

- Kevin received Tier 2 *manualized* secondary preventative intervention.
  - 30 minutes/four times a week/12 weeks
- Kevin's progress was monitored weekly.
  - After 12 weeks Kevin's slope was 0.18.
  - 0.18 falls below the 0.90 cut-off for positive RTI.
  - Kevin's Winter benchmark score was 26 which again was below the 25th percentile cut-off of 69.



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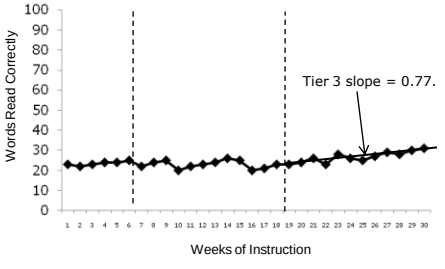
Case Study

- Kevin was moved to Tier 3 *problem-solving* secondary preventative intervention.
  - Diagnostic assessments were administered to aid in intervention planning.
- Tier 3 intervention was delivered for 30 minutes/four times a week/12 weeks.
  - Intervention focused on direct instruction of alphabetic principle and decoding.
- Kevin's progress was monitored weekly.
  - After 12 weeks Kevin's slope was 0.77.
  - 0.77 falls below the 0.90 cut-off for positive RTI.
  - Kevin's Spring benchmark score was 37 which again was below the 25th percentile cut-off of 84.

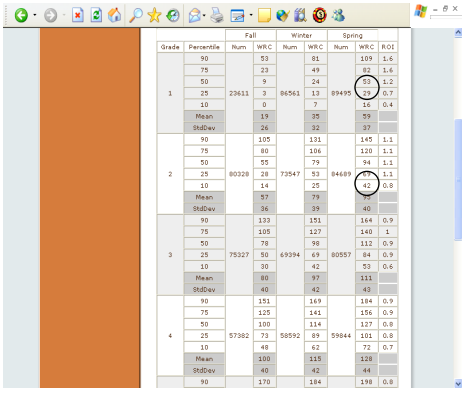


Case Study

- Kevin received a comprehensive evaluation:
  - Interviews with parents and teachers.
  - Administration of the WISC-IV and the Vineland Adaptive Behavior Scales.
    - To rule out MR.
  - Administration of expressive and pragmatic language measures.
    - To rule out language impairment.
  - Behavioral assessment (systematic direct observations, informant rating scales).
    - To rule out EBD.

Case Study

- Kevin was placed in special education (Tier 4) under the classification of LD.
- Individualized intervention techniques and goals were established.
- Survey-level assessment was conducted to determine suitable level for progress monitoring.
  - Kevin would be progress monitored in 1st grade materials, however, this would be reassessed at the beginning of 4th grade
- Using the *end of the year benchmarking* approach to goal setting, a long-term annual goal was established for Kevin.
  - By the end of 4th grade, Kevin will be reading at the corresponding Spring 3rd grade 50th percentile.
  - If successful, Kevin will have "closed the gap" from approximately a two year gap to a one year gap in one school year.



Grade	Percentile	Fall Num	Fall WRC	Winter Num	Winter WRC	Spring Num	Spring WRC	Spring ROI
1	90	23611	53	86561	81	89495	109	1.6
	75		23		49		87	1.6
	50		9		24		55	1.2
	25		3		13		39	0.7
	10		0		7		14	0.4
	Mean		19		35		59	
	StdDev		26		32		37	
2	90	80320	105	72547	131	84689	145	1.1
	75		60		106		120	1.1
	50		55		79		94	1.1
	25		28		53		67	1.1
	10		14		25		42	0.8
	Mean		57		79		96	
	StdDev		36		39		40	
3	90	75327	133	69394	151	80557	164	0.9
	75		105		127		140	1
	50		78		98		112	0.9
	25		50		69		84	0.9
	10		30		42		53	0.6
	Mean		80		97		111	
	StdDev		40		42		43	
4	90	57382	151	58592	169	59844	184	0.9
	75		125		141		156	0.9
	50		100		114		127	0.8
	25		73		89		101	0.8
	10		48		62		72	0.7
	Mean		100		115		128	
	StdDev		40		42		44	
	90		170		184		198	0.8

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Thank You!