Welcome to Project STAIR 2.0!

CORE PD - Session 2

Agenda

Readiness Individual Algebra Teaching of Supporting 2.0

Graphing and Evaluating

Goal Setting

Assessments

Designing Effective Instruction

Welcome and Introductions

Agenda

Readiness Individual Algebra Teaching of Supporting 2.0

Welcome and Introductions

Introductions

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Southern Methodist
University

Stephanie Hopkins

Sarah King

Share Your STAIR

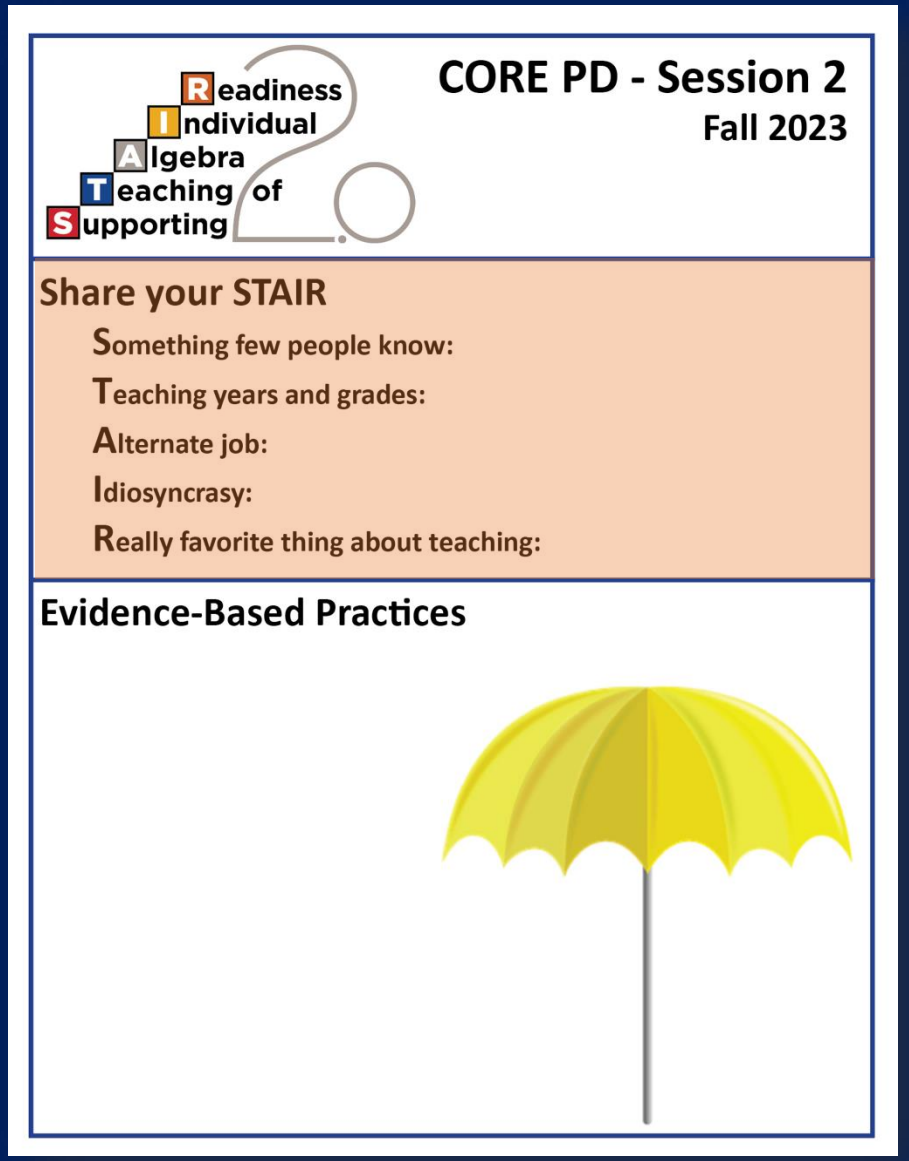
Something very few people know about you

Teaching years and grade levels

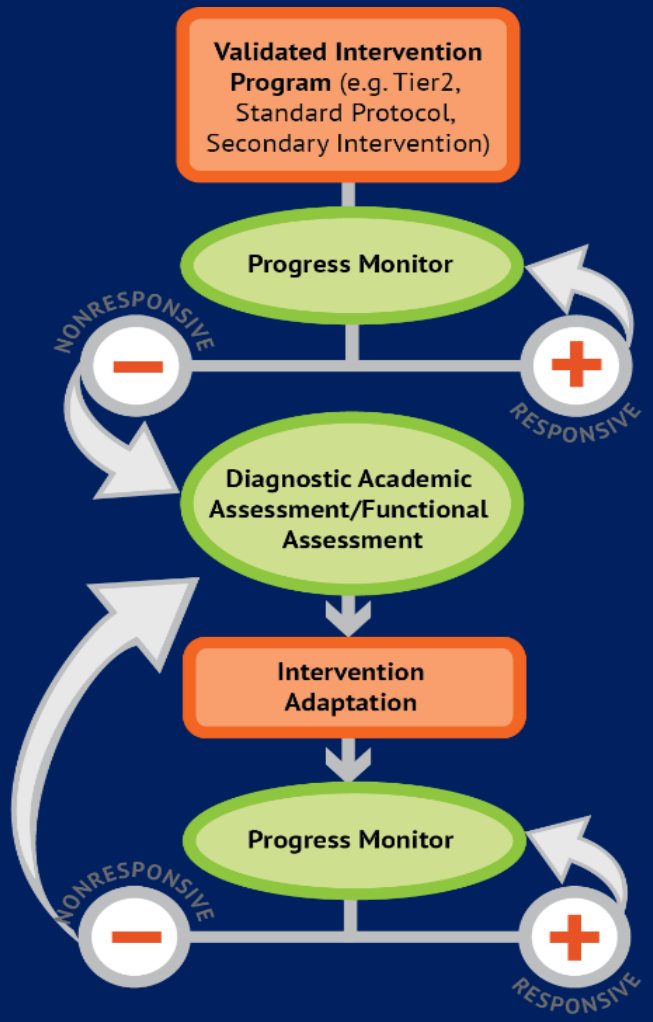
Alternate job if you weren't a teacher

Idiosyncrasy

Really favorite thing about teaching



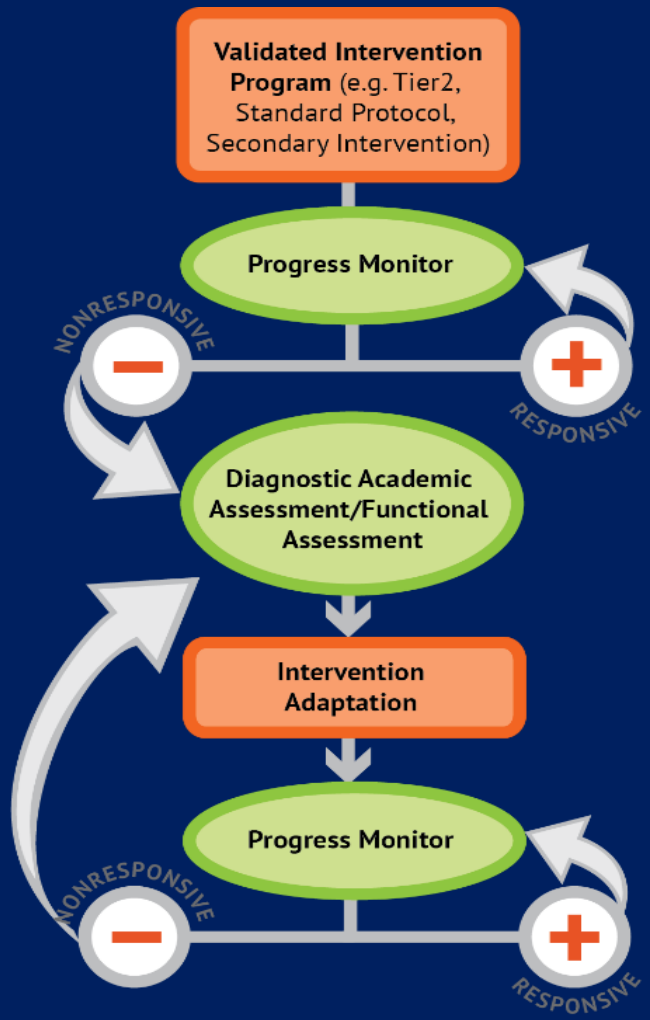
Review: STAIR + DBI Framework



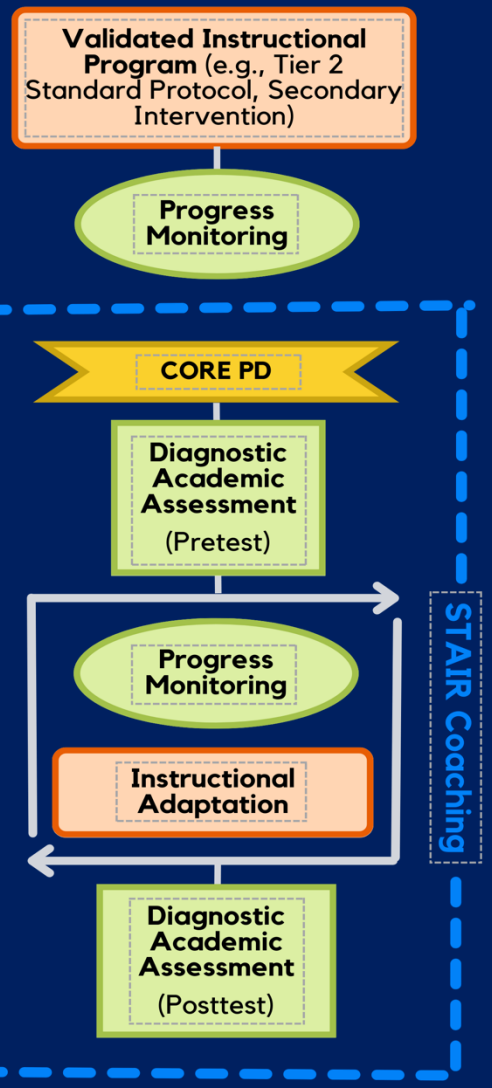
NCII's DBI Framework

Talk through each component of the DBI framework.

Review: STAIR + DBI Framework

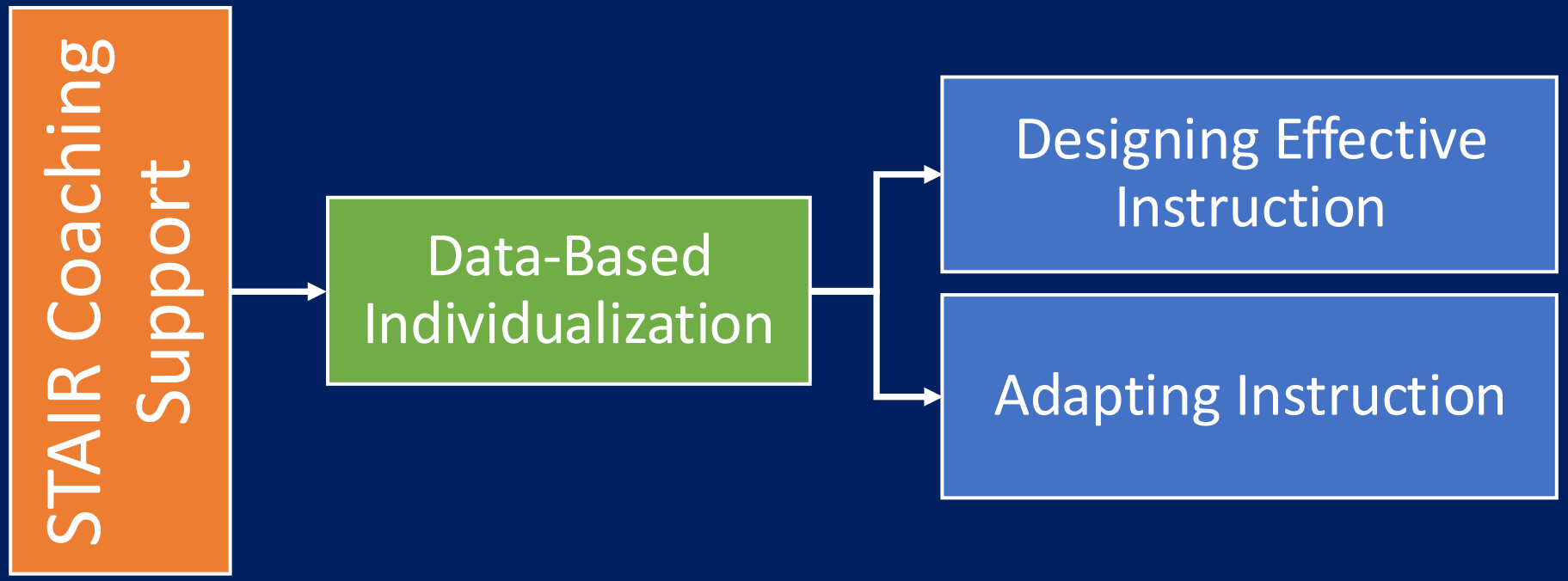


NCII's DBI Framework



Project STAIR

Review: STAIR + DBI Framework



Agenda

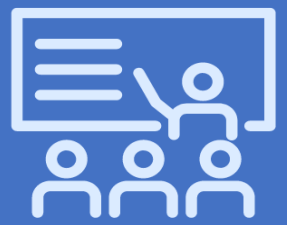
Readiness Individual Algebra Teaching of Supporting 2.0

Designing Effective Instruction

Welcome and Introductions

Components of Effective Instruction

Readiness Individual Algebra Teaching of Supporting 2.0



Evidence-Based Practices

Progress Monitoring

Instructional Adaptations

Readiness Individual Algebra Teaching of Supporting

CORE PD - Session 2

Fall 2023

Share your STAIR

Something few people know:

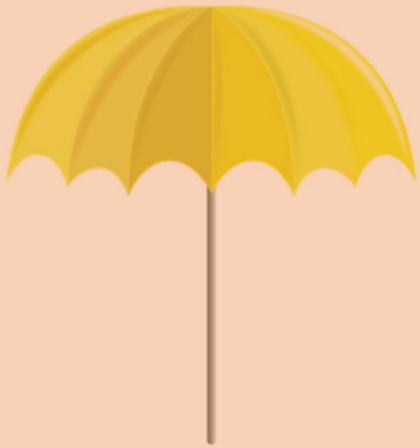
Teaching years and grades:

Alternate job:

Idiosyncrasy:

Really favorite thing about teaching:

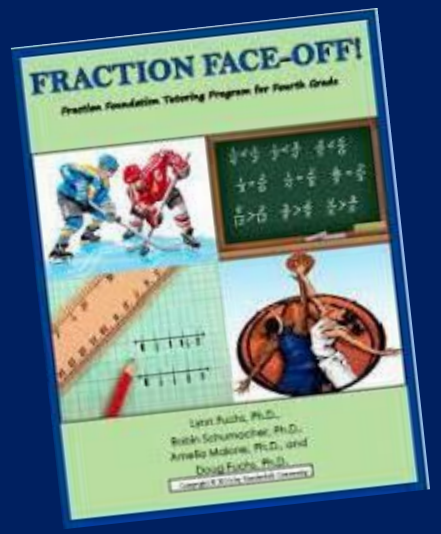
Evidence-Based Practices

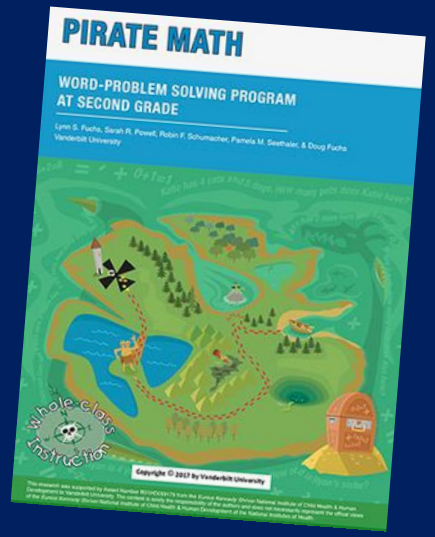


A practice that has shown **consistent** and **positive** results

evidence-based practice

Readiness Individual Algebra Teaching of Supporting 2.0

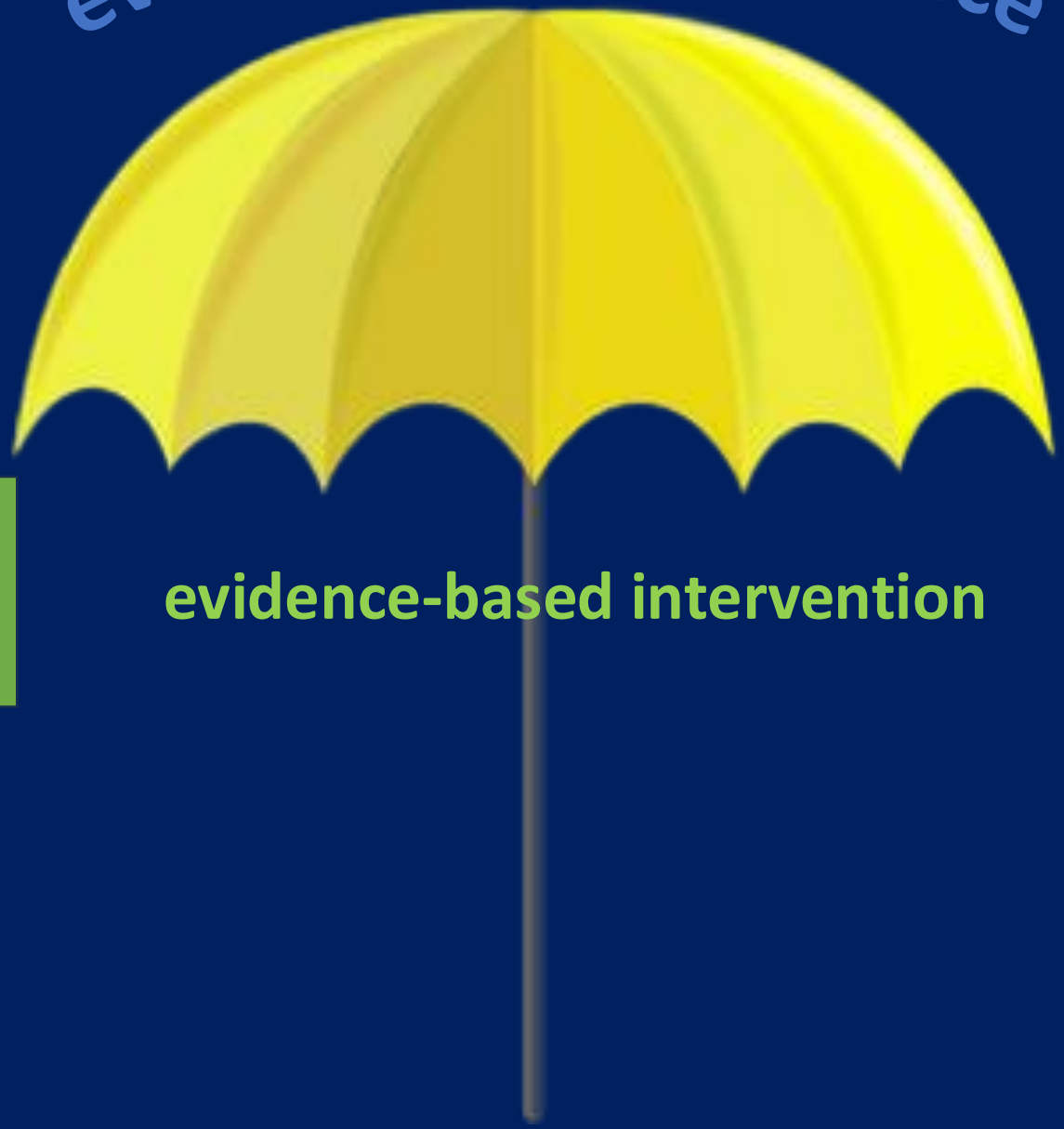




An intervention (i.e., packaged program) that has shown **consistent** and **positive** results

evidence-based practice

Readiness Individual Algebra Teaching of Supporting 2.0



evidence-based intervention

Readiness Individual Algebra Teaching of Supporting 2.0

evidence-based practice

evidence-based intervention

evidence-based strategy

A method or strategy that has shown **consistent** and **positive** results

Readiness Individual Algebra Teaching of Supporting 2.0

evidence-based practice

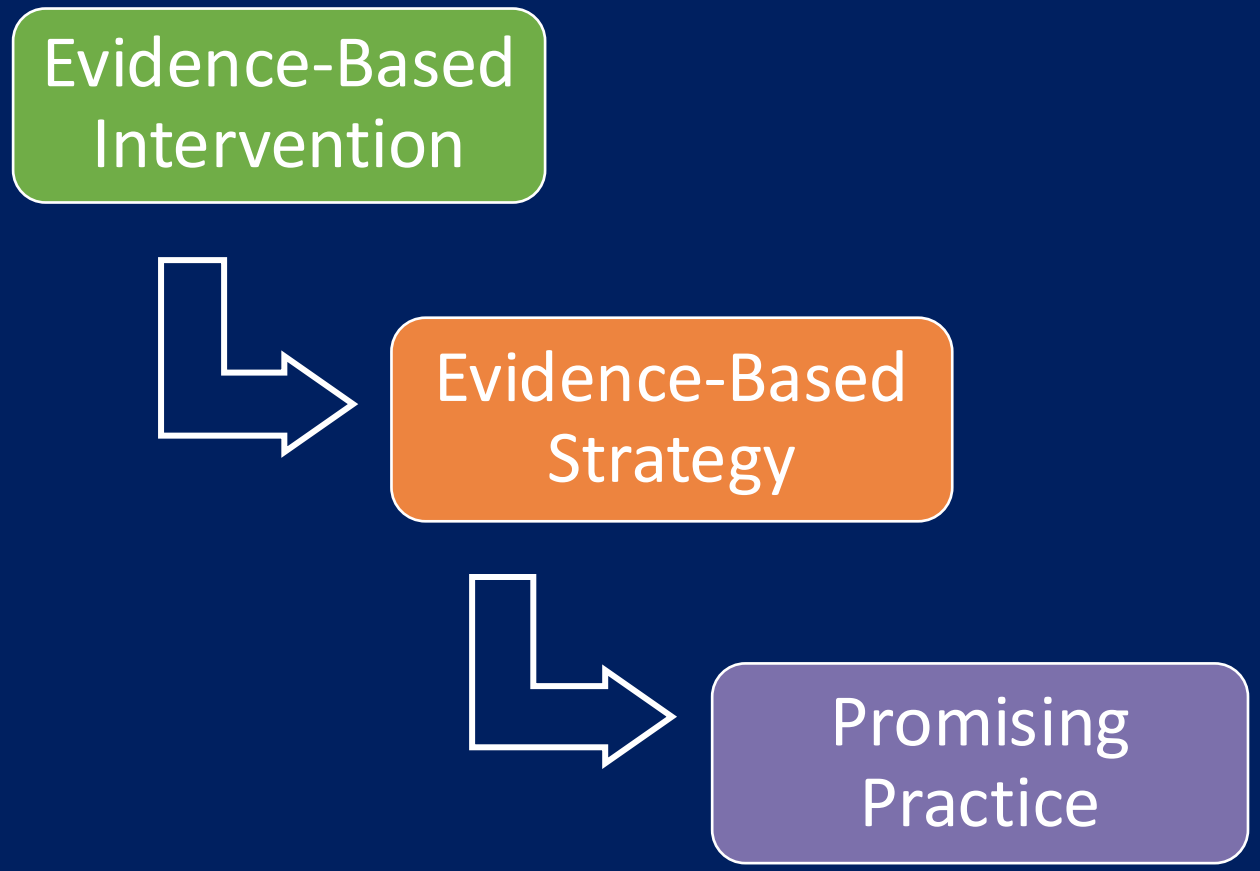
evidence-based intervention

evidence-based strategy

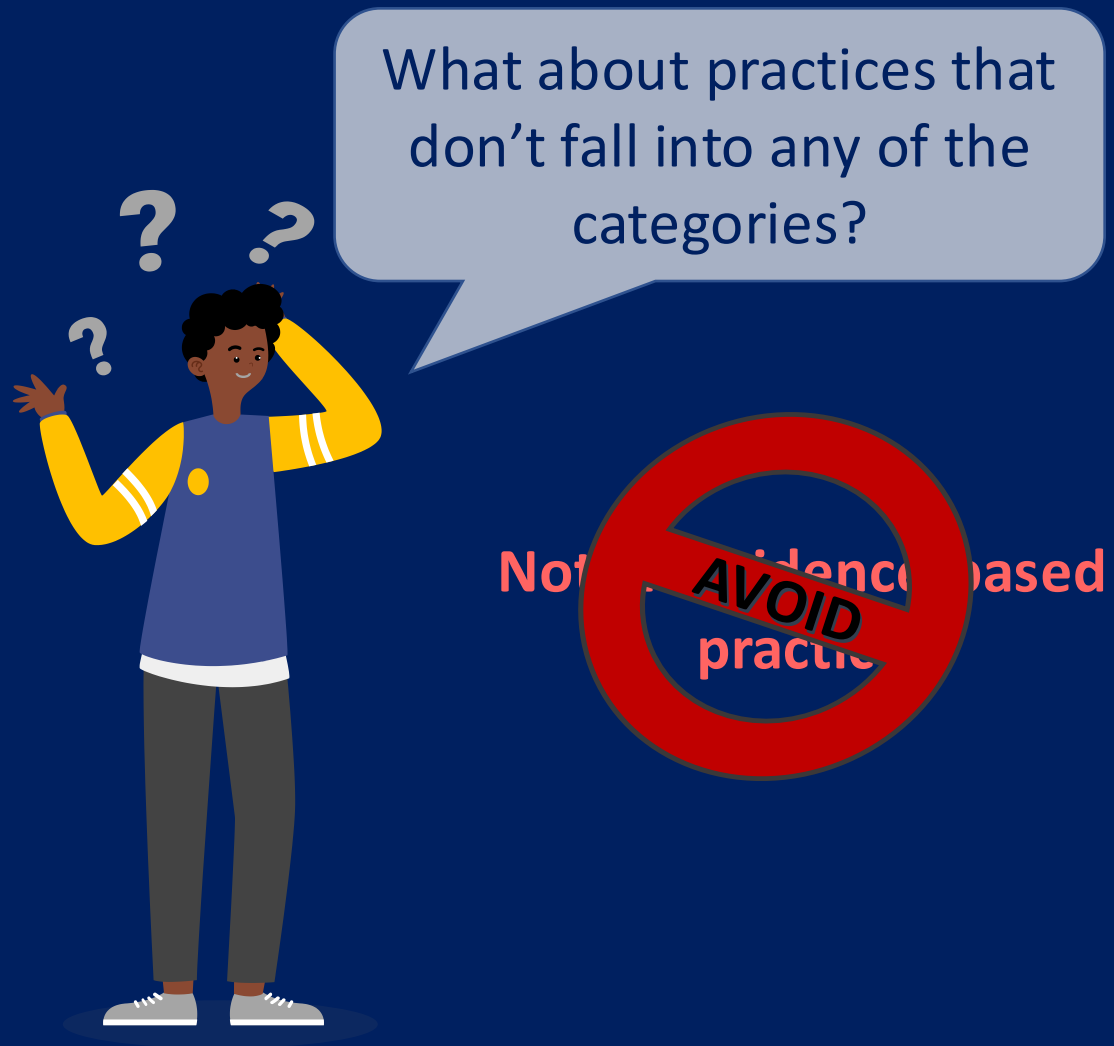
promising practice

A method or strategy that has yielded a **positive** result

Evidence-Based Practices



Evidence-Based Practices



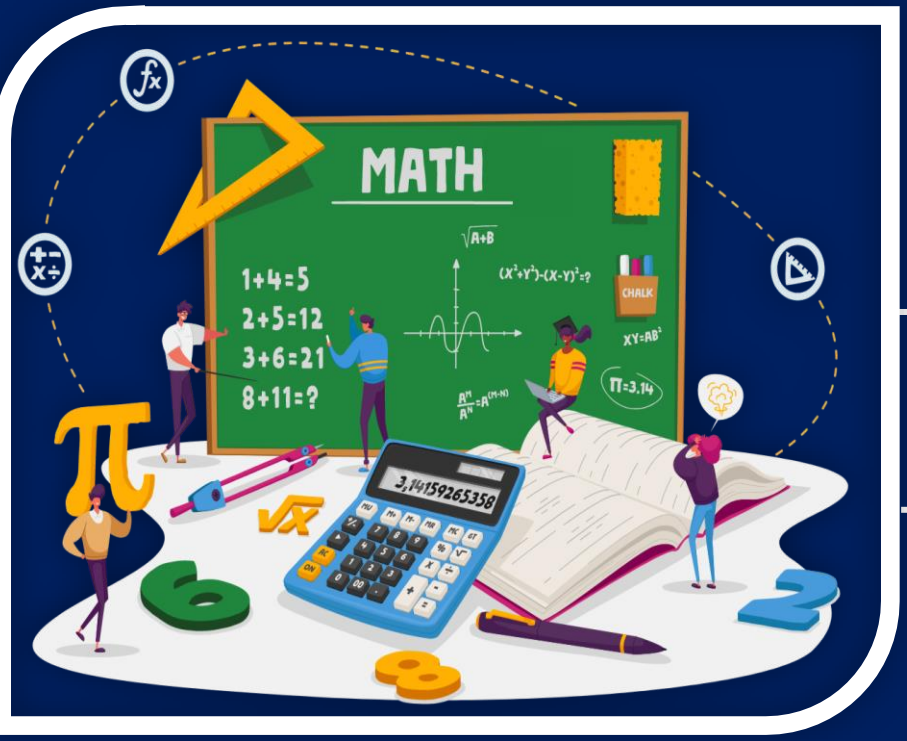
Five Key Evidence-Based Practices

Readiness Individual Algebra Teaching of Supporting

Explicit Instruction

Mathematics Language

Multiple Representations



Fluency Practice

Word-Problem Instruction

Explicit Instruction

MODELING	PRACTICE

SUPPORTS

Mathematics Language

Instead of that...	Say this...

Explicit Instruction

Teachers should be explicit in the modeling and practicing of math.

MODELING	PRACTICE
Step-by-step explanation	Guided practice
Planned examples	Independent practice

SUPPORTS

Ask high-level and low-level questions

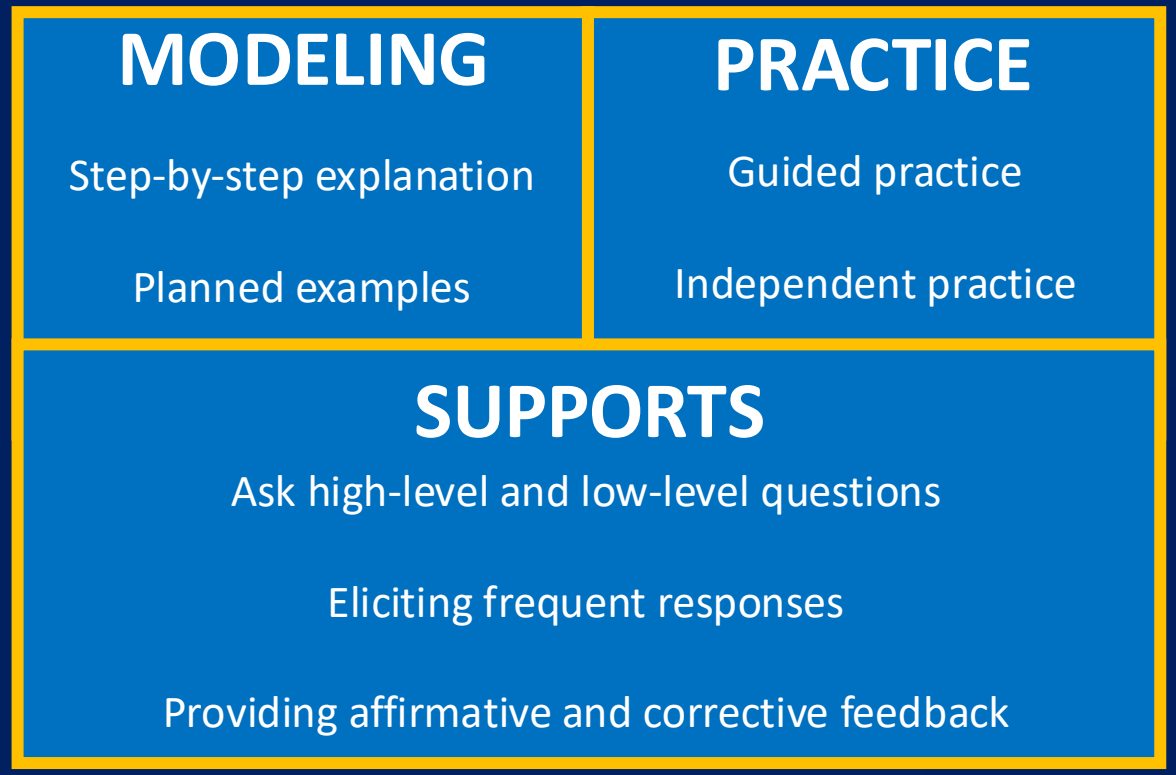
Eliciting frequent responses

Providing affirmative and corrective feedback

Explicit Instruction

Teachers should be explicit in the modeling and practicing of math.

Modeling includes a step-by-step explanation and clarity in the language used during explanations.



Explicit Instruction

Teachers should be explicit in the modeling and practicing of math.

MODELING	PRACTICE
Step-by-step explanation Planned examples	Guided practice Independent practice

SUPPORTS

Ask high-level and low-level questions

Eliciting frequent responses

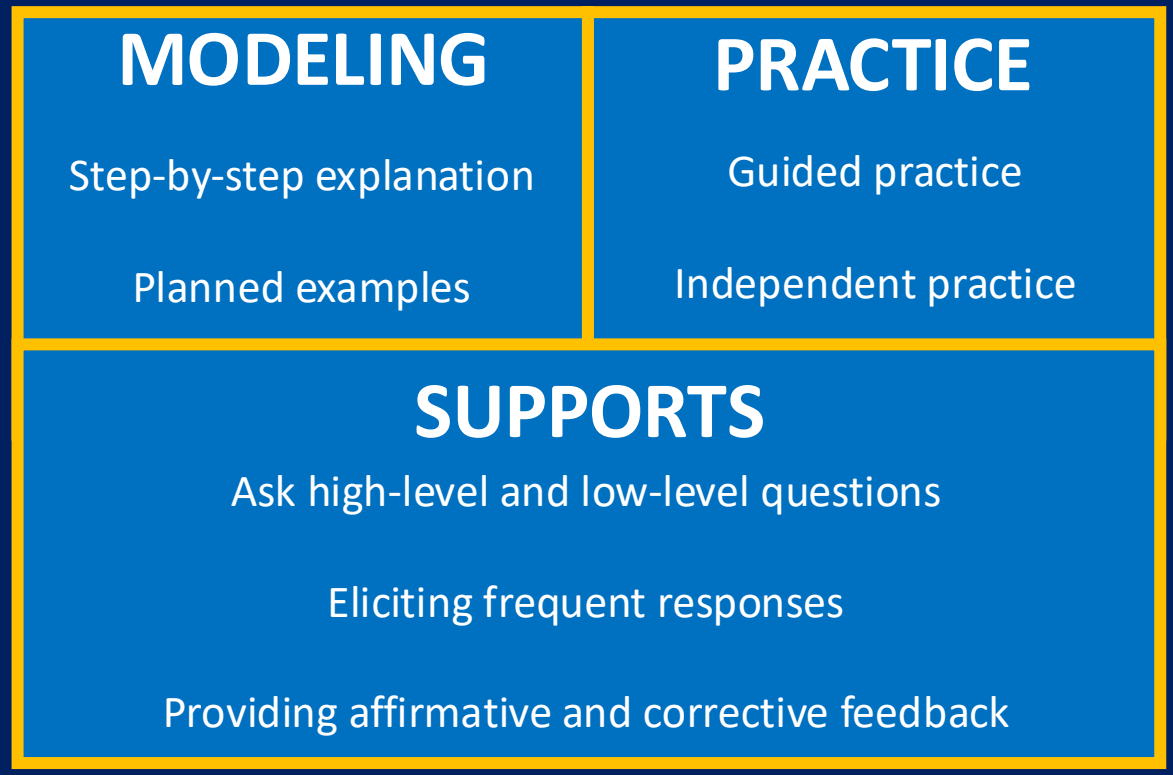
Providing affirmative and corrective feedback

Practice includes practice with the teacher (i.e., guided practice) as well as independent practice.

Explicit Instruction

Teachers should be explicit in the modeling and practicing of math.

During modeling and practice, teachers should use **supports**…



…such as asking a variety of question types, eliciting student responses and providing immediate corrective feedback while maintaining a brisk pace.

Explicit Instruction

Readiness Individual Algebra Teaching of Supporting

MODELING

Step-by-step explanation

Planned examples

State the goal and its importance.

Model steps.

Use precise math language.

To solve 26 plus 79, we first decide about the operation. Do we add, subtract, multiply, or divide?

Add!

The plus sign tells us to add. We'll add 26 plus 79 using the partial sums strategy. Say that with me.

Partial sums.

With the partial sums strategy, we start adding with the greatest place value. In this problem, is that the tens or ones?

It's the tens place.

Explicit Instruction

Readiness Individual Algebra Teaching of Supporting

MODELING

Step-by-step explanation

Planned examples

se examples.

Use non-examples.

There are different ways to show division. Which show division?

24 / 6

28 ÷ 7

$35\sqrt{5}$

32 ÷ 8

42 ÷ 7

25 − 5

Explicit Instruction

MODELING

Step-by-step explanation

Planned examples

1. Describe some of the mathematics that you need to model for your students.
2. How do you provide a clear explanation?
3. What types of examples do you use?

Explicit Instruction

Readiness Individual Algebra Teaching of Supporting

PRACTICE

Guided practice

Independent practice

Teacher and students practice together.

Let's work together on this problem. First...

Explicit Instruction

Readiness Individual Algebra Teaching of Supporting

PRACTICE

Guided practice

Independent practice

Students practice with teacher support.

Now you'll practice a problem on your own. Don't forget to use your attack strategy!

Explicit Instruction

Readiness Individual Algebra Teaching of Supporting

PRACTICE

Guided practice

Independent practice

1. Describe how you do guided practice with your students. What physical arrangement do you use? What materials do you use?
2. How do you provide feedback to student independent practice?

Explicit Instruction

Readiness Individual Algebra Teaching of Supporting

SUPPORTS

Ask high-level and low-level questions

Eliciting frequent responses

Providing affirmative and corrective feedback

Ask students a lot of questions – and ask different types of questions.

What is 7 times 9?

How would you solve this problem?

Explicit Instruction

Readiness Individual Algebra Teaching of Supporting

SUPPORTS

Ask high-level and low-level questions

Eliciting frequent responses

Providing affirmative and corrective feedback

Vary responses, such as: classwide, individual, partner, write on paper, write on whiteboard, show with manipulatives, or thumbs up.

Turn and discuss the formula for volume of a rectangular prism with your partner.

Show how to set up this problem with your algebra tiles.

Explicit Instruction

Readiness Individual Algebra Teaching of Supporting

SUPPORTS

Ask high-level and low-level questions

Eliciting frequent responses

Providing affirmative and corrective feedback

Excellent work using the order of operations!

Let's look at that again. Tell me how you added in the hundreds column.

Provide affirmative feedback to help students know what they are doing well.

Provide corrective feedback, when necessary.

Explicit Instruction

Readiness Individual Algebra Teaching of Supporting 2.0

SUPPORTS

Ask high-level and low-level questions

Eliciting frequent responses

Providing affirmative and corrective feedback

1. Do you ask more high-level or low-level questions. Do you have room for improvement?
2. What are your favorite ways to ask students to respond?
3. What's an example of affirmative feedback you provide to your students?

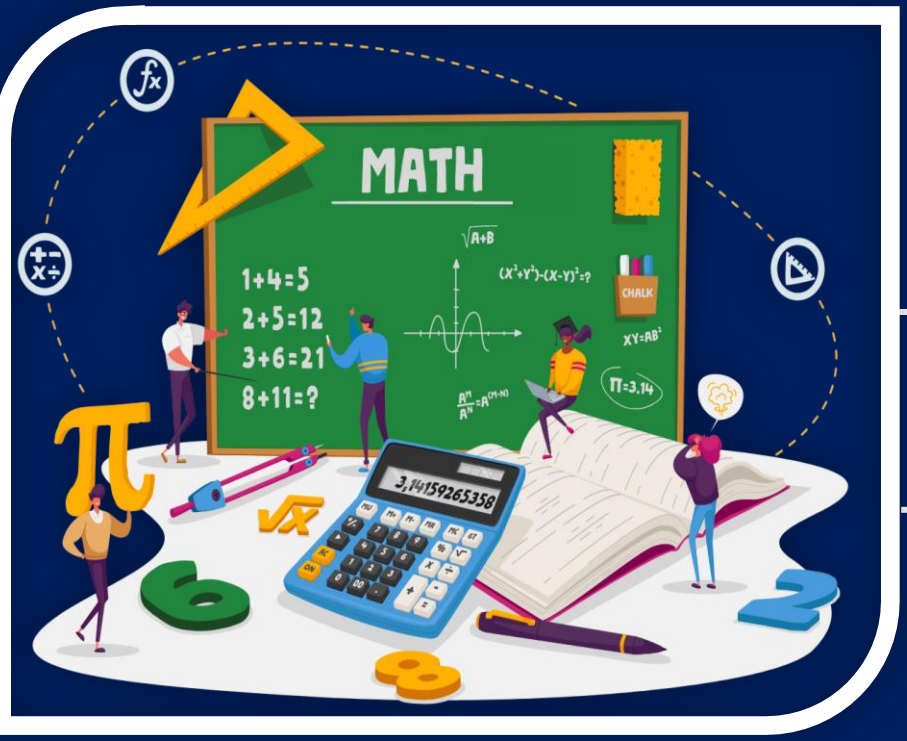
Five Key Evidence-Based Practices

Readiness Individual Algebra Teaching of Supporting

Explicit Instruction

Mathematics Language

Multiple Representations



Fluency Practice

Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting

Explicit Instruction

MODELING	PRACTICE

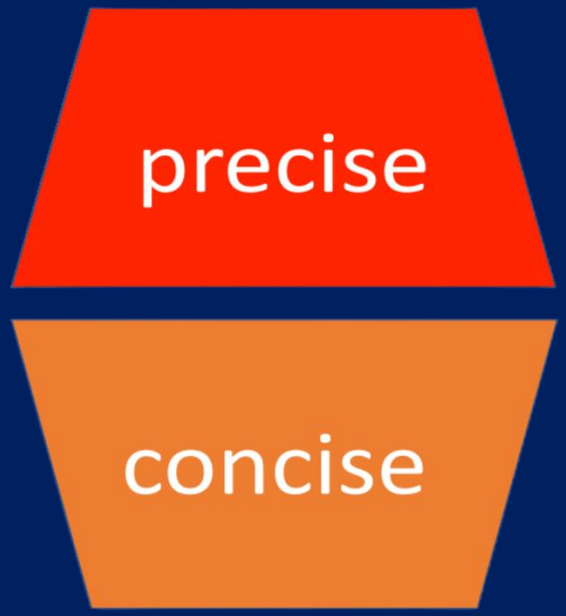
SUPPORTS

Mathematics Language

Instead of that...	Say this...

Mathematics Language

Teachers should be sure to use precise and concise math language.



Explicitly teach math terms.

Emphasize formal math terms that accurately portray a math concept or procedure (i.e., use precise language).

Provide concise, student-friendly definitions.

Mathematics Language

"This fraction has a **numerator** of 2 and a **denominator** of 5."

"**Regroup** to the tens place."

"How many **vertices** does the hexagon have?"

Mathematics Language

Provide five examples of "Instead of that, say this!"

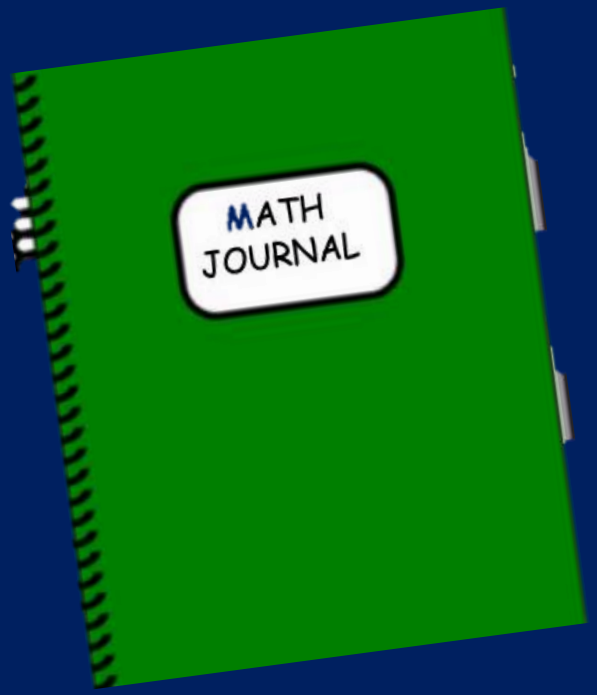
Explicit Instruction

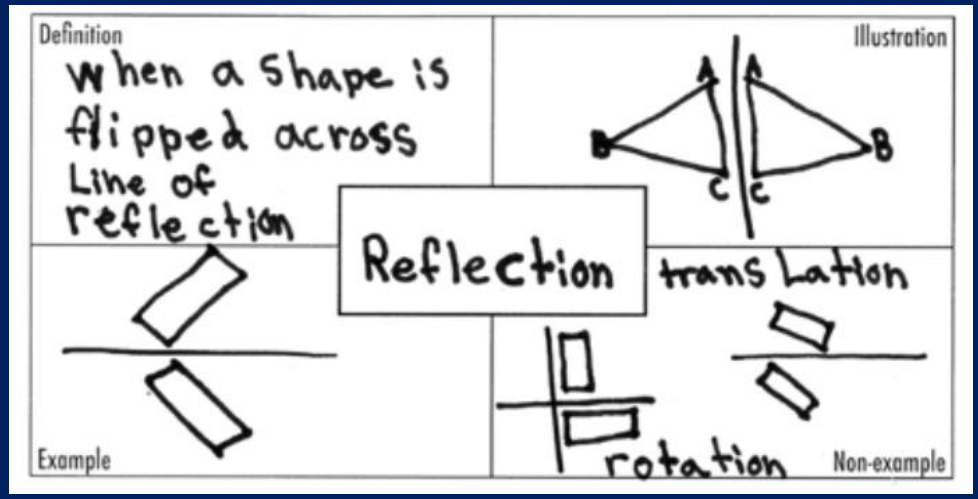
MODELING	PRACTICE
SUPPORTS	

Mathematics Language

Instead of that...	Say this...

Mathematics Language





numerator

The term in a fraction that tells how many parts of a fraction.

2 / 3 $\frac{2}{3}$ **In these fractions, 2 is the numerator.**

ones

The digit representing 1.

In the number 4.23, 4 is in the ones place.

Mathematics Language

1. What are math terms that cause difficult for your students?
2. How do you support student learning of math vocabulary?
3. What are resources you have in your classroom to support math vocabulary?

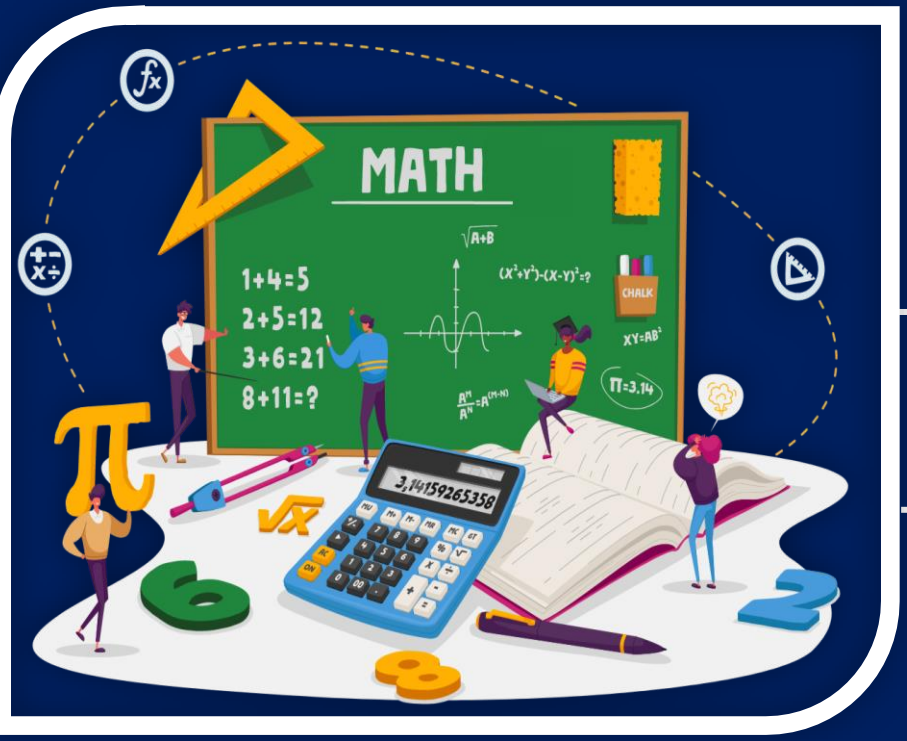
Five Key Evidence-Based Practices

Readiness Individual Algebra Teaching of Supporting

Explicit Instruction

Mathematics Language

Multiple Representations

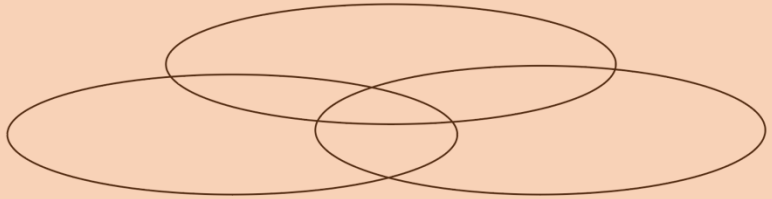


Fluency Practice

Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting

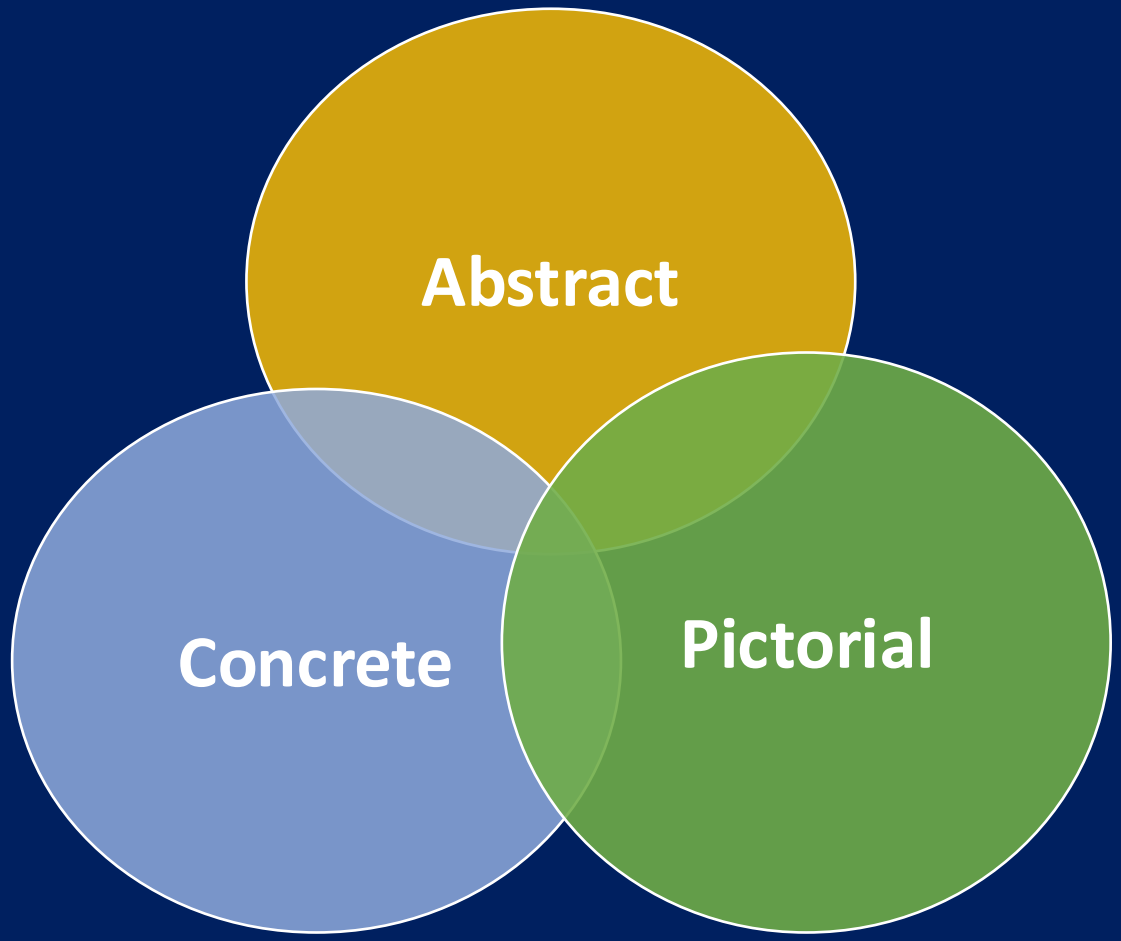
Multiple Representations



Fluency Practice

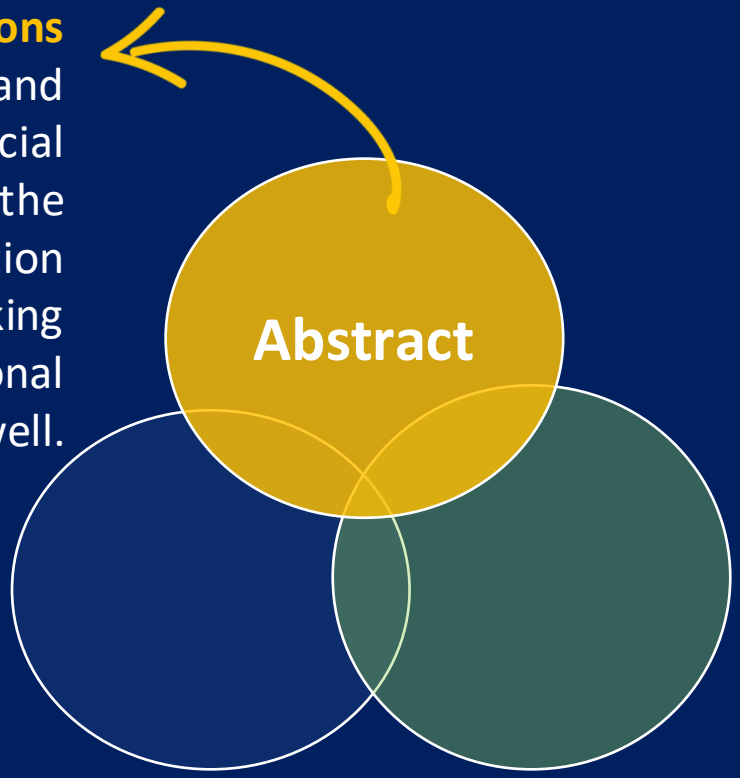
Multiple Representations

Teachers should use multiple representations to help students understand different math concepts and procedures.



Multiple Representations

Abstract representations include symbols and numerals. It is beneficial to always have the abstract representation present when working with additional representations as well.



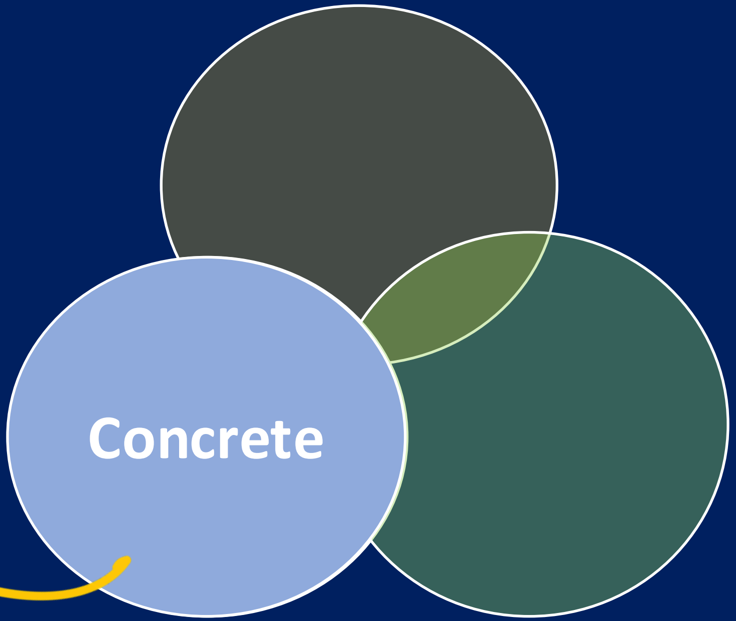
1.73 = 1 one, 7 tenths, and 3 hundredths.

$x - 6 = 9$

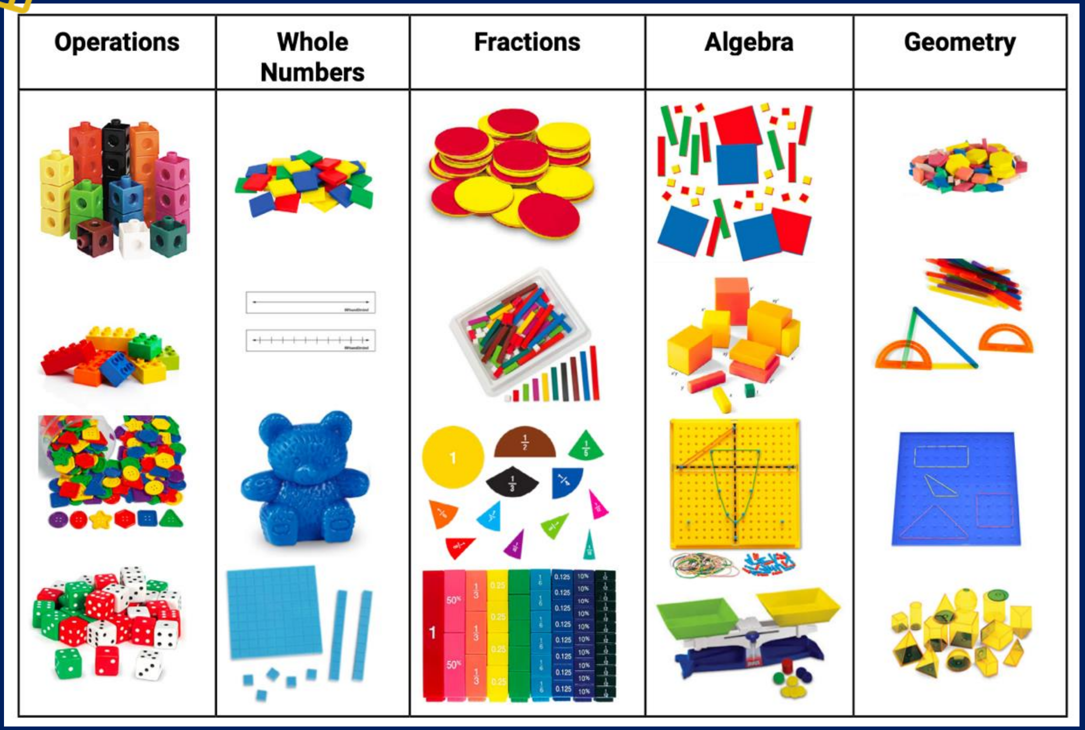
5^2

Multiple Representations

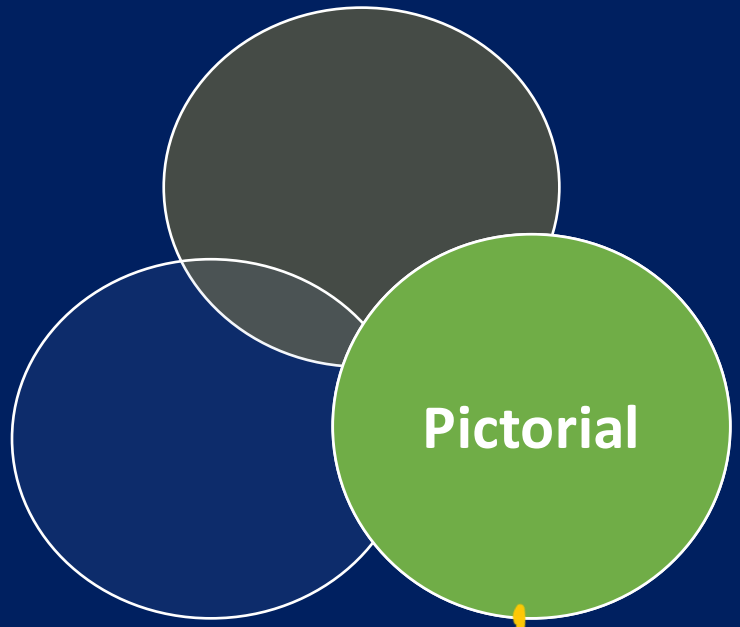
Readiness Individual Algebra Teaching of Supporting 2.0



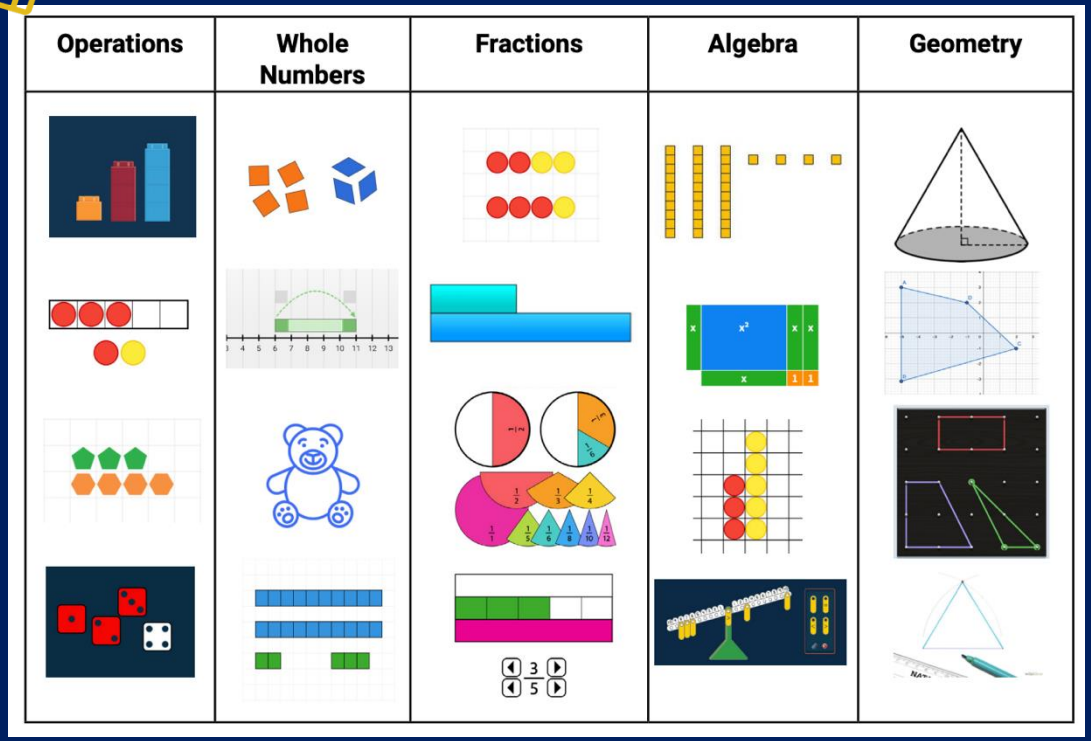
Concrete representations include three-dimensional objects or virtual manipulatives.



Multiple Representations

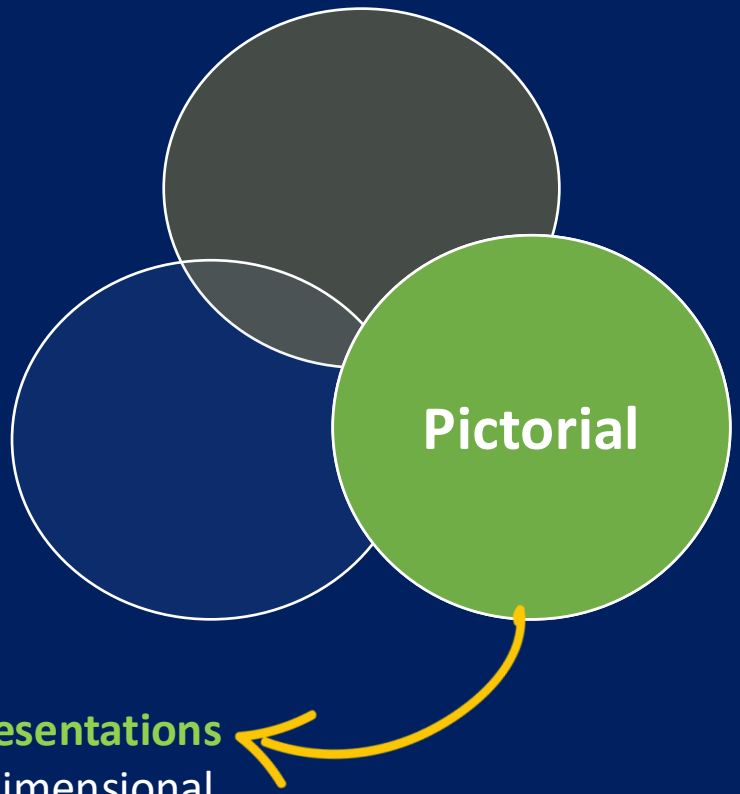


Pictorial representations include two-dimensional objects and virtual manipulatives.

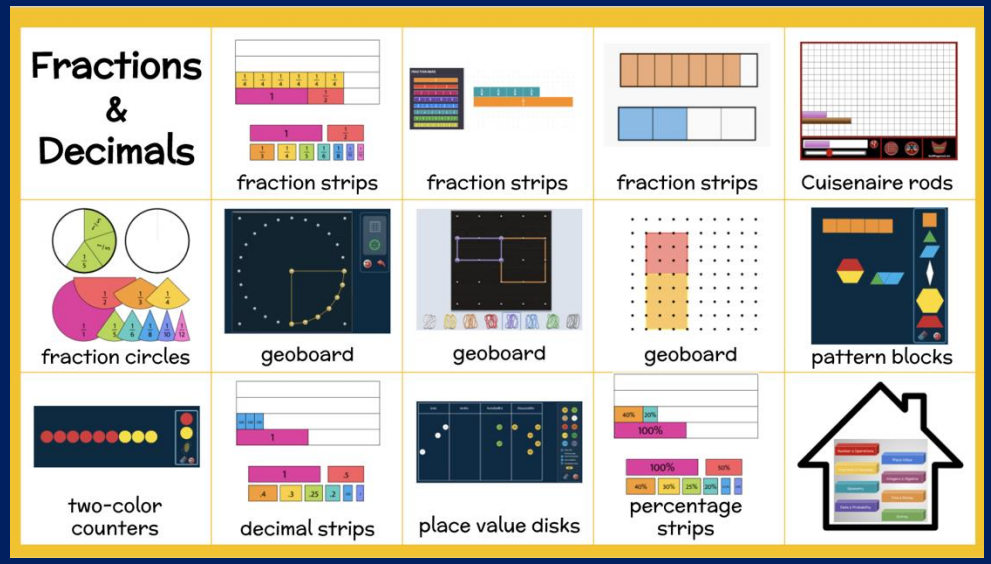


Multiple Representations

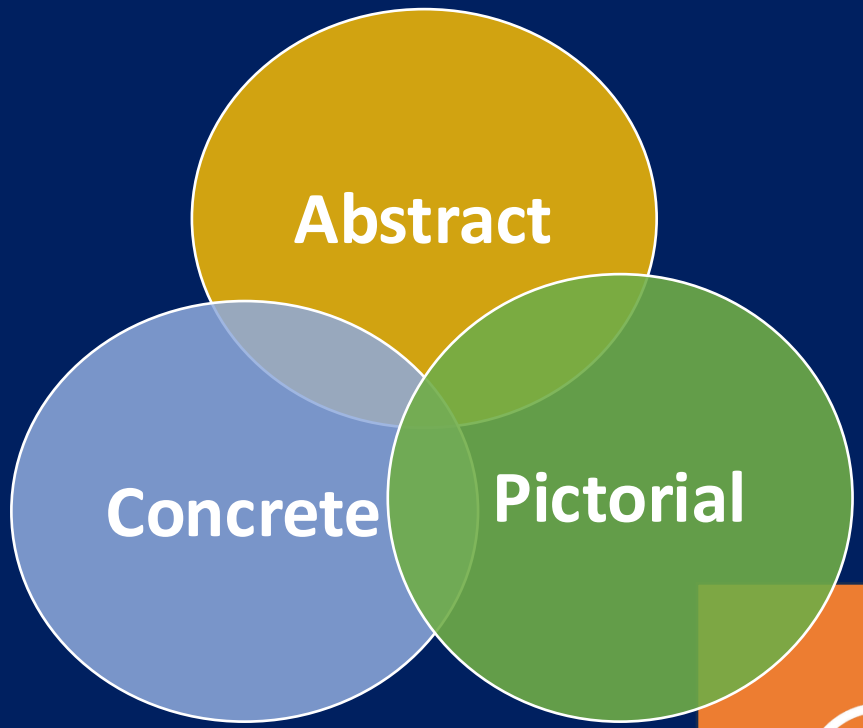
Readiness Individual Algebra Teaching of Supporting



Pictorial representations include two-dimensional objects and virtual manipulatives.



Multiple Representations



1. Describe three of your favorite concrete manipulatives.
2. Describe three of your favorite pictorial representations.
3. Explore at least two virtual manipulatives.
4. How do you connect the concrete and pictorial to the abstract?

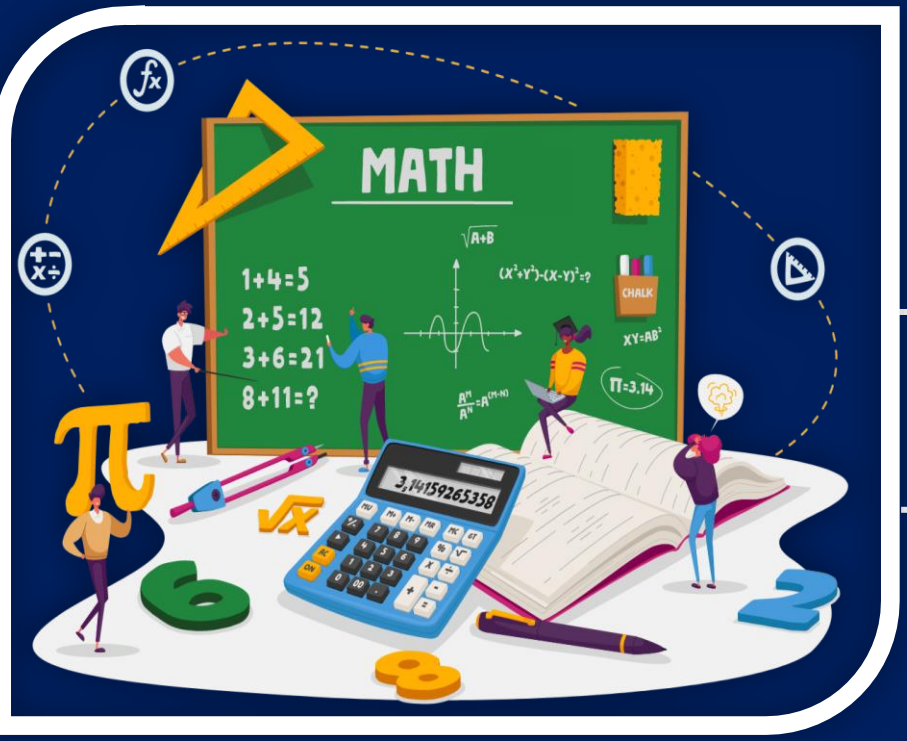
Five Key Evidence-Based Practices

Readiness Individual Algebra Teaching of Supporting

Explicit Instruction

Mathematics Language

Multiple Representations

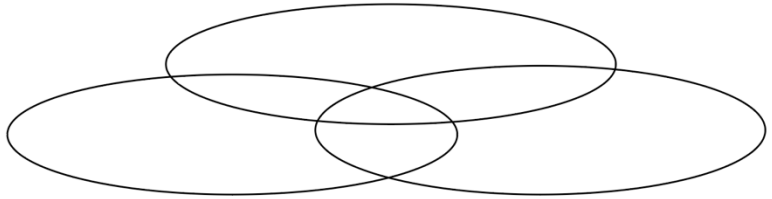


Fluency Practice

Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting

Multiple Representations



Fluency Practice

Fluency Practice

Readiness Individual Algebra Teaching of Supporting 2.0

Fluency is doing mathematics easily and accurately.

Fluency in mathematics makes mathematics easier.

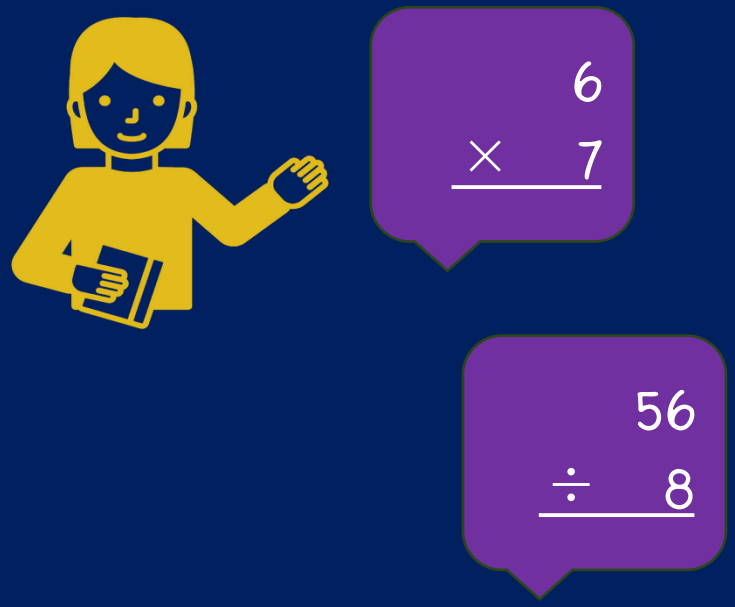
Fluency provides less stress on working memory.

Fluency helps students build confidence with mathematics.

With fluency, it is important to emphasize both conceptual learning and procedural learning.

Fluency Practice

Addition	Subtraction
Multiplication	Division



Build fluency with math facts.

- Addition: single-digit addends
- Subtraction: single-digit subtrahend
- Multiplication: single-digit factors
- Division: single-digit divisor

Fluency Practice

Addition	Subtraction
Multiplication	Division

Build fluency with whole-number computation.

$$\begin{array}{r} 1009 \\ -\ 724 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ \times\ 9 \\ \hline \end{array}$$

Fluency Practice

Addition	Subtraction
Multiplication	Division

Build fluency with rational-number computation.

$$\frac{9}{4} - \frac{3}{8}$$

$$7.892 \div 0.14$$

Fluency Practice

Addition	Subtraction
Multiplication	Division

Build fluency with integer computation.

$-135 \div 2 =$

$$\begin{array}{r} 1.4 \\ +\ -3.9 \\ \hline \end{array}$$

Fluency Practice

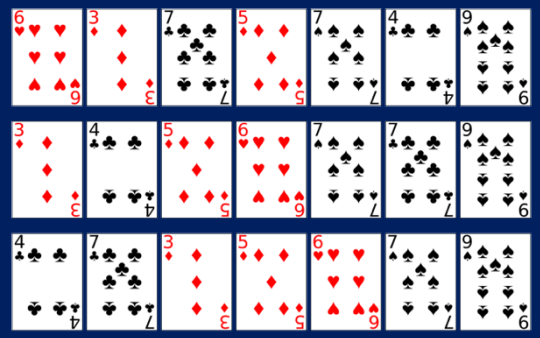
Readiness Individual Algebra Teaching of Supporting

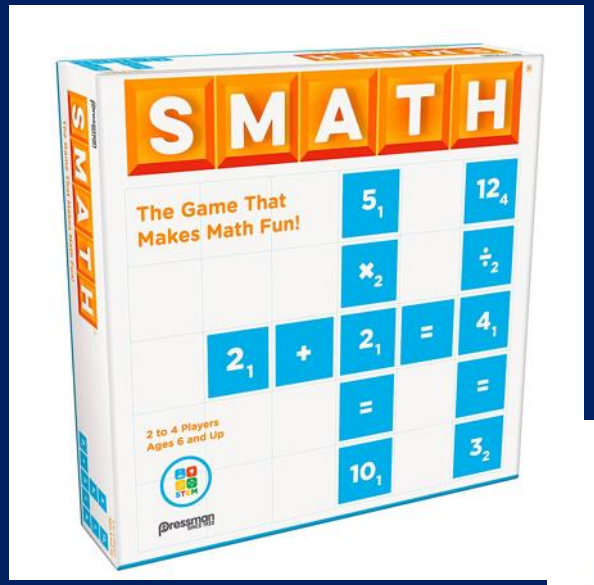
Fluency practice can be brief (1-2 minutes).

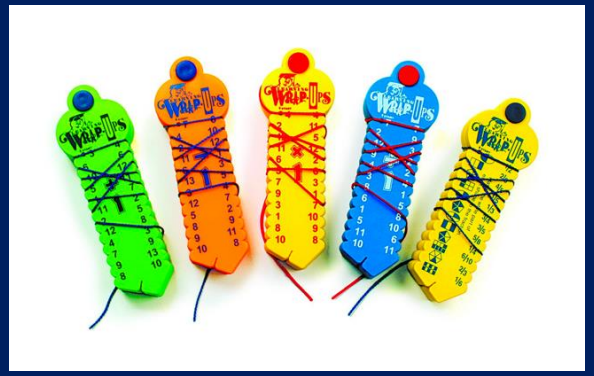
Fluency practice should occur every day.

Fluency Practice

Readiness Individual Algebra Teaching of Supporting 2.0

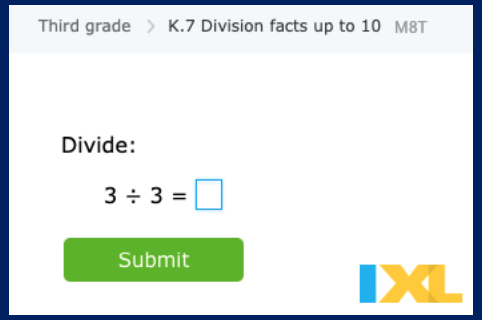


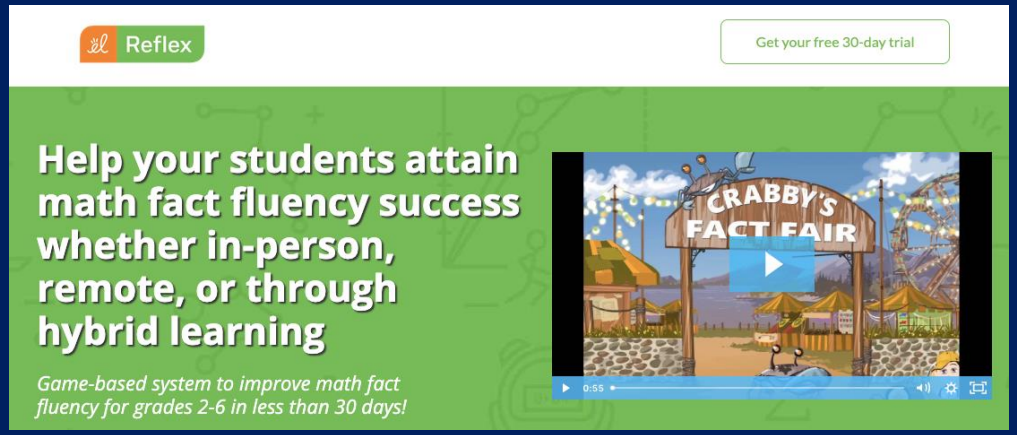


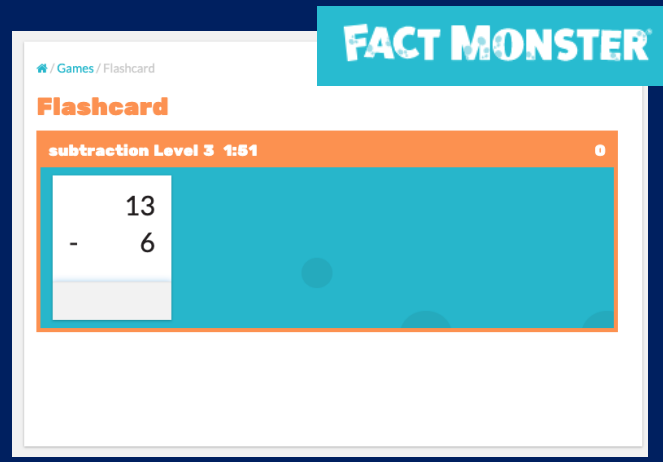


Fluency Practice

Readiness Individual Algebra Teaching of Supporting 2.0







Fluency Practice

1. Describe the fluency that is important for your students.
2. Why do your students struggle with fluency?
3. Describe three fluency-building activities you might use with your students.

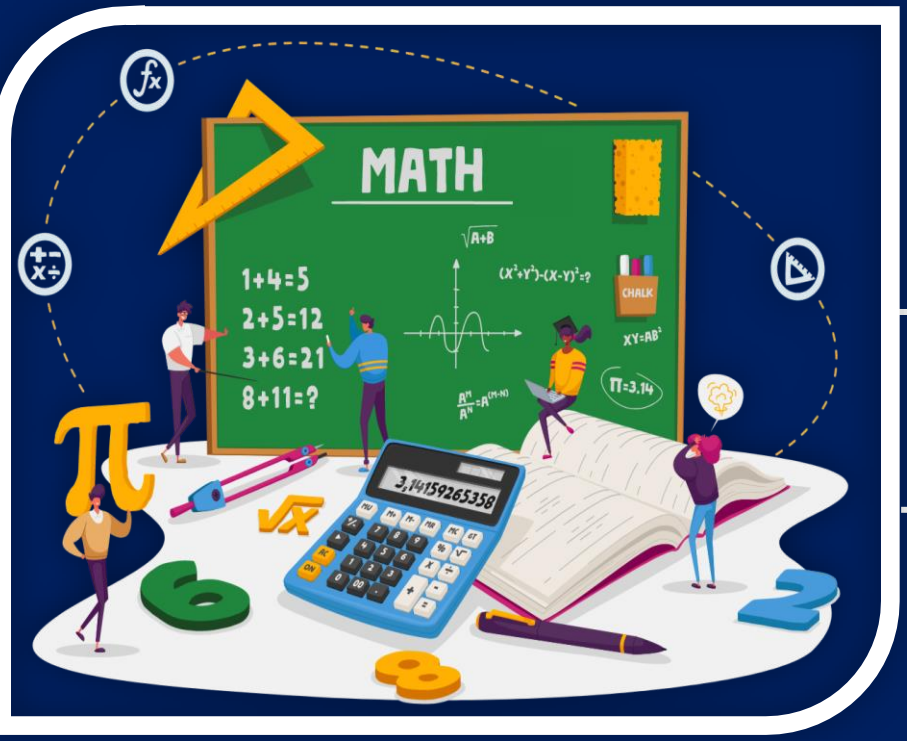
Five Key Evidence-Based Practices

Readiness Individual Algebra Teaching of Supporting

Explicit Instruction

Mathematics Language

Multiple Representations



Fluency Practice

Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting

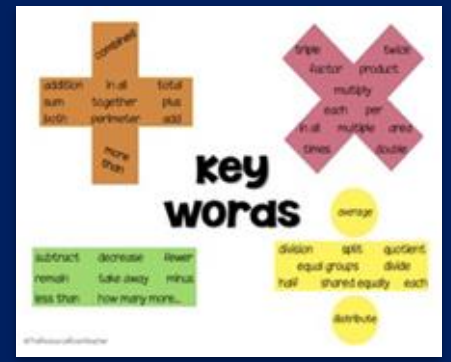
Word-Problem Solving

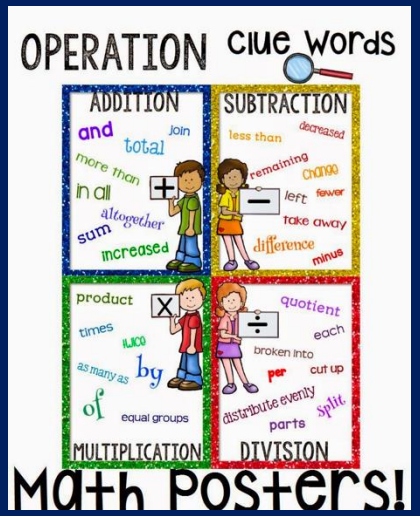
Your Evidence-Based Practices

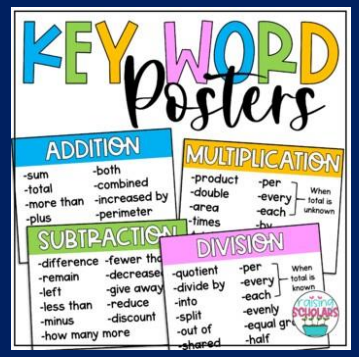
STRENGTHS	GROWTH OPPORTUNITIES

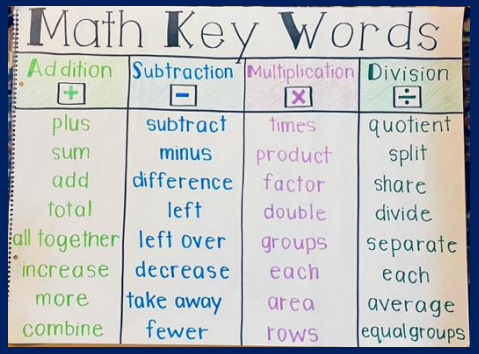
Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting









Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting

Name: _____ Date: _____

Addition Word Problems

Solve the word problems. Show your work.

1. Noah had 12 books. He got 5 more books. How many books did Noah have in all?

2. Bonnie found 8 rocks on her sidewalk and 7 rocks in her backyard. How many rocks did Bonnie find in all?

3. Edward had 5 toy cars. He got 8 more toy cars. How many toy cars did Edward have in all?

4. Mariela collected 11 feathers. Then she found 3 more feathers. How many feathers did Mariela have in all?

5. LaMonte made 14 cookies. Then he made 5 more cookies. How many cookies did LaMonte have in all?

education.com

LONG DIVISION
WORD PROBLEMS

1. Zookeeper Al wants to give each monkey at the zoo an equal number of bananas. There are 37 monkeys in the zoo and 567 bananas. How many bananas does each monkey get? And How many are left over for him to eat himself?

2. Betty has 427 oranges and needs to pack them up equally in 23 boxes. How many oranges go in each box and how much does she have left over?

3. Miss King has 1376 pages of scrap paper. She wants to make them into scrap paper packets for her 32 students. How many pages will each packet have? How many extra pages will she have left over?

4. Mr. Chong has 1,440 pages of scrap paper. He instead wants to make packets of 40 pages each but forgets to check if that will be enough for his 37 students. Will there be enough packets per student? If not how much more scrap paper does he need?

Word-Problem Instruction

Use an attack strategy.

High-quality attack strategies require the students to

- Read the problem
- Create a plan for solving the problem
- Solve the problem
- Check the answer.

Attack strategies should be flexible to address any word problem.

Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting

Use an attack strategy.

RIDGES

Read the problem.
I know statement.
Draw a picture.
Goal statement.
Equation development.
Solve the equation.

Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting

Use an attack strategy.

RIDE

Read the problem.

Identify the relevant information.

Determine the operation and unit for the answer.

Enter the correct numbers and calculate, then check the answer.

Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting

Use an attack strategy.

SOLVE

Study the problem.

Organize the facts.

Line up the plan.

Verify the plan with computation. Examine the answer.

Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting

Use an attack strategy.

UPS✓

UNDERSTAND
Read and explain.

PLAN
How will you solve the problem?

SOLVE
Set up and do the math!

✓CHECK
Does your answer make sense?

Created by: Sarah Powell (srpowell@austin.utexas.edu)

Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting

Use an attack strategy.

1. What is your favorite attack strategy for word problems?
2. How do you model and practice the attack strategy?

Word-Problem Instruction

Teach word-problem schemas.

A **schema** refers to the structure of the word problem.

There are three primary additive schemas:

1. Total
2. Difference
3. Change

There are also three multiplicative schemas

1. Equal Groups
2. Comparison
3. Ratio/Proportion

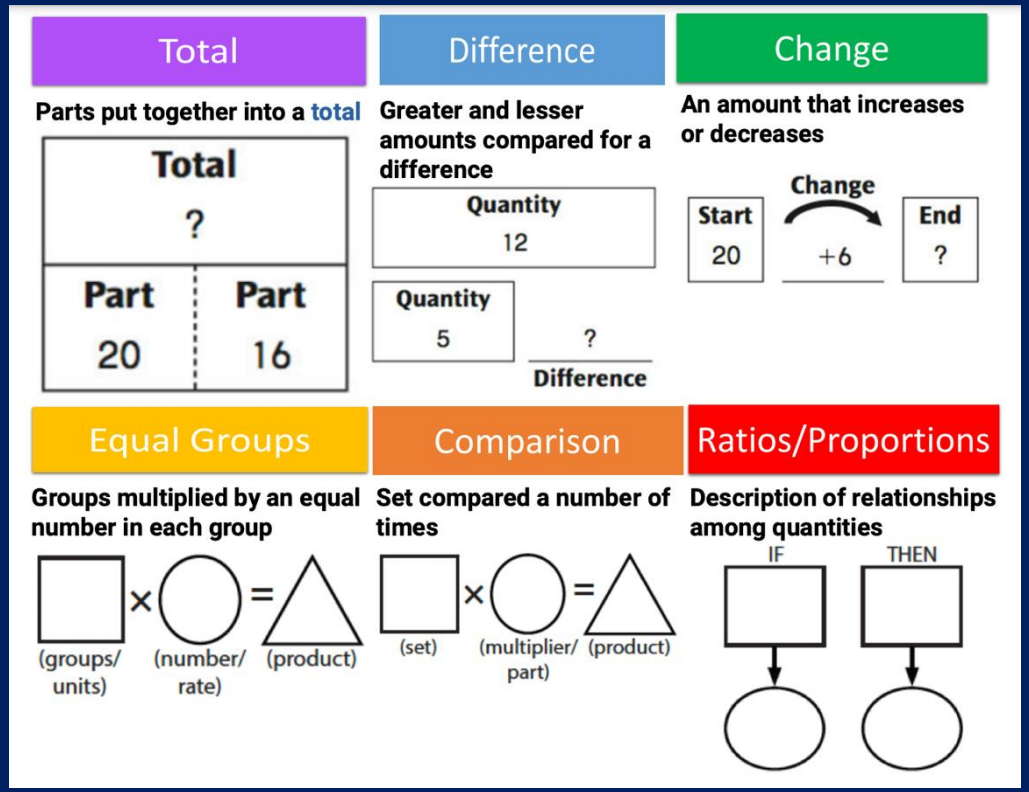
Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting

Teach word-problem schemas.

EXAMPLE: SCHEMAS

Total	Max baked 40 cookies and 75 brownies. How many baked goods did Max bake?
Difference	The Brazos River is 840 miles. The Red River is 1,360 miles. How much longer is the Red River?
Change	There were 23 passengers on the bus. Then, 13 more passengers boarded the bus. How many passengers are on the bus now?
Equal Groups	Mark has 2 boxes of crayons. There are 24 crayons in each box. How many crayons does Mark have?
Comparison	Jill picked 6 apples. Meg picked 2 times as many apples as Jill. How many apples did Meg pick?
Ratios/Proportions	There are 176 slices of bread in 8 loaves. If there are the same number of slices in each loaf, how many slides of bread are in 5 loaves?



Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting

Teach word-problem schemas.

1. Describe your plan for helping students understand common word-problem schemas.
2. What are the difficulties your students have with word-problem solving?

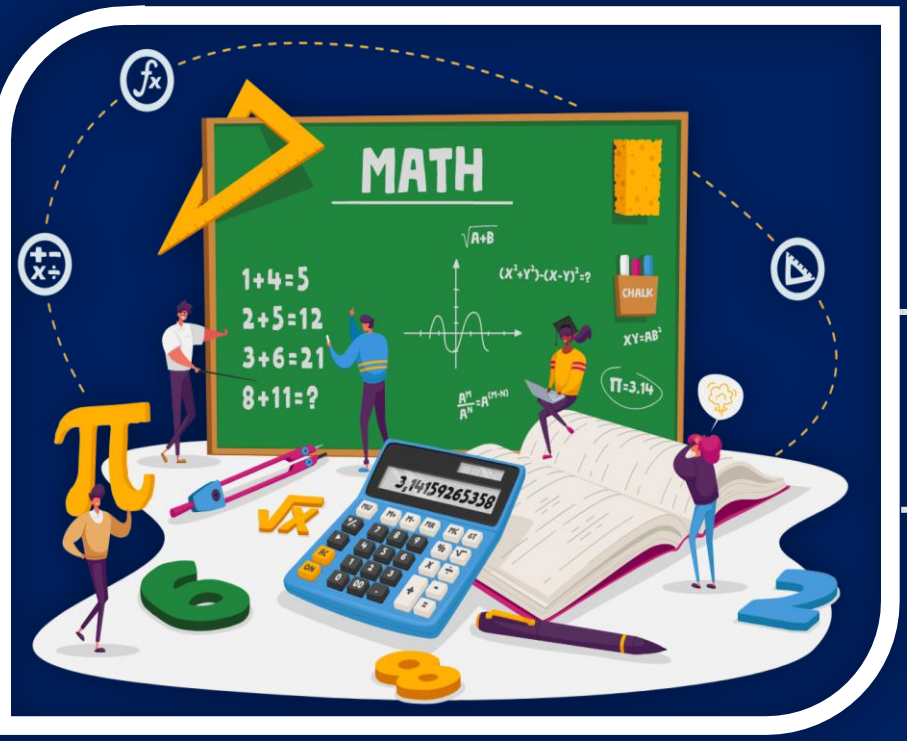
Five Key Evidence-Based Practices

Readiness Individual Algebra Teaching of Supporting

Explicit Instruction

Mathematics Language

Multiple Representations



Fluency Practice

Word-Problem Instruction

Readiness Individual Algebra Teaching of Supporting

Word-Problem Solving

Your Evidence-Based Practices

STRENGTHS	GROWTH OPPORTUNITIES

Agenda

Readiness Individual Algebra Teaching of Supporting 2.0

Assessments

Designing Effective Instruction

Welcome and Introductions

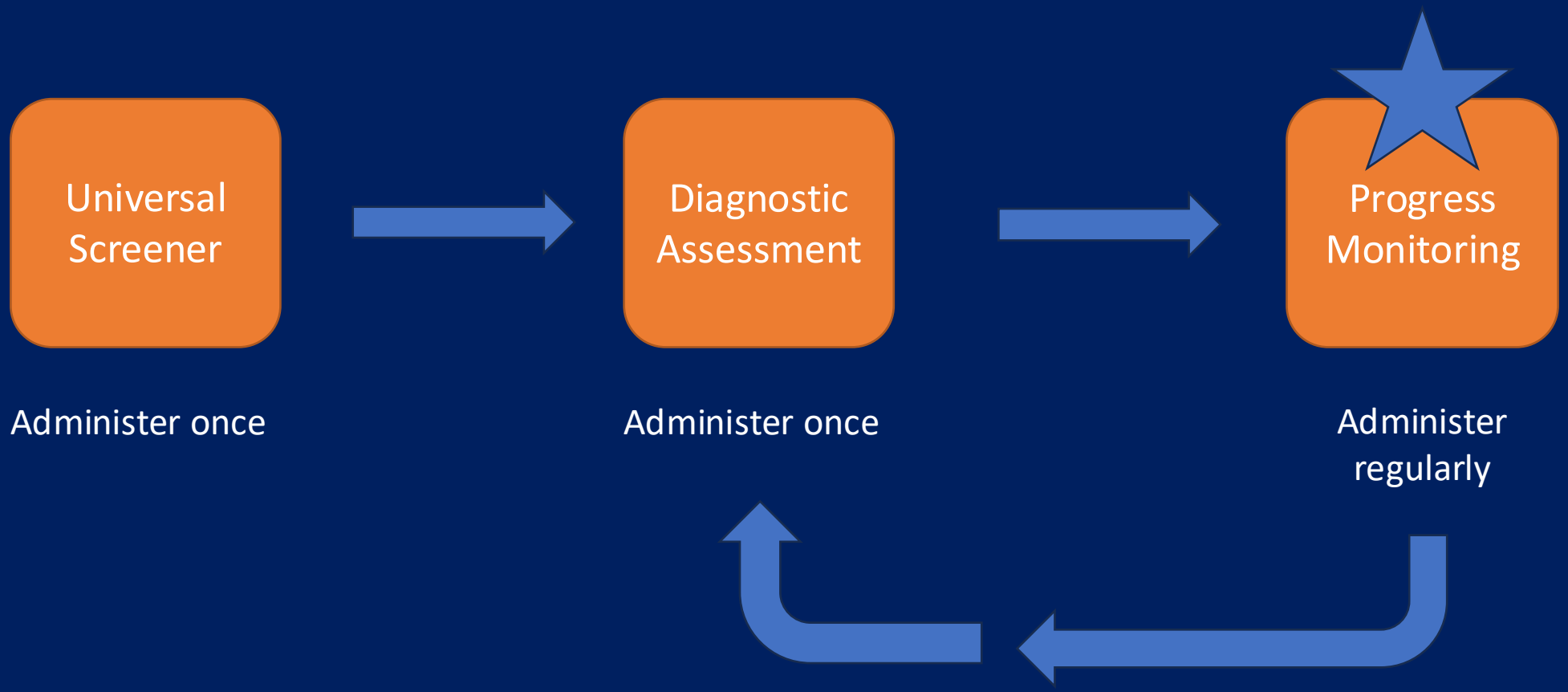
Readiness Individual Algebra Teaching of Supporting

Assessments: aimsweb

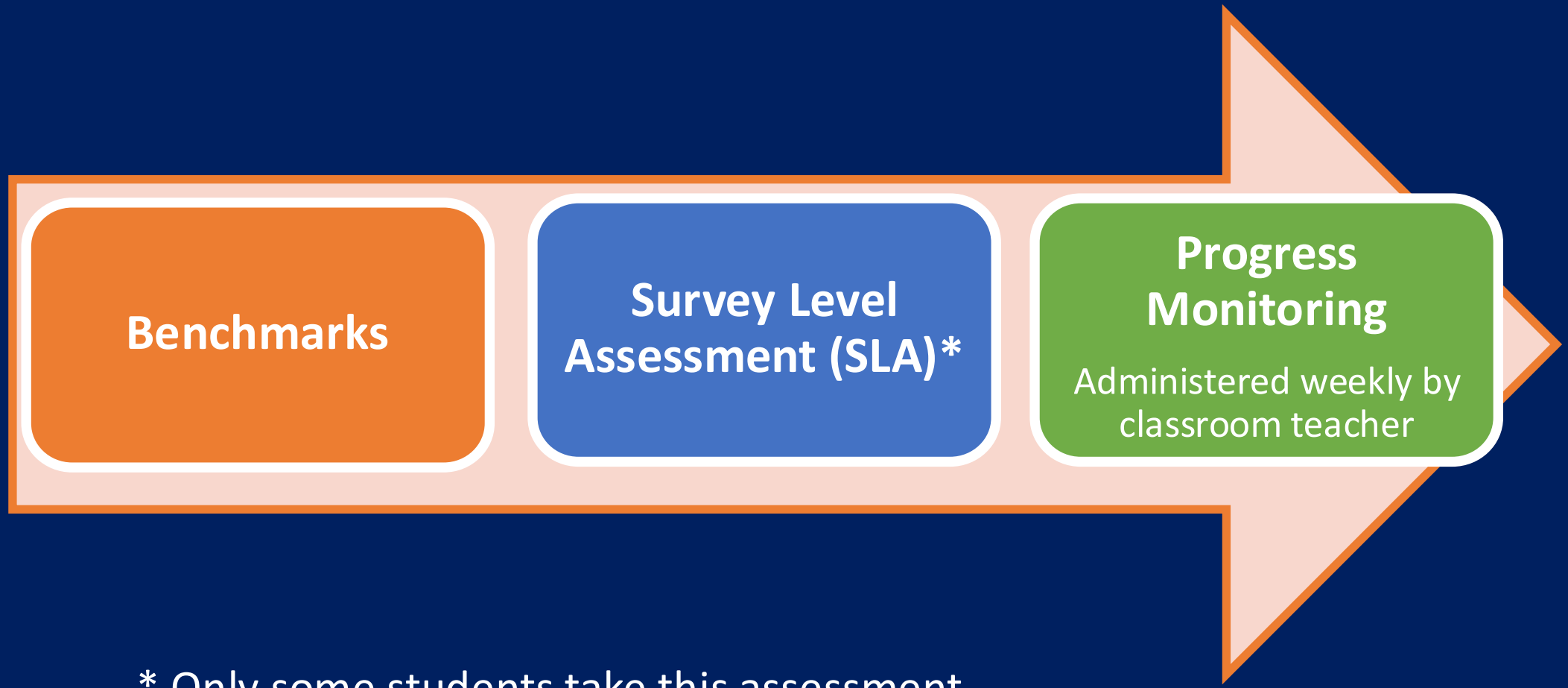
Step 1	
Step 2	
Step 3	

Goal Setting

Where we left off...



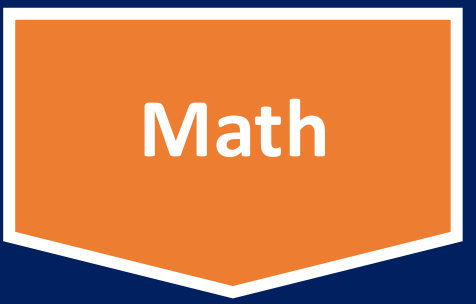
What aimsweb measures will be administered?



* Only some students take this assessment

Step 1: Administer Benchmarks

- All benchmarks will be administered twice
  - Fall 2023 (student pretest)
  - Spring 2024 (student posttest)
- TWO subject areas
  - **Math**
    - Number Sentence Fluency (NSF)
      - Number Comparison Fluency-Triads (NCF-T)
      - Mental Computation Fluency (MCF)
      - Concepts and Applications
  - **Reading**
    - Reading Comprehension
    - Vocabulary
    - Silent Reading Fluency



Step 1: Administer Benchmarks

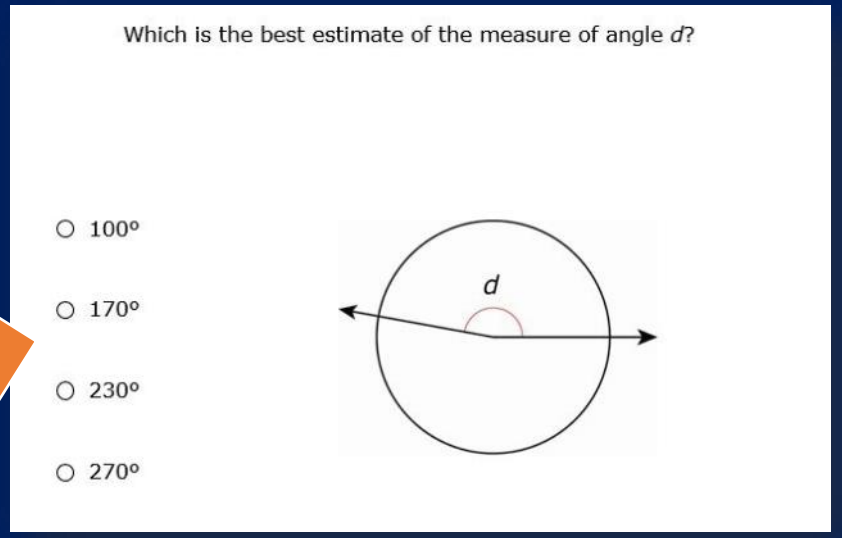
Readiness Individual Algebra Teaching of Supporting

Math

Concepts and Applications (CA)

- Multiple-choice math word problems, each addressing an aspect of grade-appropriate CCSS domains.
- Administration Time: 15–25 minutes (approximate)

Example Test Item



Step 1: Administer Benchmarks

Readiness Individual Algebra Teaching of Supporting

Math

Number Sense Fluency (NSF)

- Measures a student's automaticity with comparing **numbers** within and across number systems and mentally solving one- and two-step computation problems.
- Two subtests:
  1. Number Comparison Fluency–Triads (NCF)
  2. Mental Computation Fluency (MCF)

Step 1: Administer Benchmarks

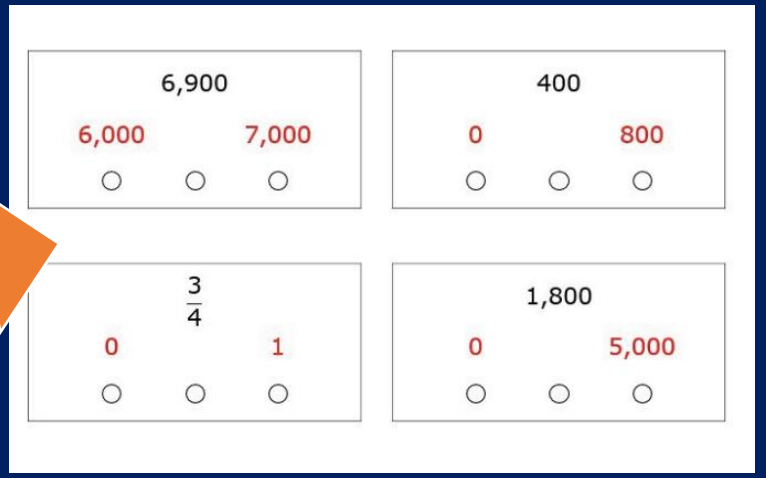
Readiness Individual Algebra Teaching of Supporting

Math

Number Comparison Fluency–Triads (NCF)

- Multiple choice math items, comparing numbers within and across number systems
- Each item is presented as a triad of numbers, with the student determining whether the top number in the triad is closer in value to the bottom left number, the bottom right number, or exactly between the two numbers.
- Each form contains 40 items
- Time Limit: 3 minutes

Example Test Item



Step 1: Administer Benchmarks

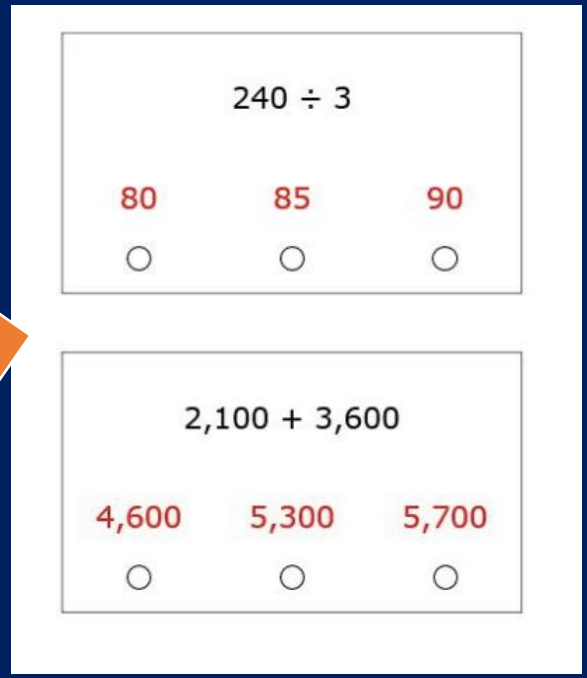
Readiness Individual Algebra Teaching of Supporting

Math

Mental Computation Fluency (MCF)

- The student answers multiple-choice math items, each requiring one-or two-step mental computation of a math expression.
- Each form contains 42 items
- Time Limit: 4 minutes

Example Test Item



Step 1: Administer Benchmarks

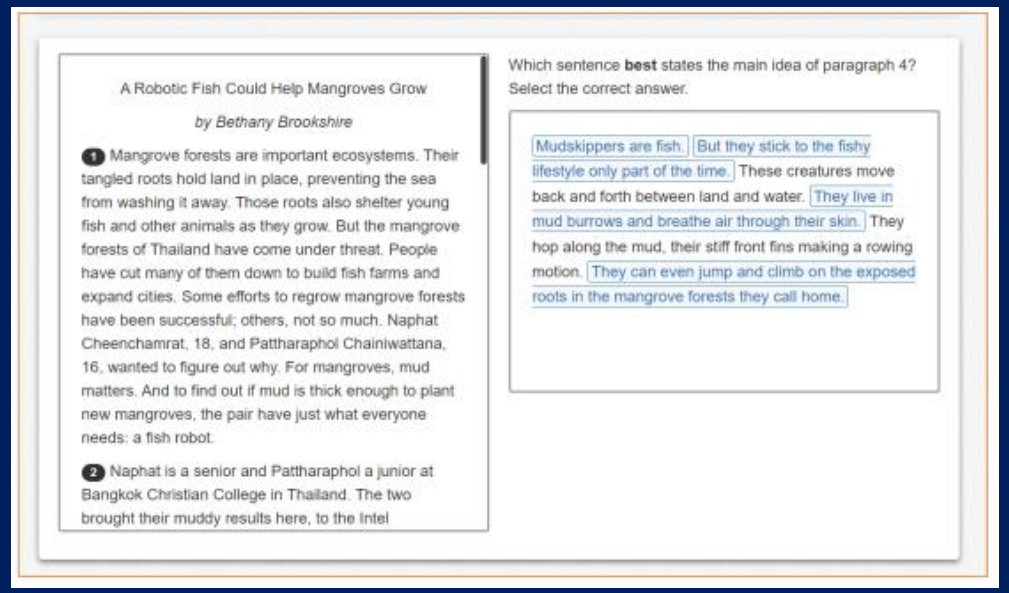
Readiness Individual Algebra Teaching of Supporting 2.0

Reading

Reading Comprehension

- Student reads passages of text and answers four multiple-choice questions about each passage.
- 24 total items.
- Benchmark screening only.

Example Test Item



A Robotic Fish Could Help Mangroves Grow

by Bethany Brookshire

1 Mangrove forests are important ecosystems. Their tangled roots hold land in place, preventing the sea from washing it away. Those roots also shelter young fish and other animals as they grow. But the mangrove forests of Thailand have come under threat. People have cut many of them down to build fish farms and expand cities. Some efforts to regrow mangrove forests have been successful; others, not so much. Naphat Cheenchamrat, 18, and Pattharaphol Chainiwattana, 16, wanted to figure out why. For mangroves, mud matters. And to find out if mud is thick enough to plant new mangroves, the pair have just what everyone needs: a fish robot.

2 Naphat is a senior and Pattharaphol a junior at Bangkok Christian College in Thailand. The two brought their muddy results here, to the Intel

Which sentence **best** states the main idea of paragraph 4? Select the correct answer.

Mudskippers are fish. But they stick to the fishy lifestyle only part of the time. These creatures move back and forth between land and water. They live in mud burrows and breathe air through their skin. They hop along the mud, their stiff front fins making a rowing motion. They can even jump and climb on the exposed roots in the mangrove forests they call home.

Step 1: Administer Benchmarks

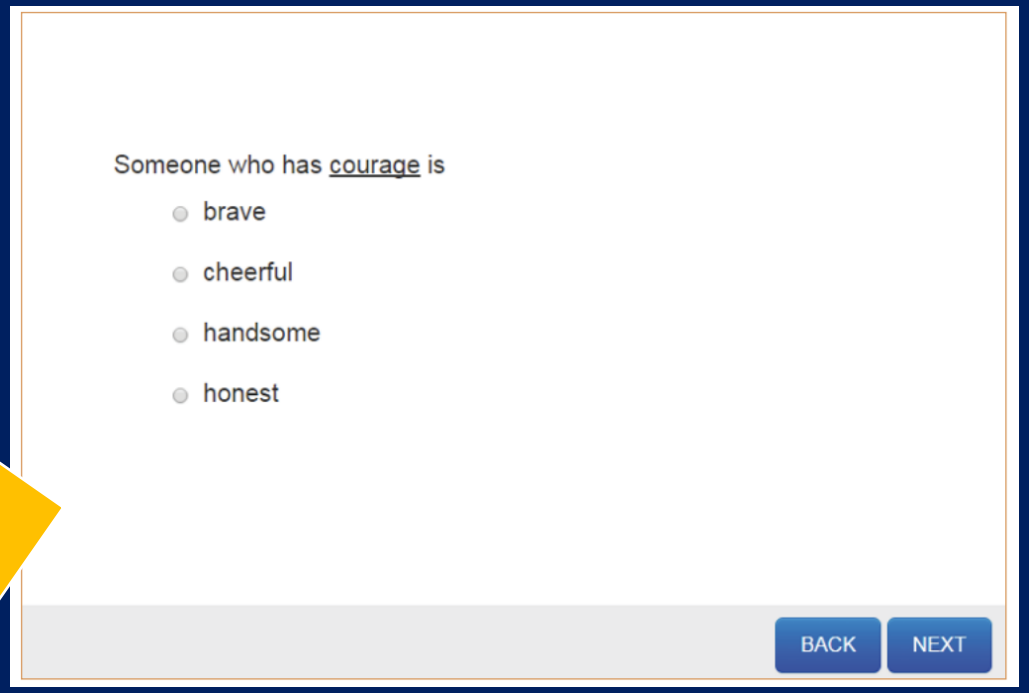
Readiness Individual Algebra Teaching of Supporting 2.0

Reading

Vocabulary (VO)

- Identify the meanings of target words by selecting from multiple-choice options
- Number of items correctly answered
- Time Limit: ~4–7 minutes

Example Test Item



Step 1: Administer Benchmarks

Readiness Individual Algebra Teaching of Supporting

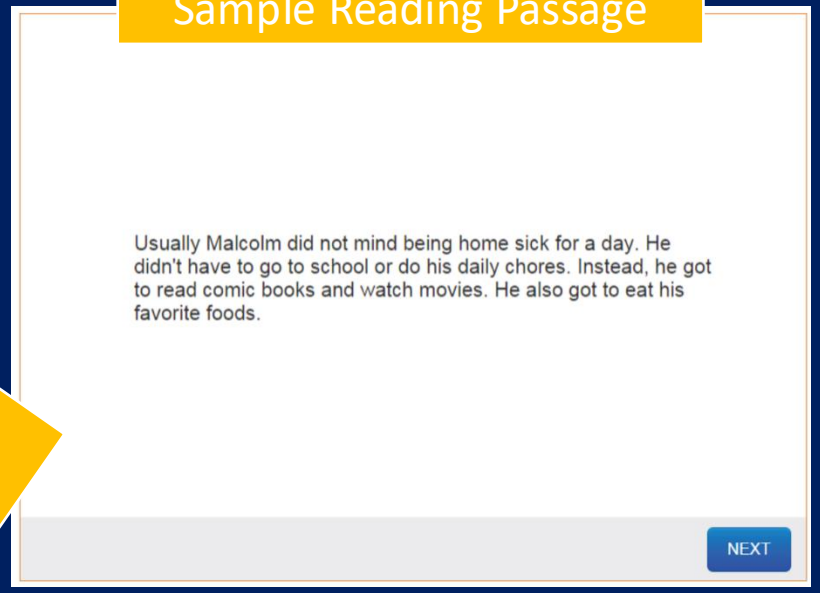
Reading

Silent Reading Fluency (SRF)

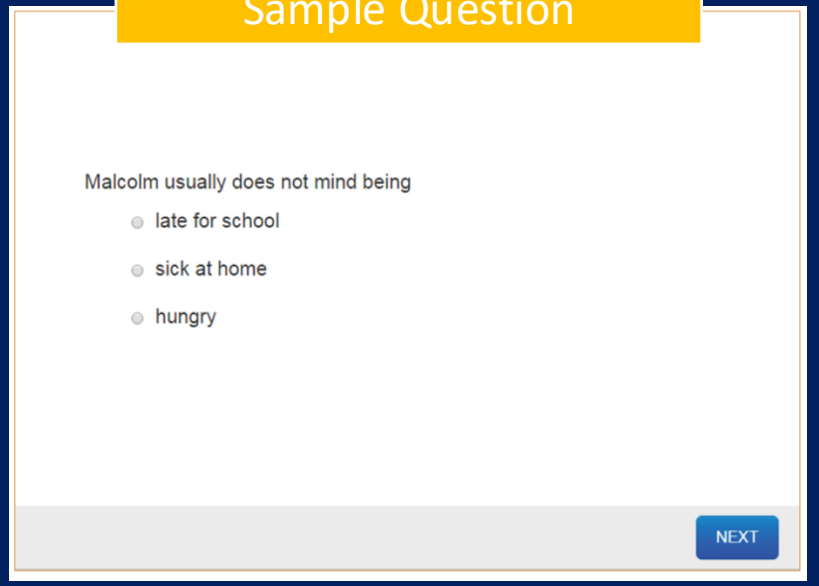
- Read three stories divided into brief sections
- Answer multiple-choice questions about each story
- Median reading rate of three stories
- Time Limit: ~4–6 minutes

Example Test Item

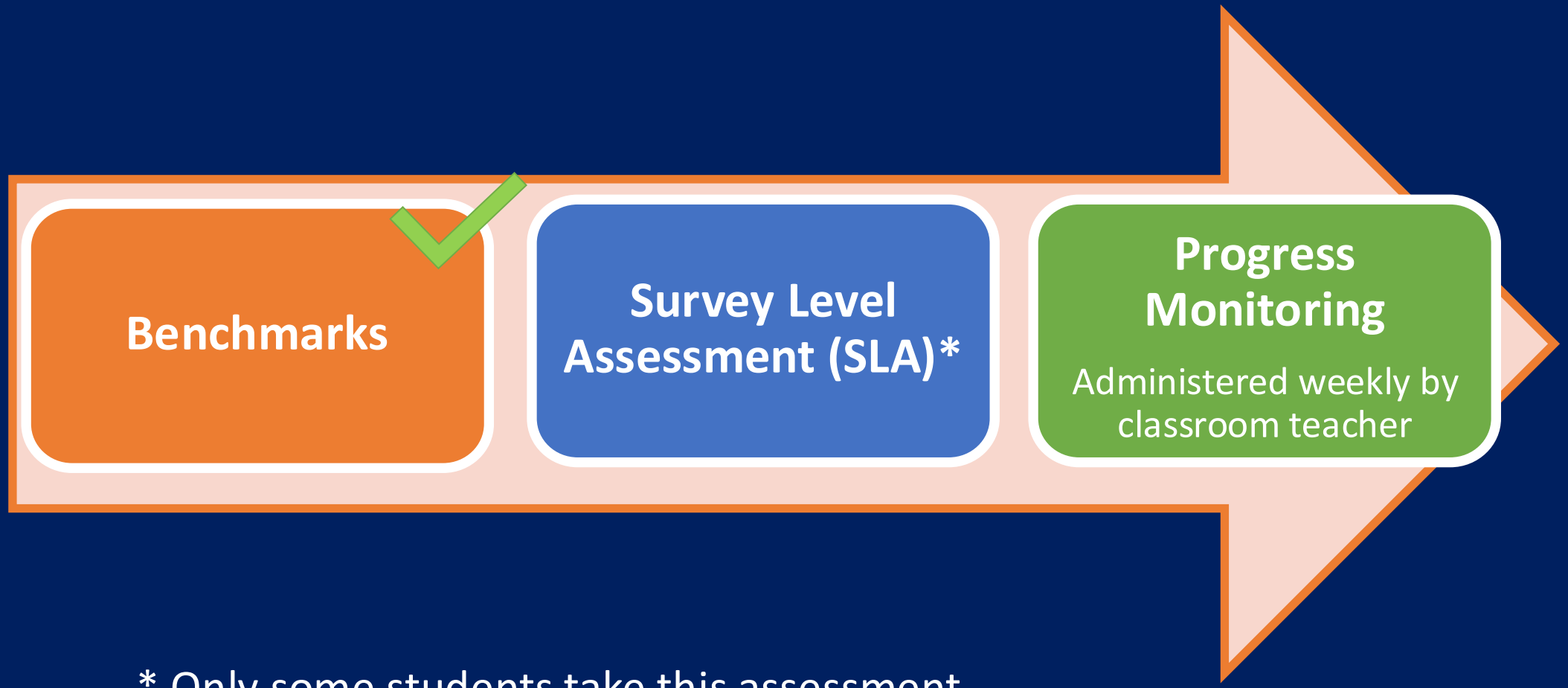
Sample Reading Passage



Sample Question



aimsweb Measures



* Only some students take this assessment

Step 2: Survey Level Assessment (SLA)*

- SLA is used to determine the appropriate grade level for progress monitoring
- ONLY administered to students who score ≤ 10th percentile on the **math** benchmark assessment

%tile
90-99 Well Above Average
73-89 Above Average
26-74 Average
11-25 Below Average
1-10 Well Below Average

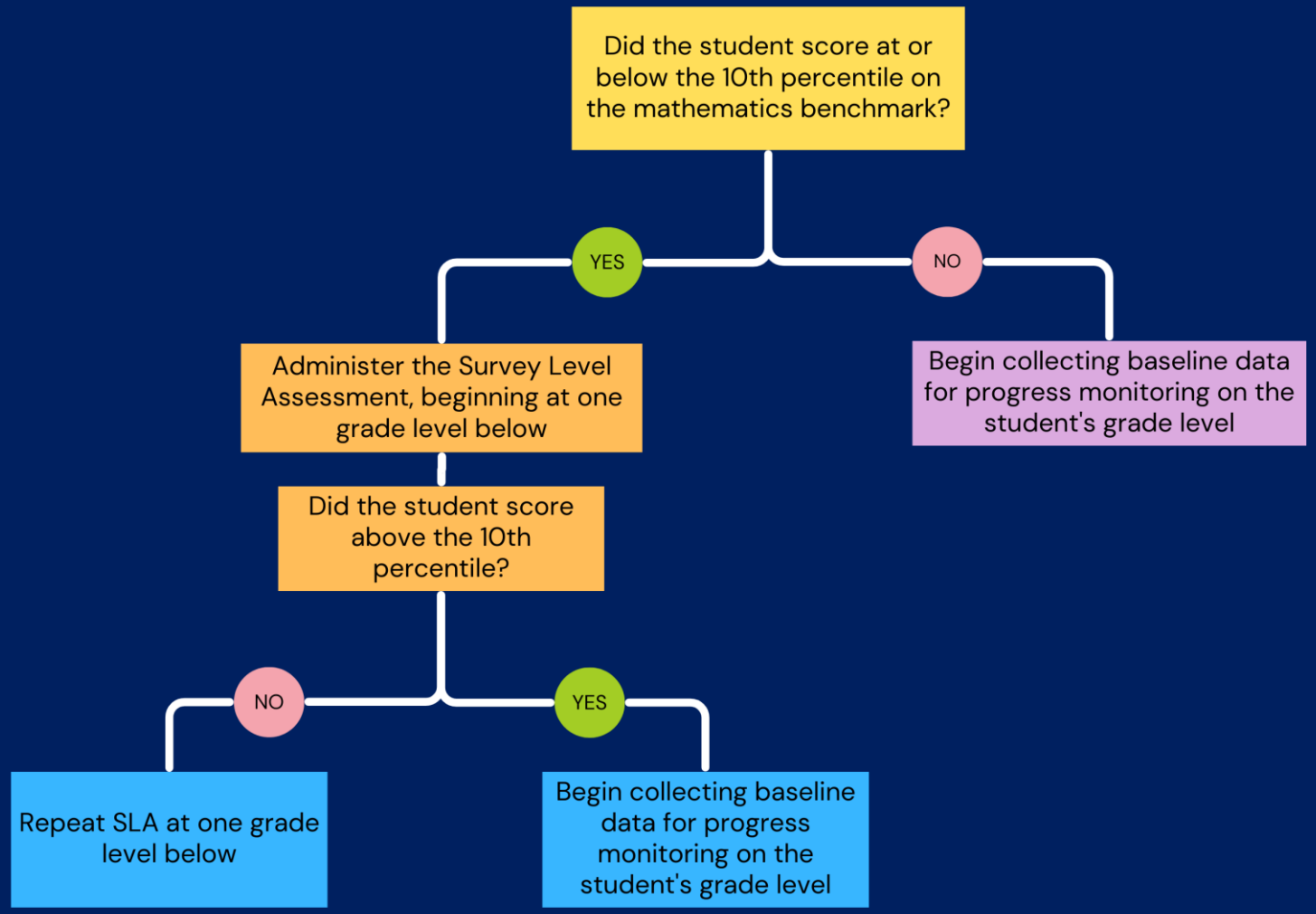
Step 2: Survey Level Assessment (SLA)*

- Once you've identified students who need the SLA, you will enable the SLA and unlock student test tickets
  - STAIR Coaches will support you!
- For each student taking the SLA, you will assign a grade level for the assessment
- The first time a student takes the SLA, you will choose ONE GRADE LEVEL below their current grade level

Step 2: Survey Level Assessment (SLA)*

When should the SLA be used?

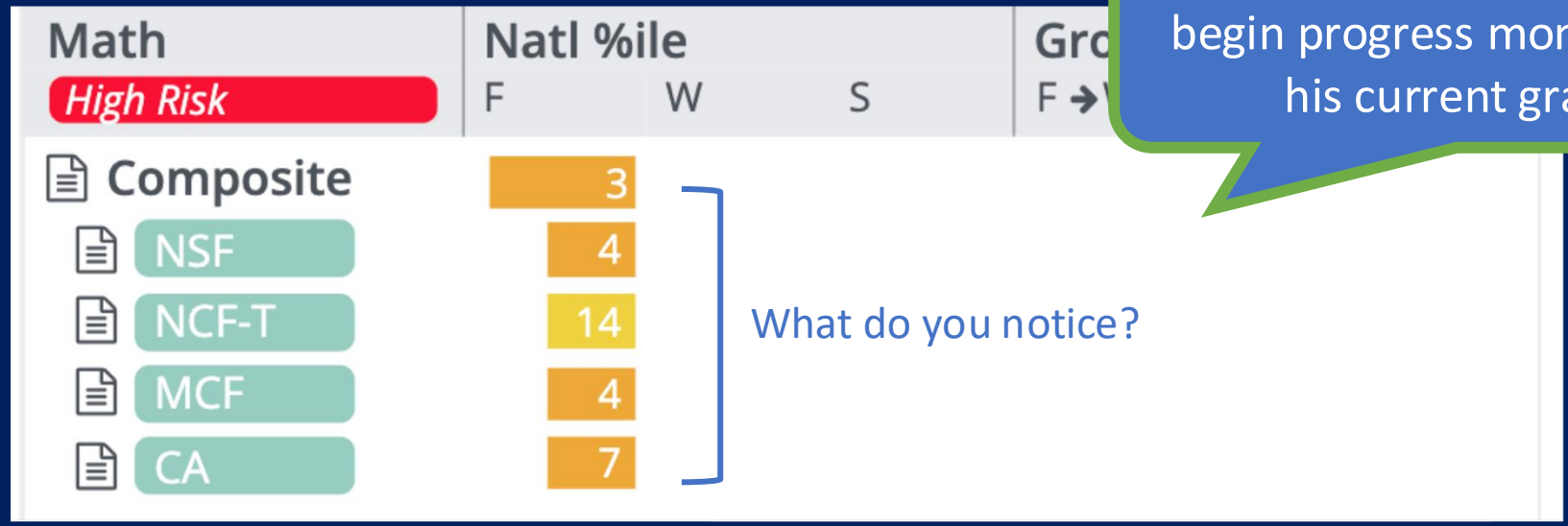
Which students should take the SLA?



Let's look at an example scenario!

Student scenario:

Amir is a seventh grader with a learning disability in mathematics. He is one of four students in Ms. Jackson's mathematics intervention group. Yesterday, Ms. Jackson met with her STAIR coach to discuss her students' mathematics benchmark data. A snapshot of Amir's data is provided below:



Example

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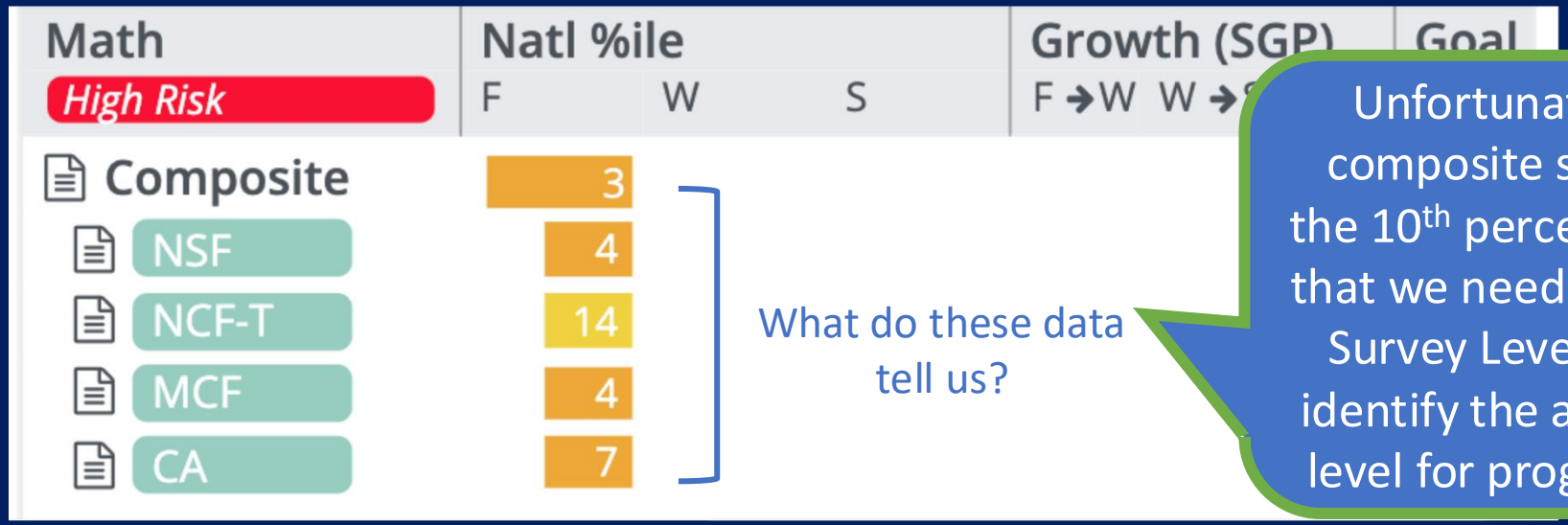

Example

Student scenario:

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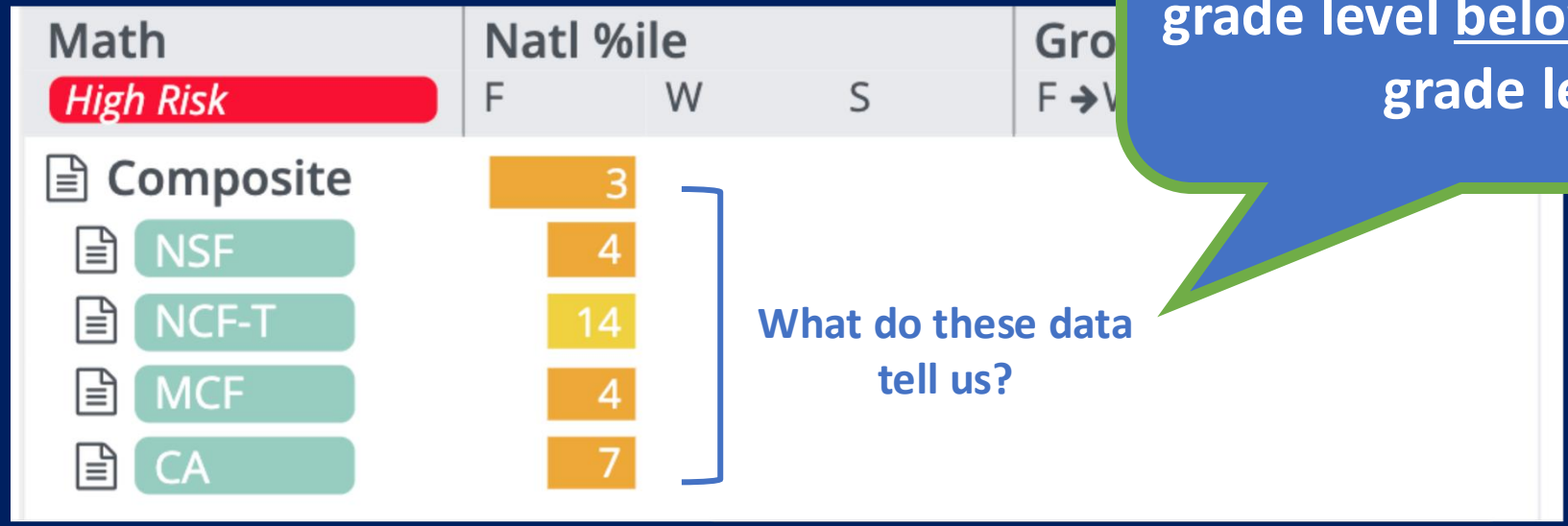


Ms. Jackson will need to administer the SLA at <u>one</u> grade level <u>below</u> his current grade level.

Example

Student scenario:

After administering the SLA, Ms. Jackson reviews Amir's scores to evaluate how he performed on a 6th-grade measure.

Survey Level Assessments

Measure	Grade	Date	Score	Natl %ile	Goal
NSF	All				
NSF	5	1/26/2023	1	7	

What do you notice?

Example

Student scenario:

After administering the first SLA, Ms. Jackson reviews Amir's scores to evaluate how he performed on a 6th-grade measure.

Survey Level Assessments

Measure	Grade	Date	Score	Natl %ile	Goal
NSF	All				
NSF	6	1/26/2023	1	7	

Amir scored at the 7th percentile, which is still below the 10th percentile. Ms. Jackson will need to administer the SLA again, but at one more grade level below.

Example

Student scenario:

After administering the second SLA, Ms. Jackson reviews Amir's scores to evaluate how he performed on a 5th-grade measure.

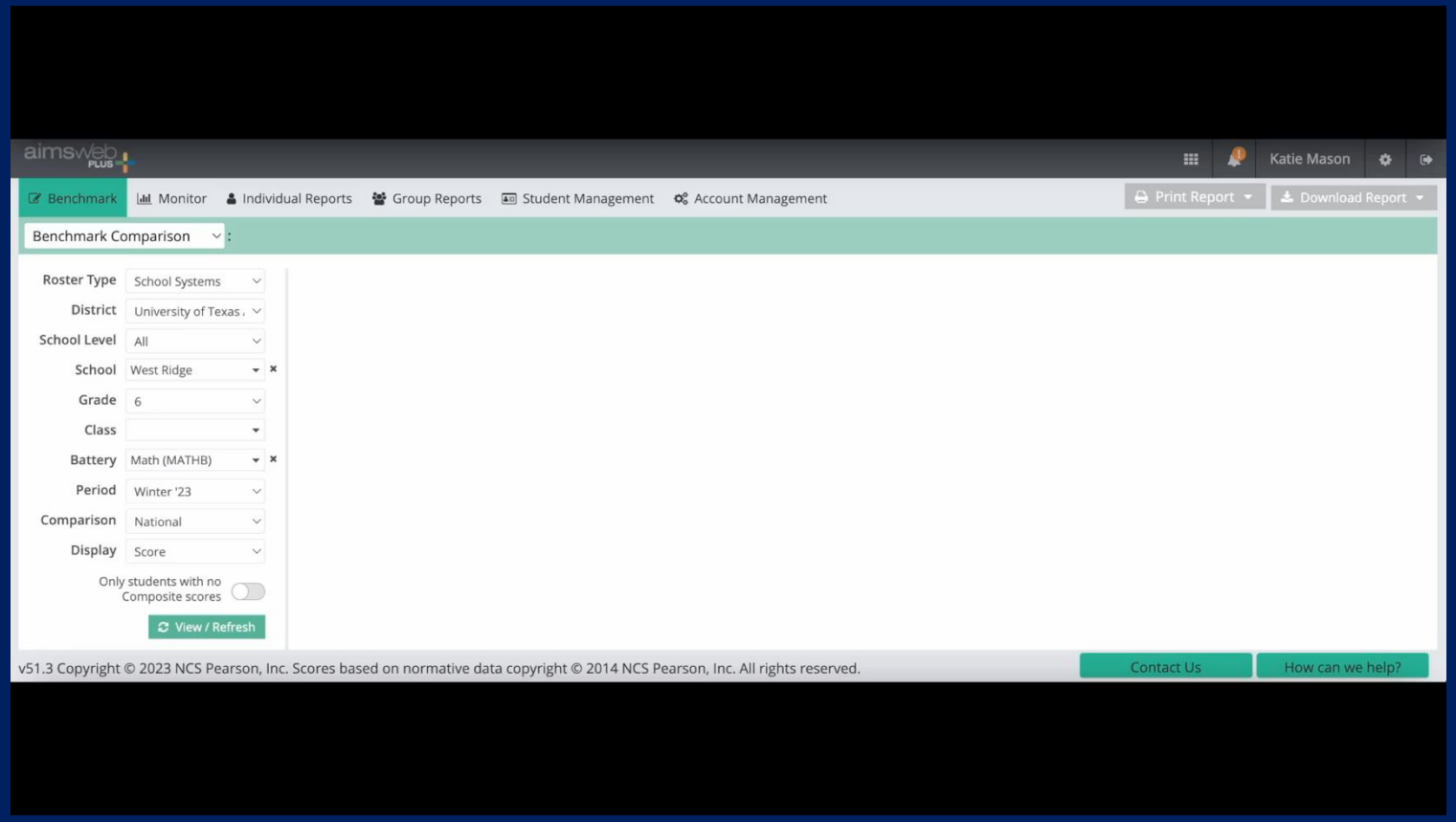
Measure	Grade	Date	Score	Natl %ile	Goal
NSF	All				
NSF	5	2/2/2023	4	14	
NSF	6	1/26/2023	1	7	

Amir is no longer scoring below the 10th percentile! This indicates the grade level that is most appropriate for him is a measure of progress monitoring at the fifth-grade level.

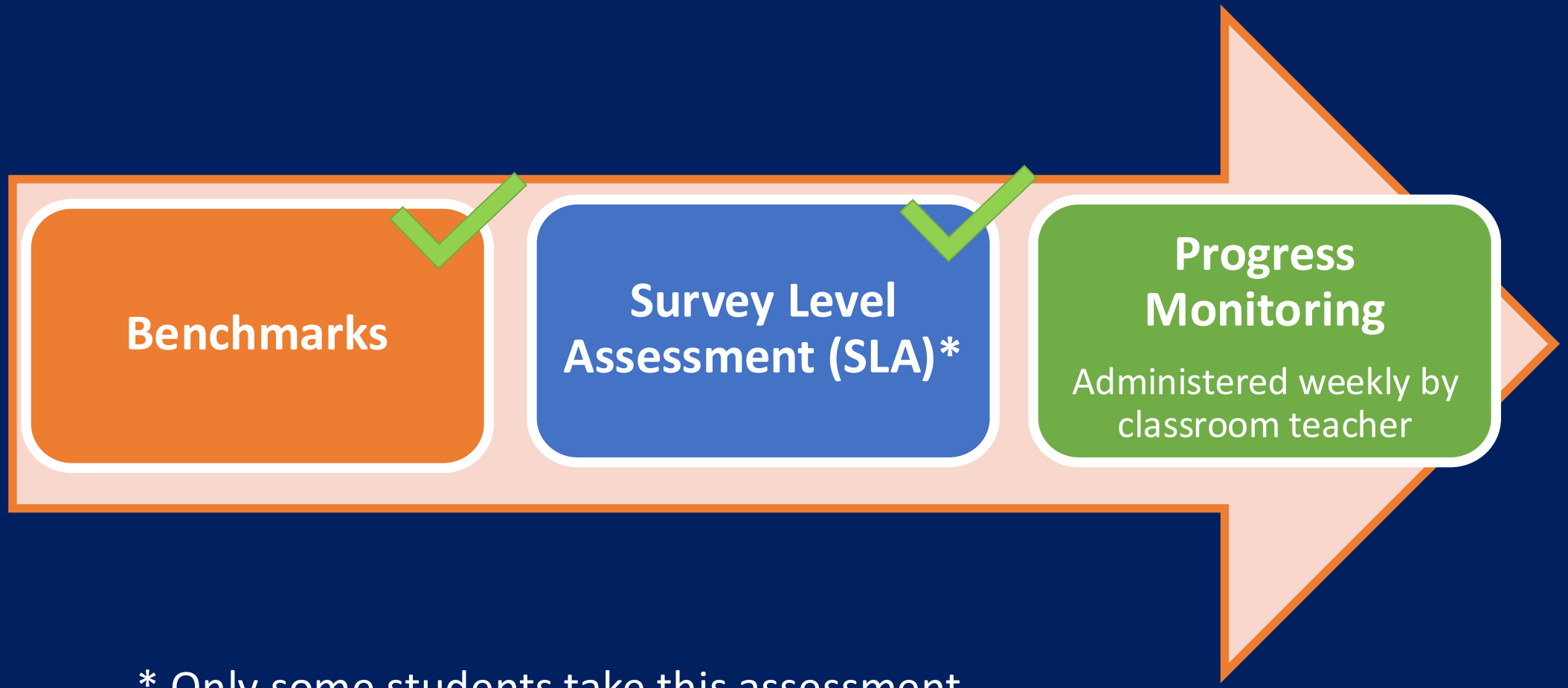
Video Guide - Survey Level Assessment

Readiness Individual Algebra Teaching of Supporting

Step-by Step Instructions



aimsweb Measures



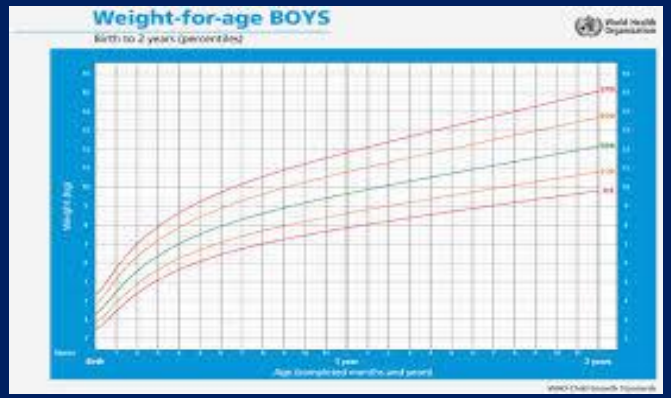
* Only some students take this assessment

Step 3: Initiate Progress Monitoring

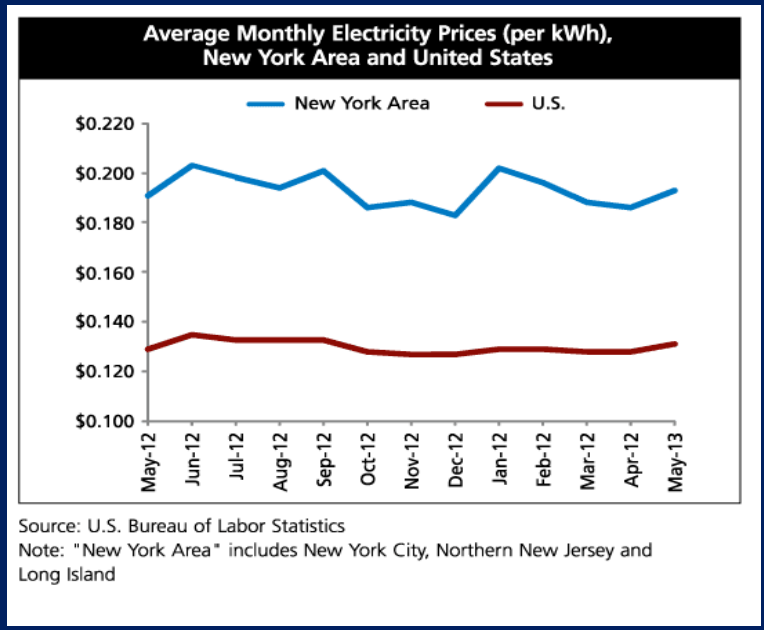
Readiness Individual Algebra Teaching of Supporting 2.0

What is progress monitoring?

Exercise Tracker



Baby Growth Chart



Average Monthly Electricity Prices in NY & US

Why is Progress Monitoring Important?

Is the intervention helping?

- Data are used to determine if students are learning the content at an appropriate rate

- Information you gain from progress monitoring can be used to determine if instructional supports your student needed were accurate

Characteristics of Progress Monitoring

Measures should be…

- Quick and easy to administer
- Multiple parallel forms (same difficulty, format, content)
- Standardized administration and scoring (same timing, setting, scoring rules)

aimsweb Progress Monitoring

- aimsweb is a formative assessment tool
- Enables educators to quickly and accurately:
  - screen and monitor math skills of PreK –12 students
  - identify risk of academic failure
  - Intervene early
  - measure, monitor, and document the impacts of intervention efforts

(Pearson, 2019)

aimsweb Progress Monitoring

- We will be monitoring **Number Sense Fluency (NSF)**
  - This measures a student's automaticity with comparing numbers within and across number systems and mentally solving one- and two-step computation problems.

- There are two subtests administered within NSF: **Number Comparison Fluency–Triads** (NCF) and **Mental Computation Fluency** (MCF)

Progress Monitoring Measures

- Individual Monitoring
  - Provides information about a student's progress, including:
    - progress monitoring data points across the duration of the schedule
    - a student’s goal, rate of improvement, and trend
    - information about schedule adjustments

  - With each administration of a progress monitoring form, the student’s score is plotted on the progress monitoring chart for that measure

Readiness Individual Algebra Teaching of Supporting

1. Review what happens at Step 1.
2. Review what happens at Step 2.
3. Describe why progress monitoring is important.

Agenda

Readiness Individual Algebra Teaching of Supporting 2.0

Goal Setting

Assessments

Designing Effective Instruction

Welcome and Introductions

Readiness Individual Algebra Teaching of Supporting

Assessments: aimsweb

Step 1	
Step 2	
Step 3	

Goal Setting

Setting Ambitious Goals

- It is important to set a reasonable and ambitious goal over an easy goal
  - A goal that is too easy will be achieved quickly and will not be engaging enough.
  - An overly difficult goal will hurt the student's morale and motivation.
  - So just like Goldilocks, we need to find the goal that is just right for each individual.

What is an Ambitious Goal? *Example*

Ambitious goals can be set using the length of the intervention (in weeks), the target growth rate, and the baseline score.

Goal =

[Number of weeks of the intervention] × [Target growth rate] + [Baseline Score]

Example:

The intervention is 8 weeks long; the target growth rate is .50, determined from the intervention ROI tables; the baseline score was 19.

Goal: [8] × [.50] + [19] = 23

AIMSweb ROI Growth Norms Tables—M–COMP *(continued)*

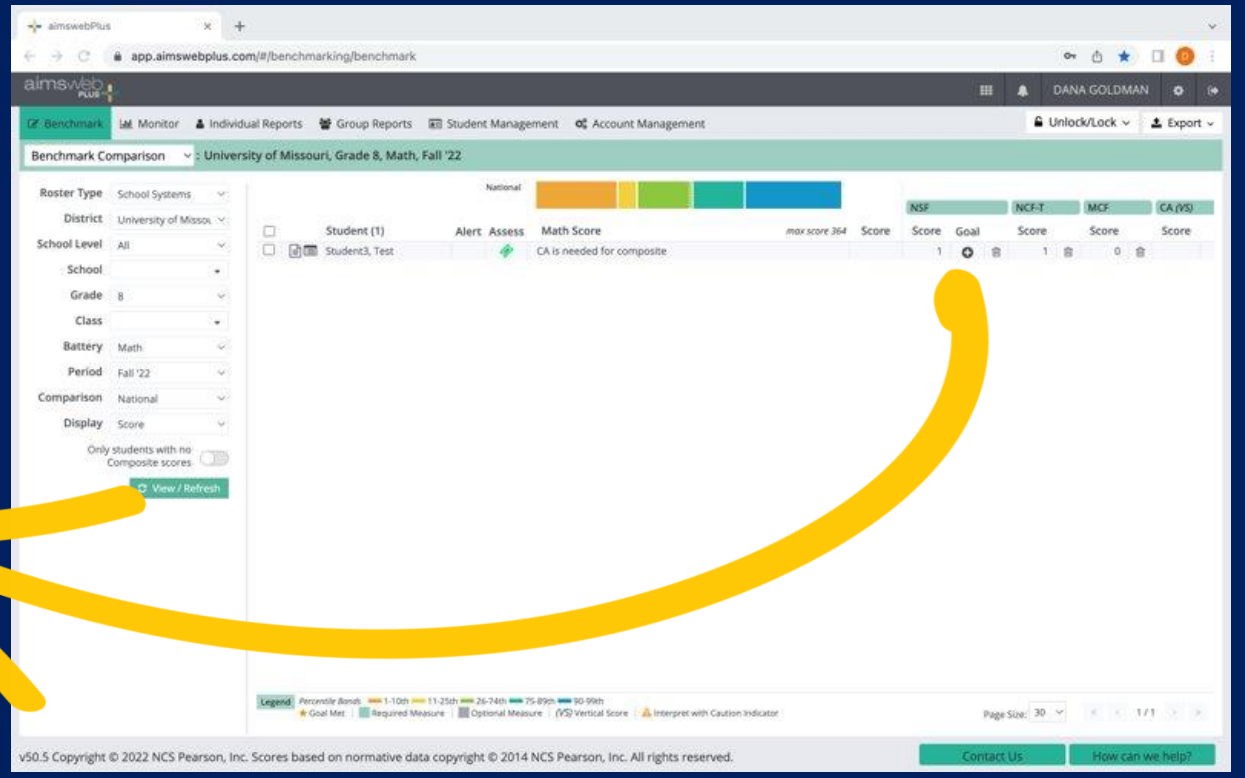
Grade	Initial Level	Percentile	ROI			Percentile
			Fall–Winter	Winter–Spring	Fall–Spring	
6	Average	95	≥ 1.21	≥ 1.08	≥ 0.85	95
		85	0.93–1.20	0.79–1.07	0.68–0.84	85
		75	0.73–0.92	0.60–0.78	0.58–0.67	75
		65	0.58–0.72	0.44–0.59	0.49–0.57	65
		55	0.43–0.57	0.33–0.43	0.40–0.48	55
		45	0.31–0.42	0.19–0.32	0.32–0.39	45
		35	0.18–0.30	0.05–0.18	0.23–0.31	35
		25	0.04–0.17	−0.10–0.04	0.15–0.22	25
		15	−0.11–0.03	−0.31–−0.11	0.03–0.14	15
		5	≤ −0.12	≤ −0.32	≤ 0.02	5
	Low	95	≥ 1.23	≥ 1.09	≥ 0.80	95
		85	0.91–1.22	0.76–1.08	0.64–0.79	85
		75	0.72–0.90	0.57–0.75	0.52–0.63	75
		65	0.59–0.71	0.43–0.56	0.44–0.51	65
		55	0.46–0.58	0.32–0.42	0.38–0.43	55
		45	0.36–0.45	0.21–0.31	0.31–0.37	45
		35	0.24–0.35	0.09–0.20	0.24–0.30	35
		25	0.11–0.23	−0.05–0.08	0.16–0.23	25
		15	0.00–0.10	−0.21–−0.06	0.08–0.15	15
		5	≤ −0.01	≤ −0.22	≤ 0.07	5
	Very Low	95	≥ 1.05	≥ 1.02	≥ 0.69	95
		85	0.81–1.04	0.72–1.01	0.54–0.68	85
		75	0.64–0.80	0.52–0.71	0.45–0.53	75
		65	0.49–0.63	0.37–0.51	0.36–0.44	65
		55	0.39–0.48	0.27–0.36	0.28–0.35	55
		45	0.28–0.38	0.19–0.26	0.21–0.27	45
		35	0.16–0.27	0.11–0.18	0.16–0.20	35
		25	0.07–0.15	0.04–0.10	0.09–0.15	25
		15	0.00–0.06	−0.05–0.03	0.04–0.08	15
		5	≤ −0.01	≤ −0.06	≤ 0.03	5

Readiness Individual Algebra Teaching of Supporting

Evaluating and Creating Goals

You will work with your coach to evaluate the benchmark/SLA data for **MATH only** and determine a goal for each student

Here's a snapshot of what this looks like on the aimsweb platform!



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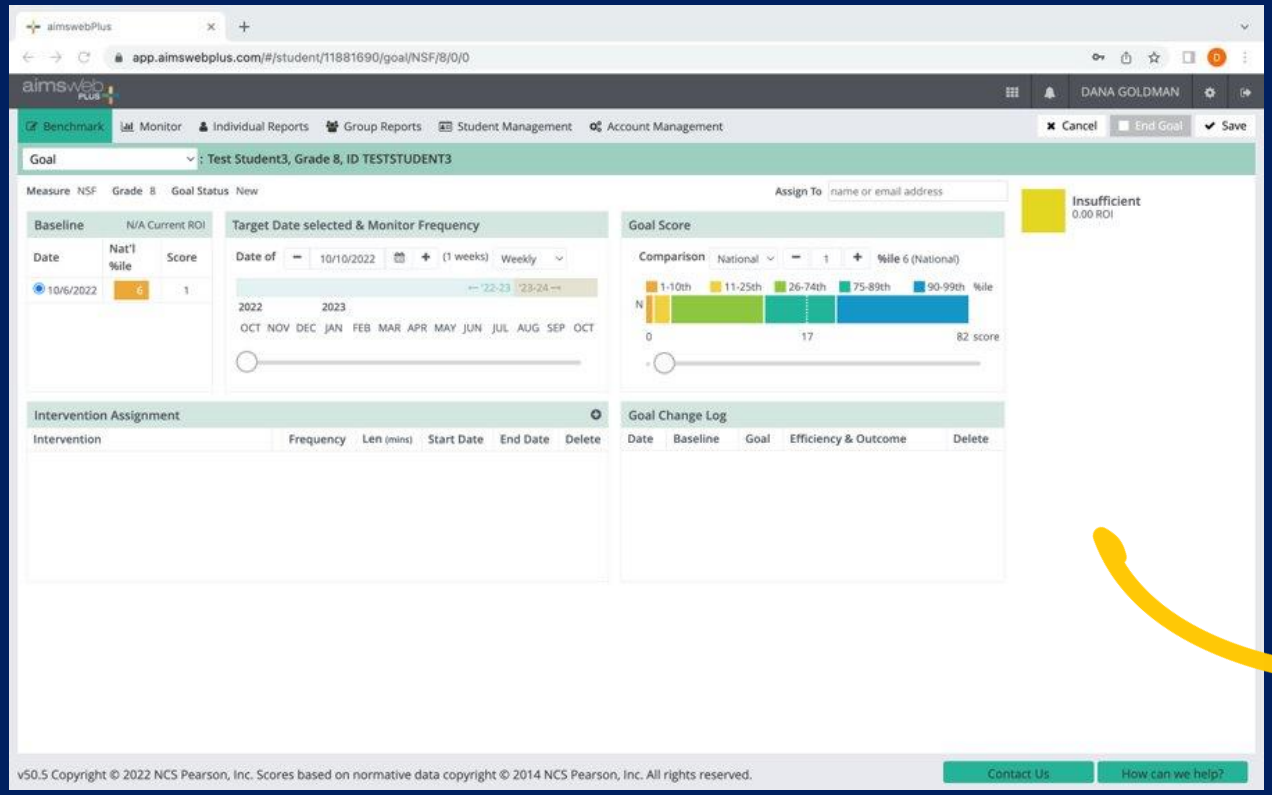


Here's another snapshot of what this looks like on the aimsweb platform!

Evaluating and Creating Goals

The goal efficiency display shows the growth percentile and a color-coded square and label based on the Rate of Improvement (ROI) rating of the goal:

- Extremely Ambitious or N/A – Gray – SGP 97 or greater
- Ambitious – Pink – SGP 86-96
- Closes the Gap – Green – SGP 51-85
- Insufficient – Yellow – SGP 0-50

For a more detailed explanation of setting goals, see: aimsweb PLUS Progress Monitoring Guide
https://app.box.com/file/1035195535367

Readiness Individual Algebra Teaching of Supporting

I've identified the goal for my student...now what?

Administration of Progress Monitoring

- Administer the progress monitoring measures
  - Occur weekly
  - Must be on appropriate grade level, as identified by either the benchmark or SLA
  - Progress monitoring is brief and timed

Progress Monitoring Measures

But first…Baseline!

- Baseline data is necessary for analysis of student progress
- Collect 4 data points to establish baseline
- Must determine grade level assessment *prior* to baseline data collection
- Once baseline is established, progress monitoring officially begins

Readiness Individual Algebra Teaching of Supporting

1. What are your common methods for setting ambitious goals?
2. How do you monitor student progress towards goals?

Agenda

Readiness Individual Algebra Teaching of Supporting 2.0

Graphing and Evaluating

Goal Setting

Assessments

Designing Effective Instruction

Welcome and Introductions

Readiness Individual Algebra Teaching of Supporting

Graphing and Evaluating

Your Assessment, Goal Setting, Graphing, and Evaluating

STRENGTHS	GROWTH OPPORTUNITIES

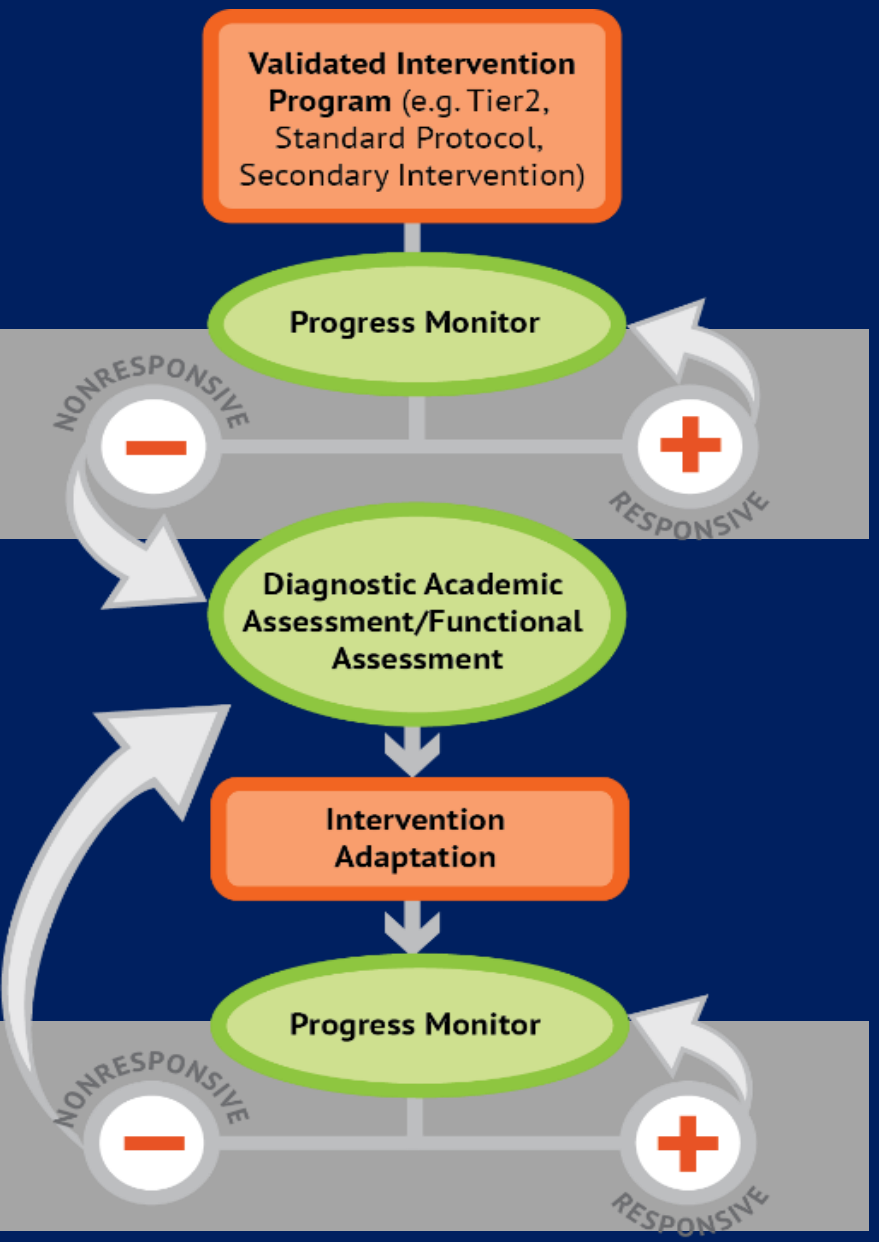
Importance of Graphing

- Graphed data will provide you with a clear picture of a student's progress
- The graph will allow you to:
  - Set reasonable and ambitious goals
  - Monitor the appropriateness of the student's goal
  - Judge the adequacy of the student's progress
  - Determine the effectiveness of the student's math instructional program
  - Use decision rules to make changes to the student's instructional program when needed

Graphing and DBI

Readiness Individual Algebra Teaching of Supporting

Graphing helps with decision making here.



Also, graphing helps with decision making here.

Readiness Individual Algebra Teaching of Supporting

1. Do you have an established graphing system for progress monitoring? Describe it.
2. What are your graphing needs?

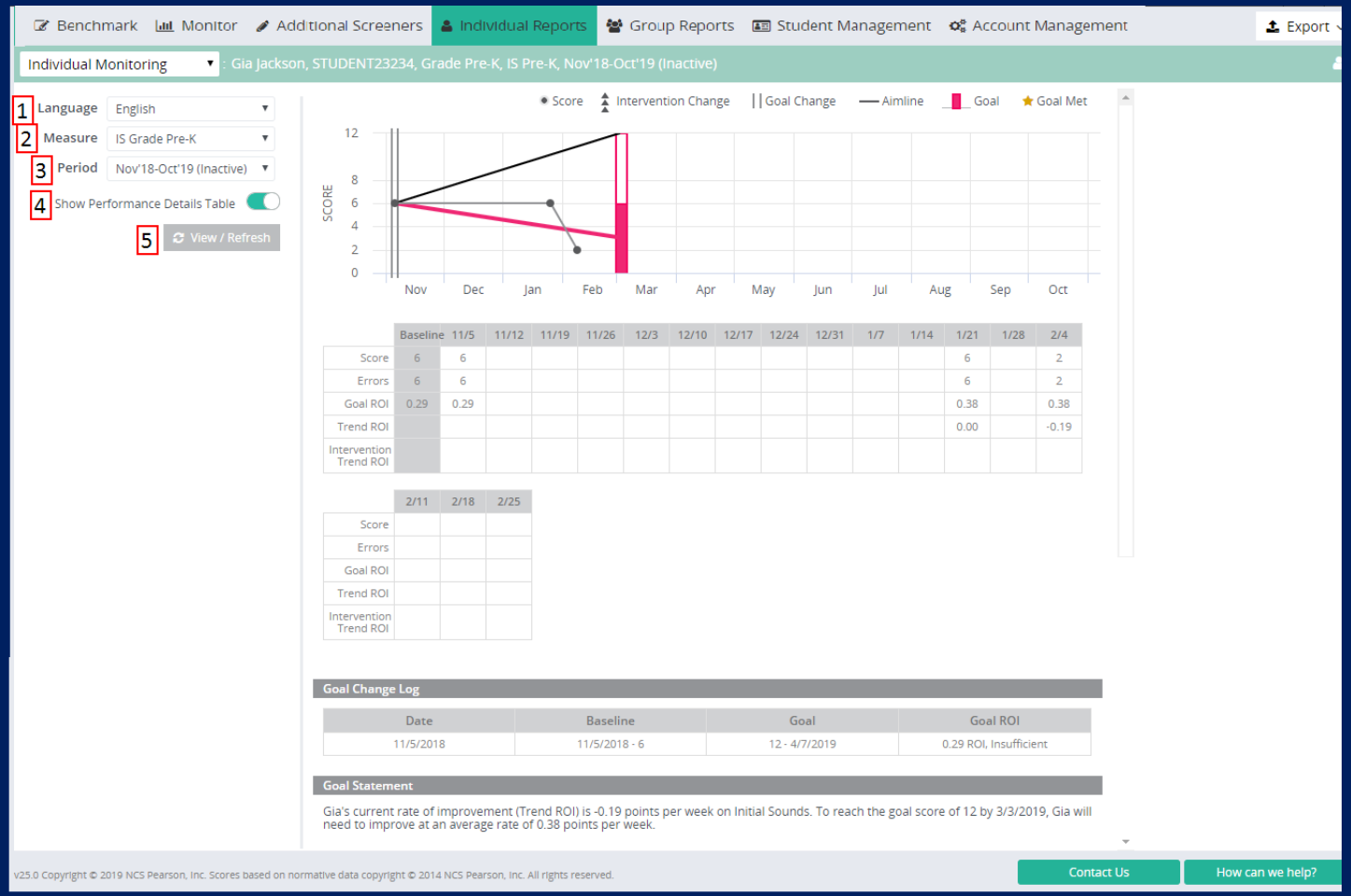
Key Components of Graphing

- *x*-axis - dates
- *y*-axis - score
- Data points
- Aimline
- Projection/trend line
- Goal changes
- Intervention changes

Key Components of Graphing

- **Data Points**
  - Baseline and progress monitoring data points are plotted
- **Aimline**
  - The aimline is drawn from the baseline data to the goal, this is what we will compare the projection line against to see if a student is on track to meet their goal
- **Projection/Trend Line**
  - The projection or trend line is calculated using existing data points, it will extend beyond the most recent data point, showing how the student is expected to continue progressing at their current rate of improvement
- **Goal Changes**
  - On the graph, major changes are noted so we can keep track of big changes, and see if changes impact student progress towards their goal
- **Intervention Changes**
  - Similar to the goal changes, intervention changes are are noted on the graph

Evaluating Progress Using the Graphs

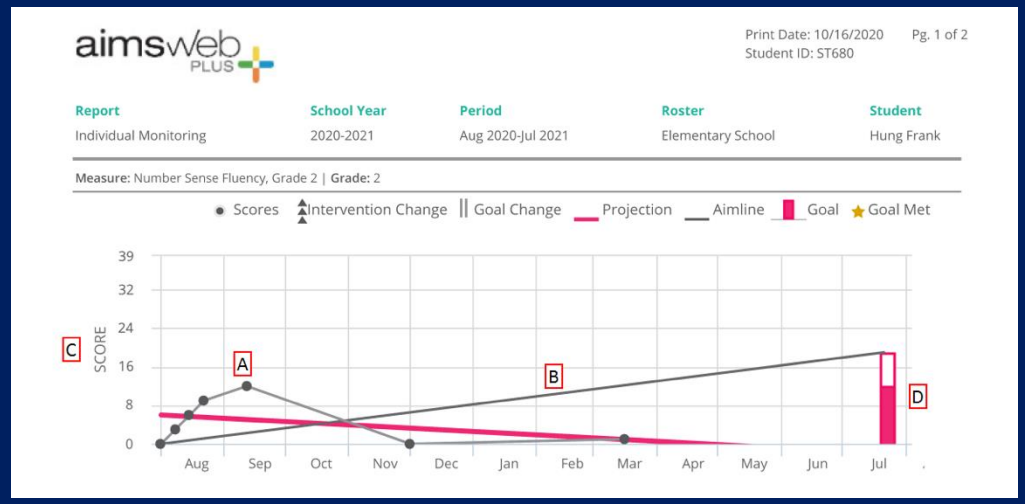


- Select the Individual Reports tab.
- Select Student screen, select the file icon ( ) corresponding to the student you want to view.

Evaluating Progress Using the Graphs

Aimline

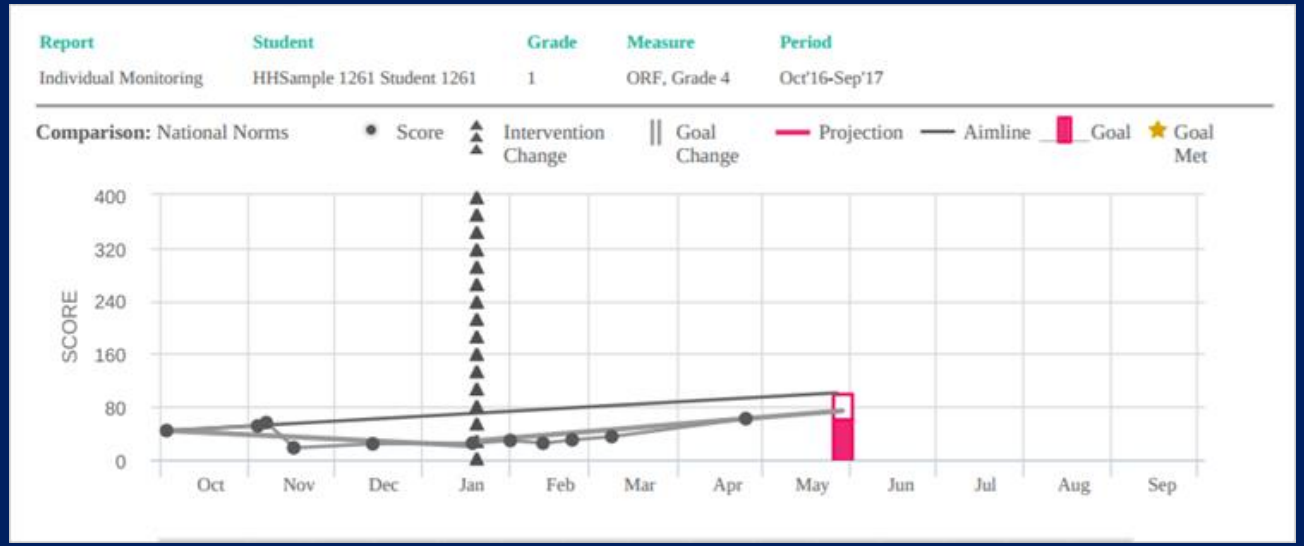
- (A) only changes when the goal score (C), goal date, or baseline date change; it does not change when an intervention is added to the schedule.
- When changing the goal (D) in the schedule, the aimline (B) is updated to reflect the new goal from the point of the date of change.



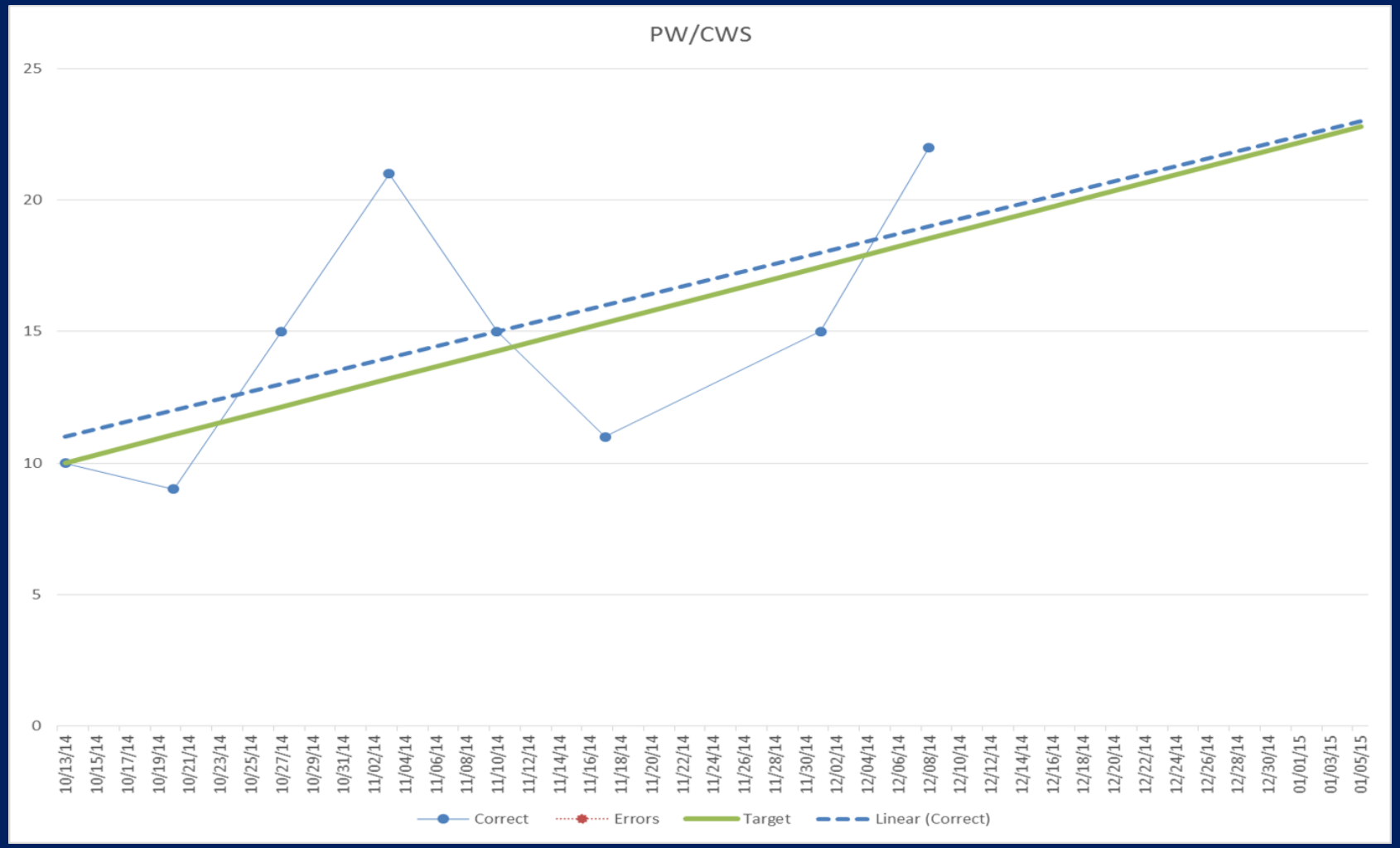
Evaluating Progress Using Graphs

What is a trend line?

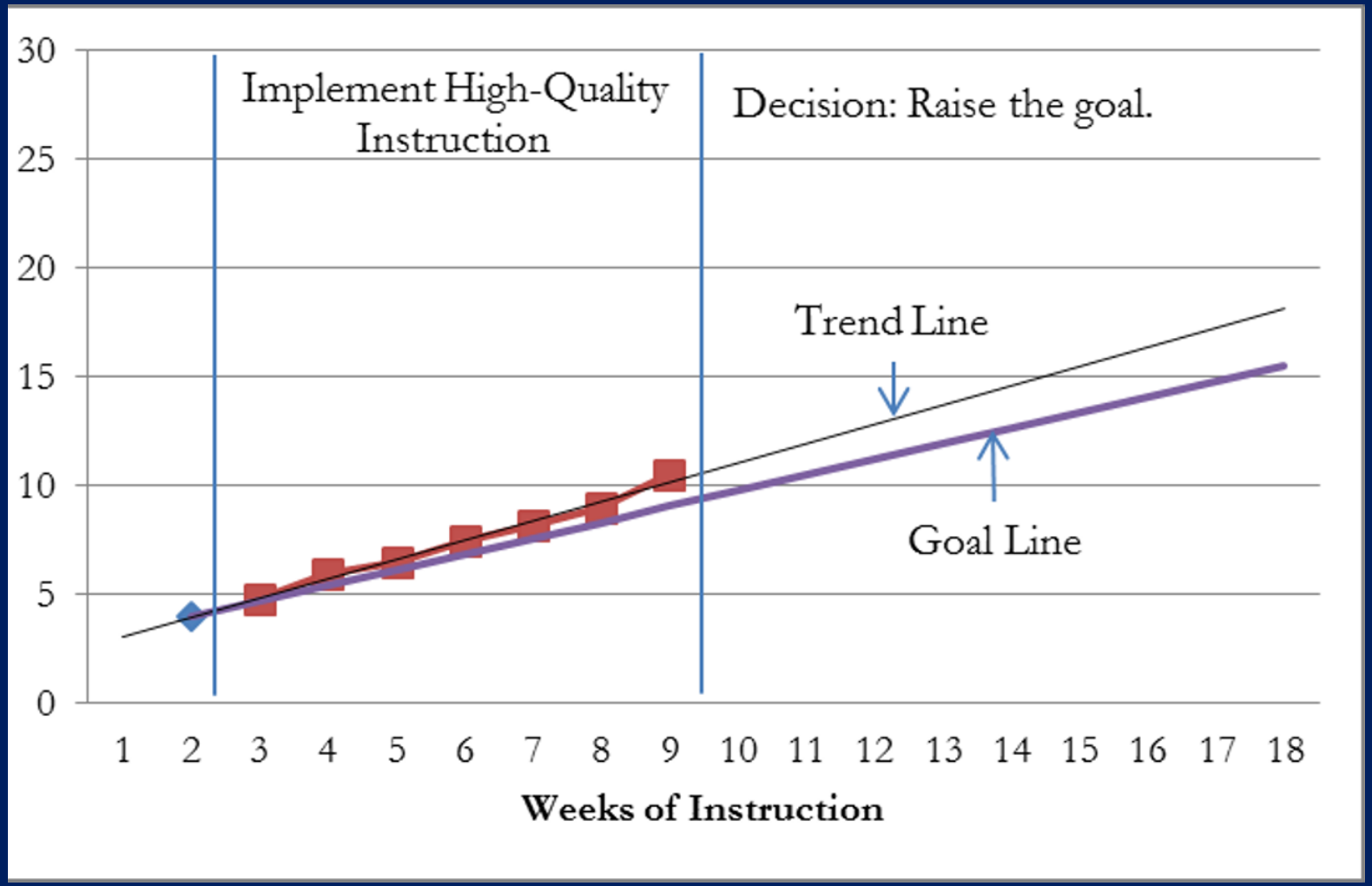
- The projection line indicates the average rate of growth based on the student's progress monitoring scores
- The trend line will show in color:
  - green (projected to meet or exceed goal)
  - gray (projected to be near goal)
  - pink (projected to not meet goal)



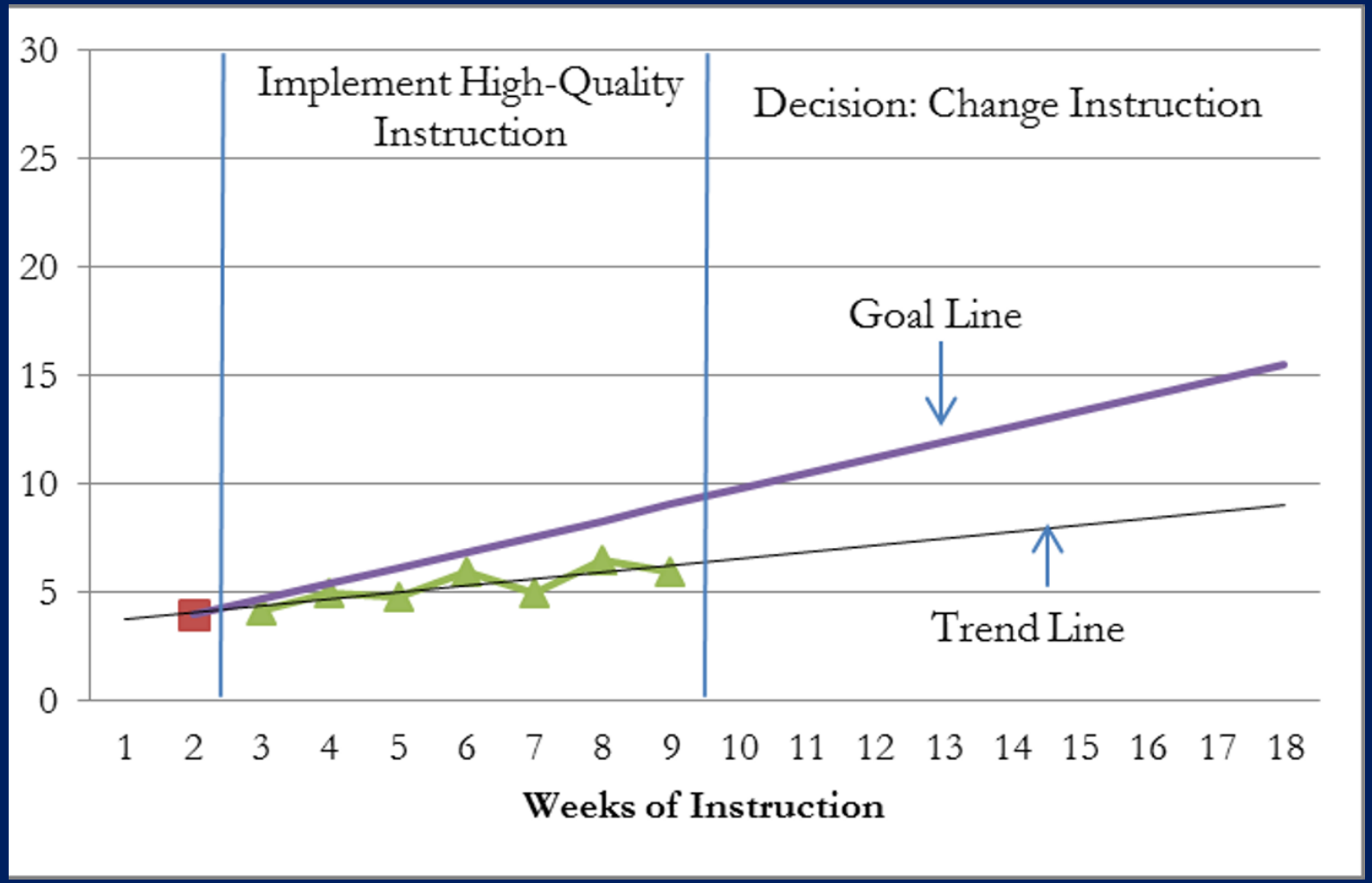
Trend Line EVEN with the Goal Line



Trend Line ABOVE the Goal Line



Trend Line BELOW the Goal Line



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1. If a student's progress is even with an aimline, what would you do?
2. If a student's progress is below an aimline, what would you do?
3. If a student's progress is above an aimline, what would you do?

Readiness Individual Algebra Teaching of Supporting

Graphing and Evaluating

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Readiness Individual Algebra Teaching of Supporting 2.0

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Questions?

Thank you!