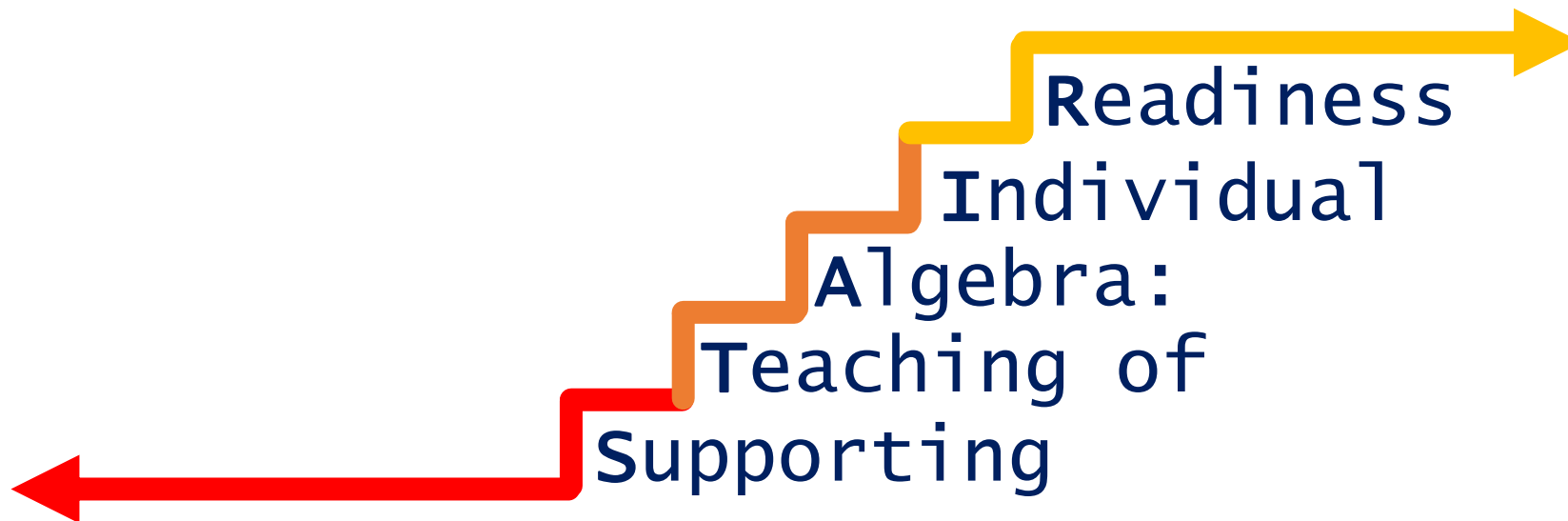
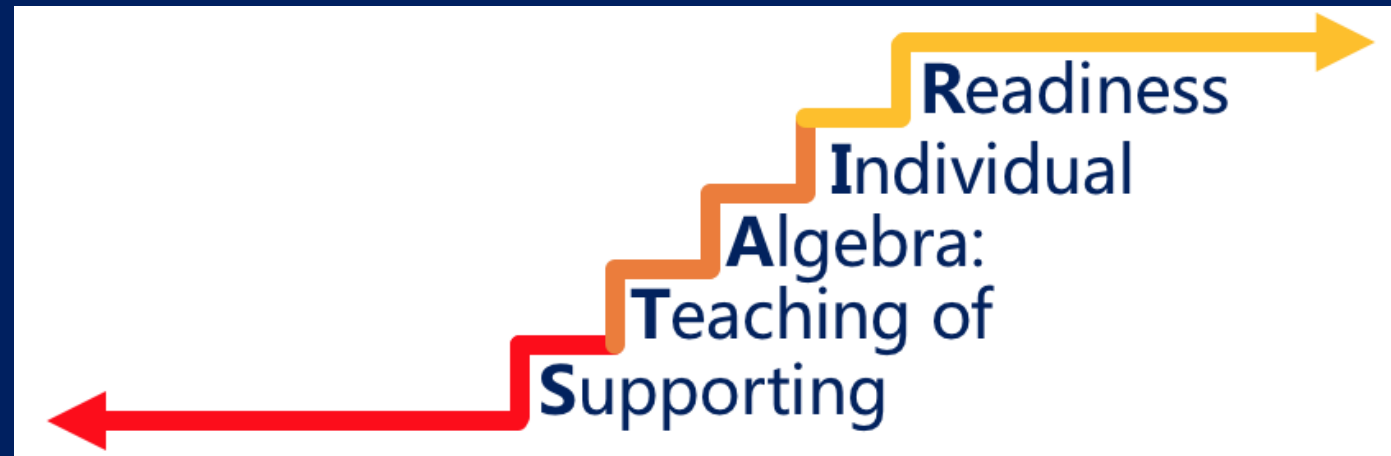


Project STAIR

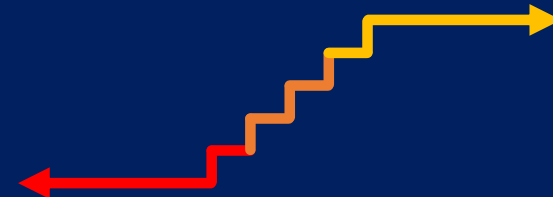
Introduction to Data-Based Individualization
and Assessment



Project STAIR

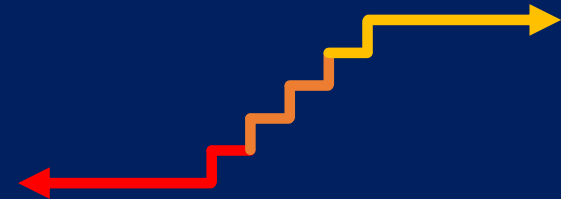


- Funded by the Office of Special Education Programs of the U.S. Department of Education
- Researchers from:
 - University of Missouri
 - Southern Methodist University
 - University of Texas at Austin
- Funding period: 2018-2022

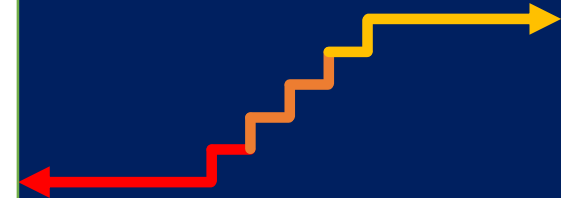
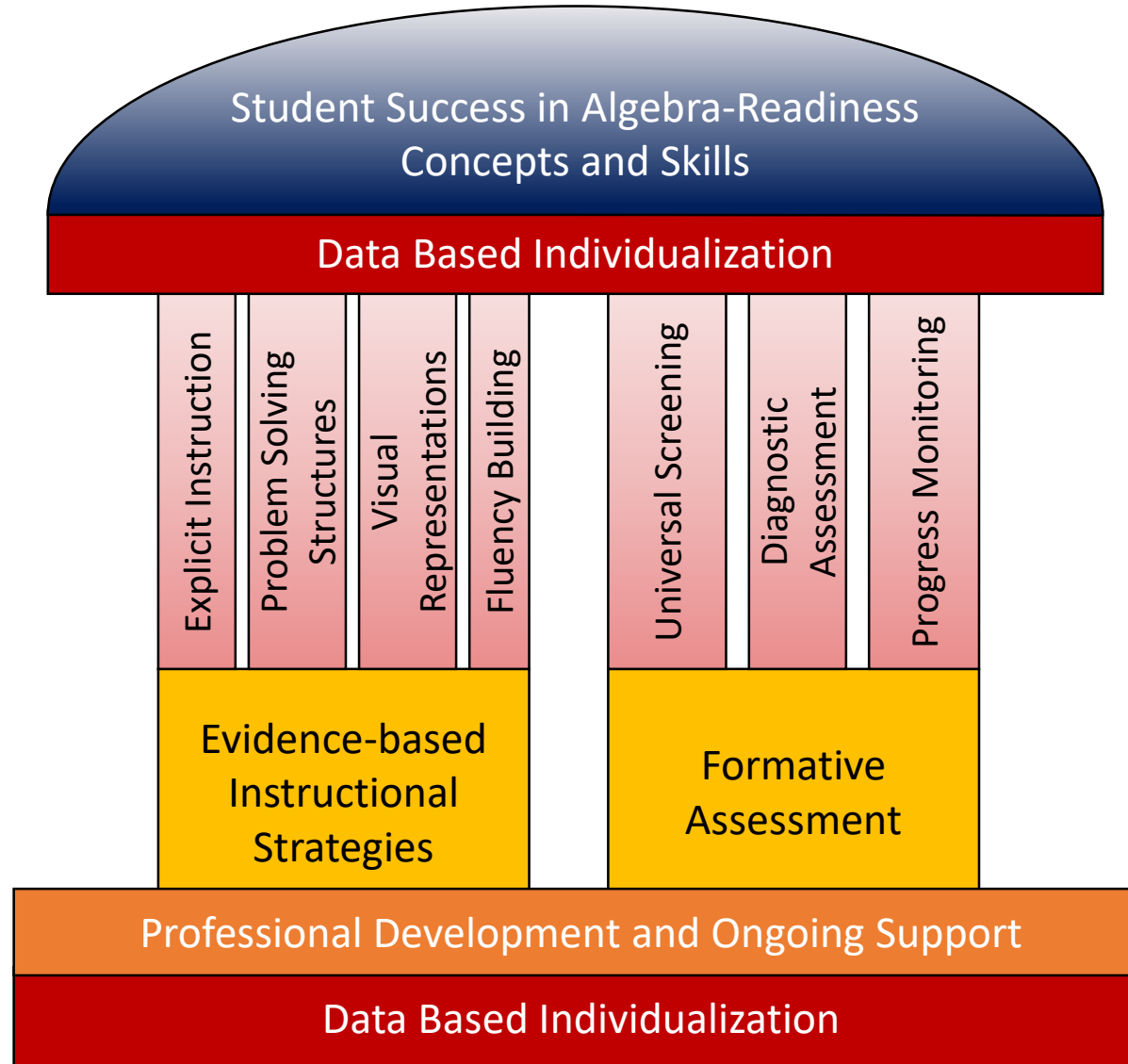


Project STAIR

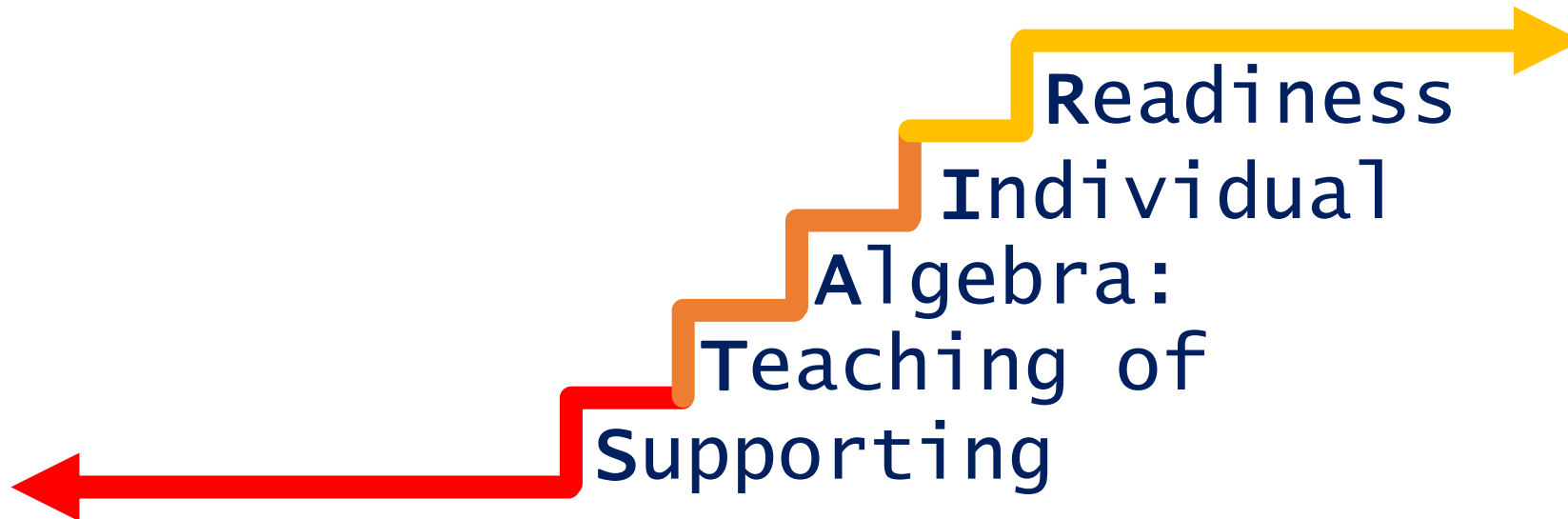
- Project STAIR targets early intervention in middle schools
- Goal → preparation for Algebra 1 in high school
- To reach this goal, we designed Project STAIR, a four-year model demonstration project



Description of the Model



Defining DBI



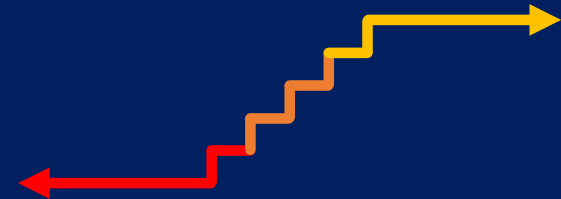
Define DBI

Data-Based Individualization (DBI)

systematic

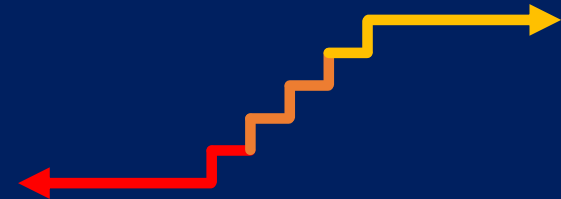
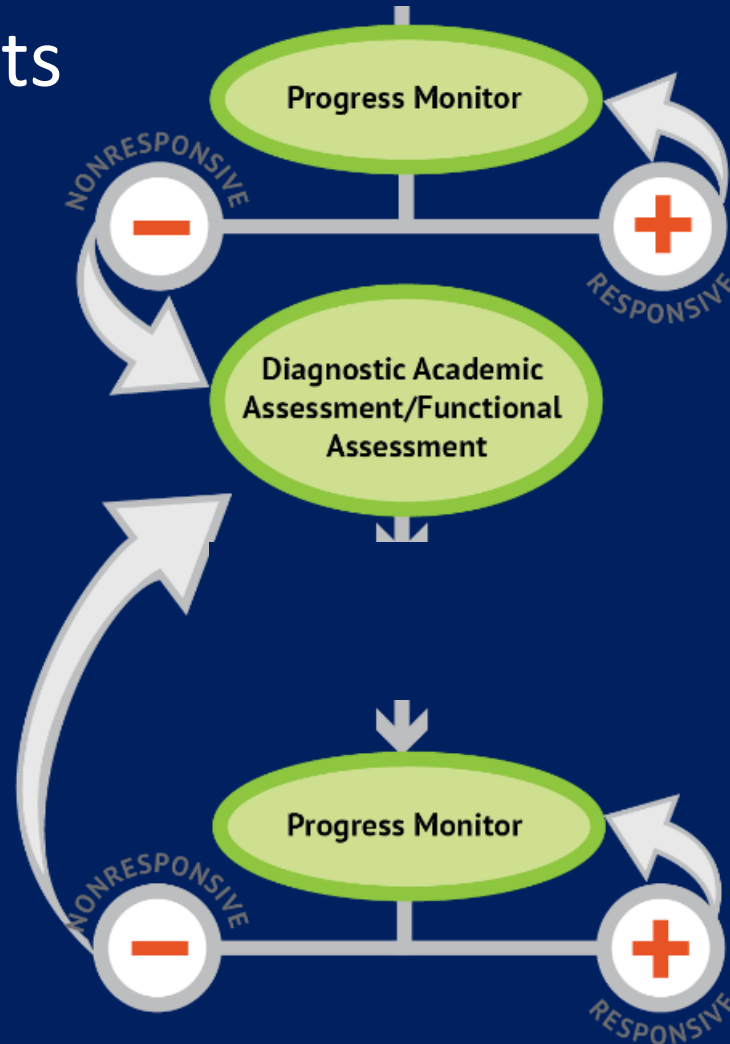
relies on data

helps
individualize
instruction



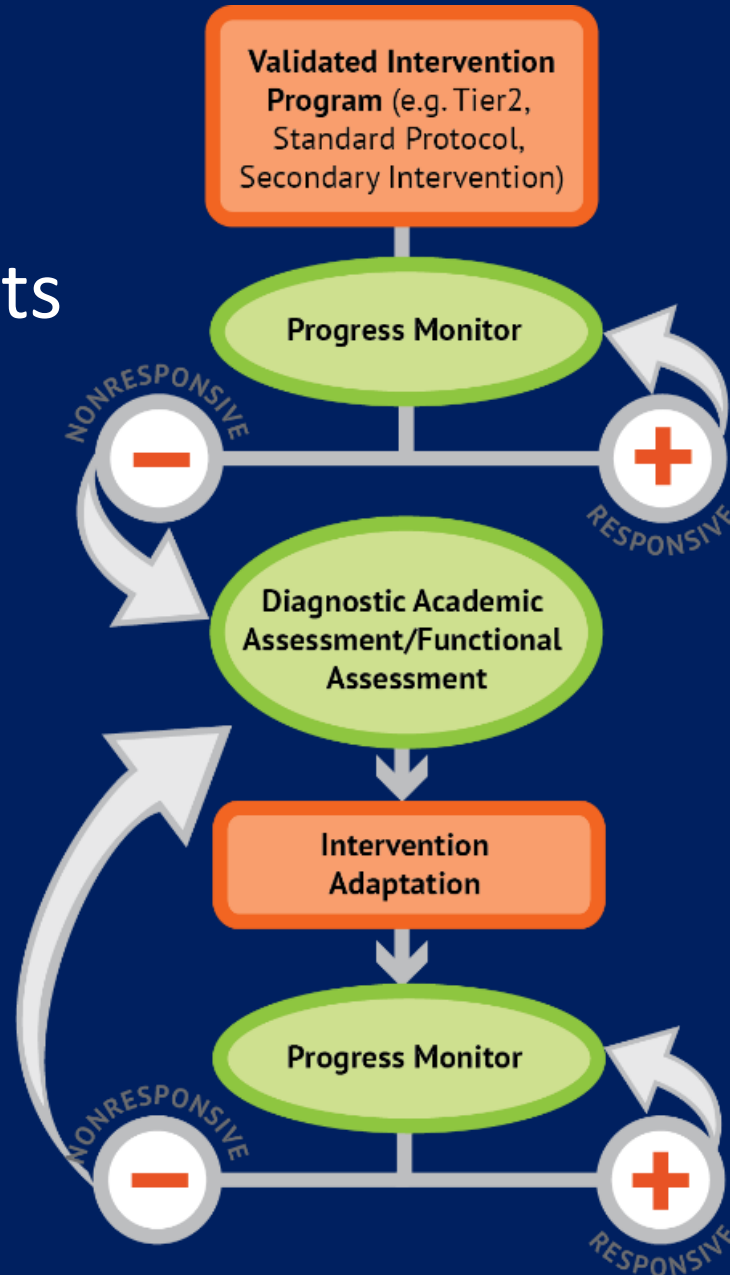
Define DBI

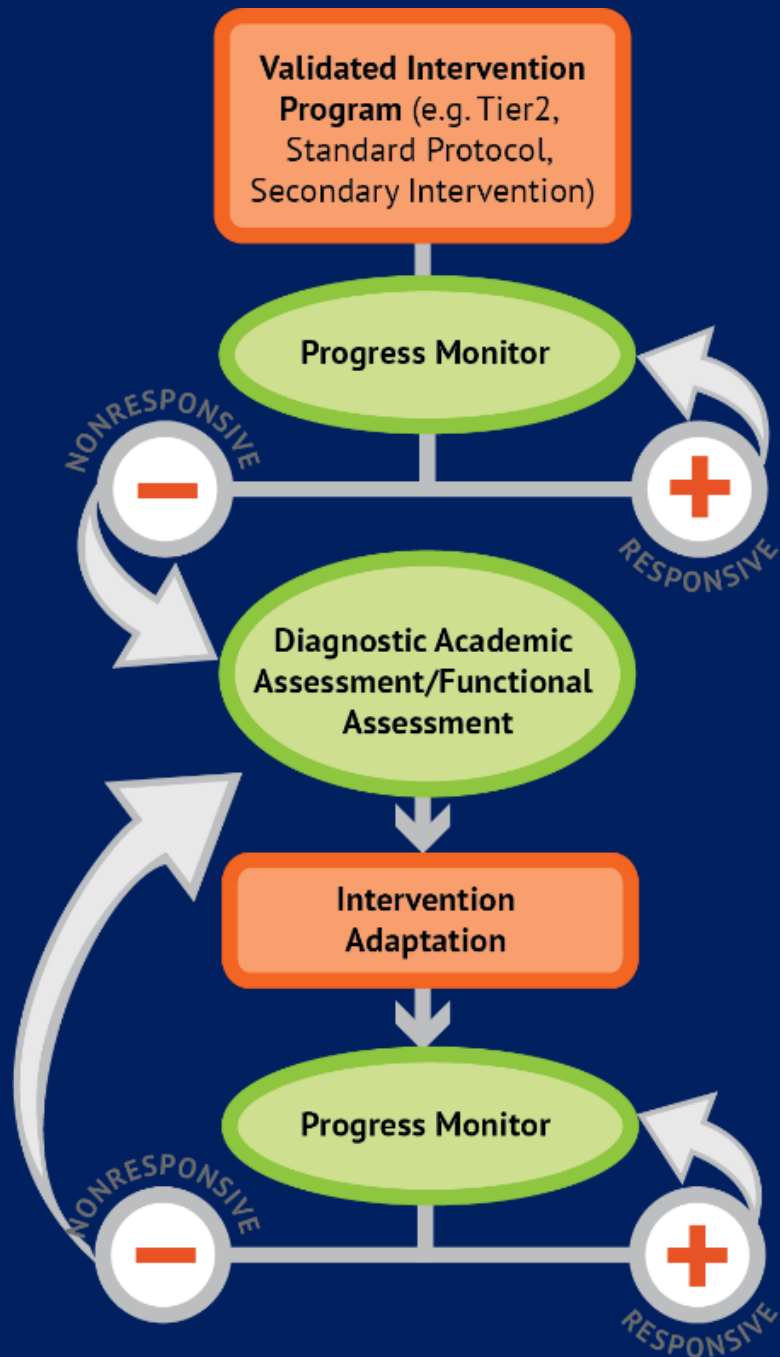
- Two primary components
 - **Assessment**
 - **Instruction**



Define DBI

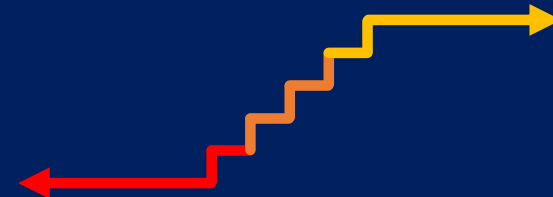
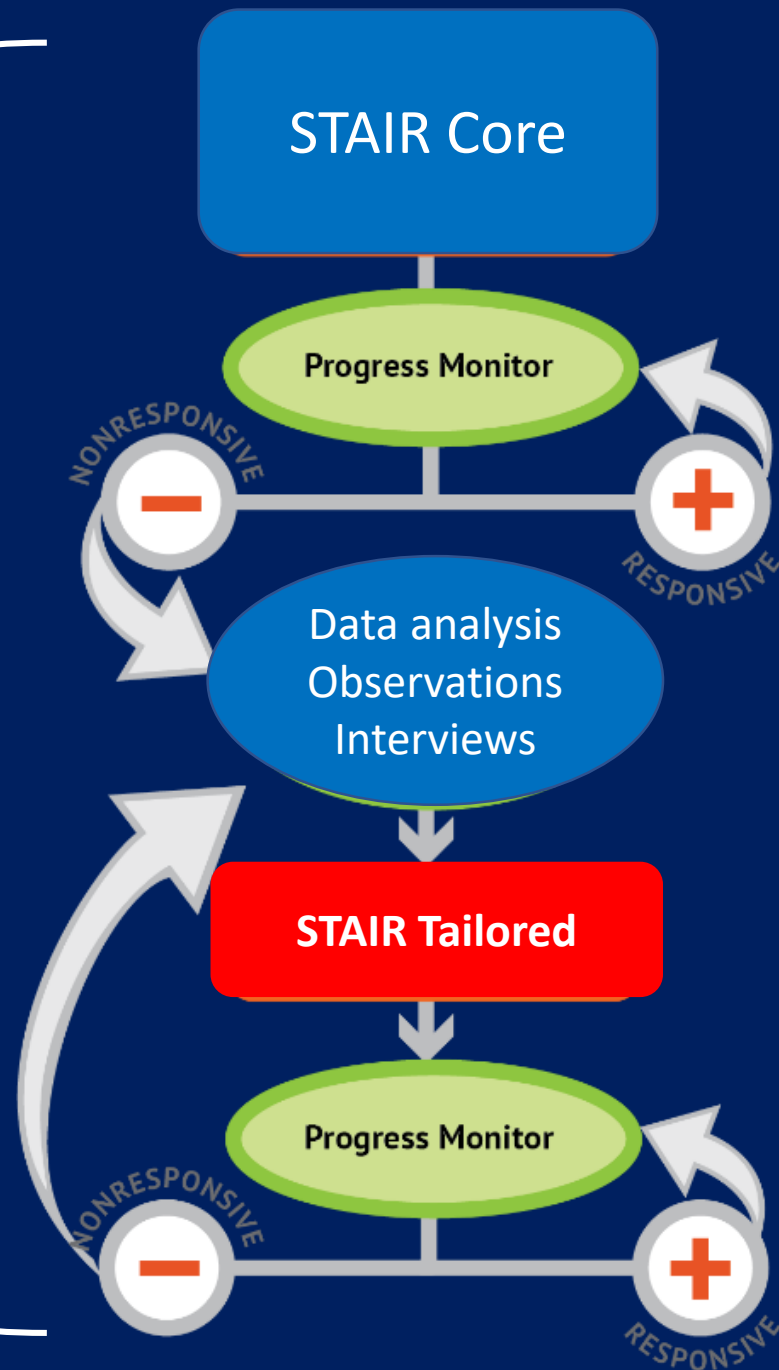
- Two primary components
 - **Assessment**
 - **Instruction**





After STAIR Core, teachers implement DBI with their students

And we used STAIR Tailored to improve teaching practices for students



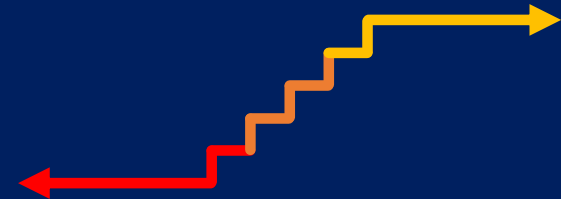
Is...

Data-Based Individualization

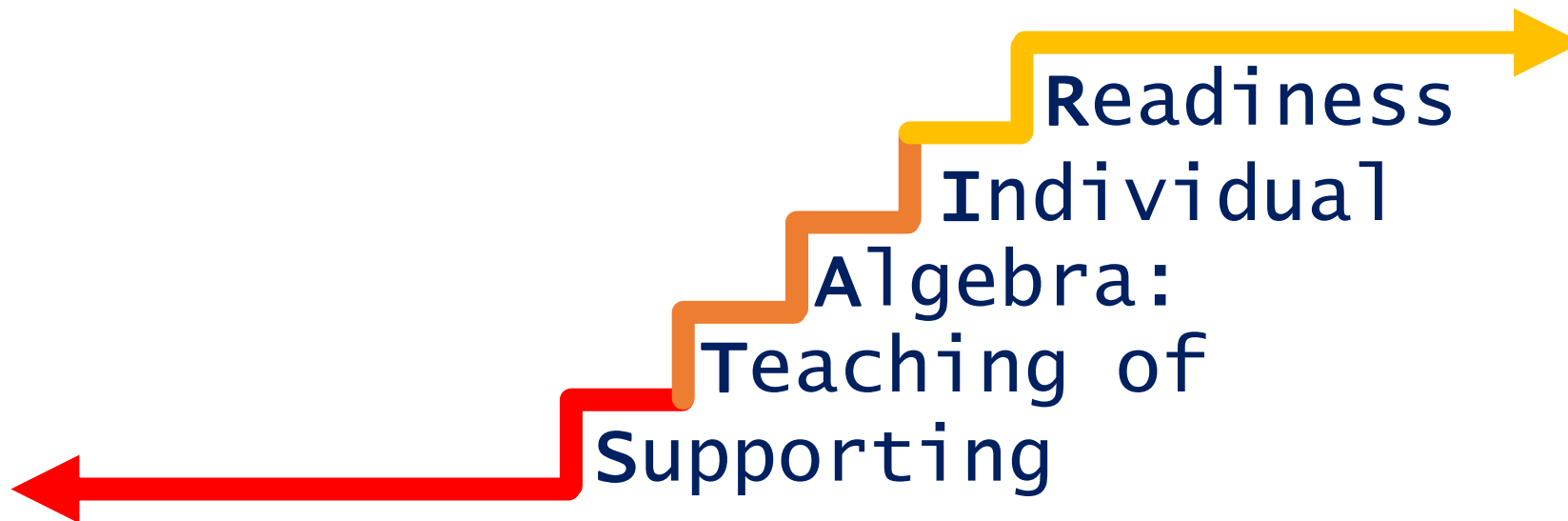
Is not...

- A *framework* for making instructional decisions
- A dynamic *process* of ongoing assessment and intervention

- A curriculum
- An assessment
- A single intervention



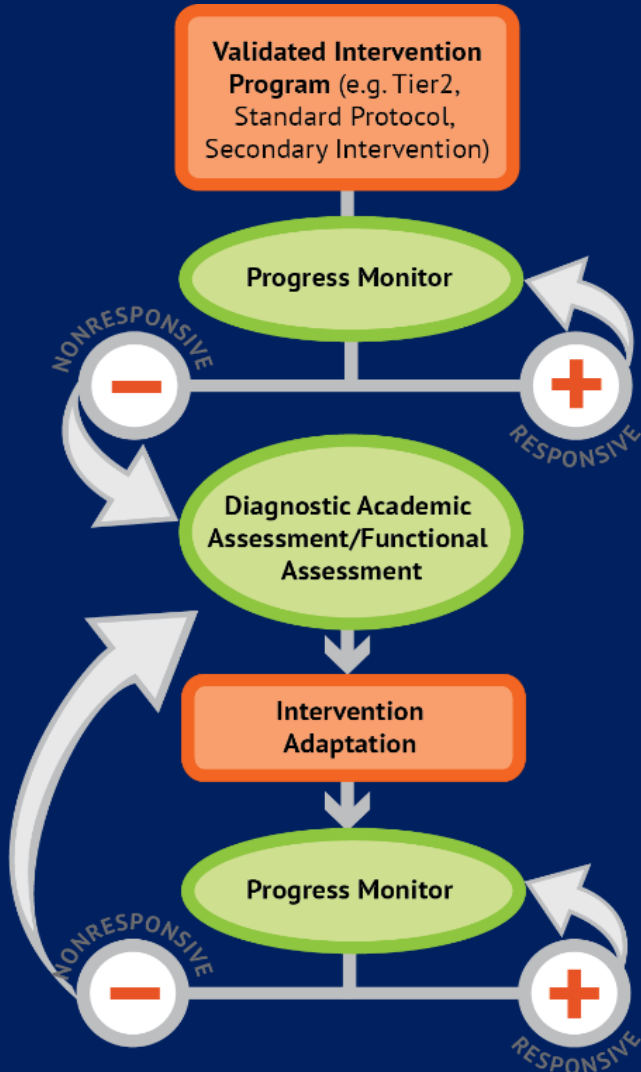
Key Components of DBI



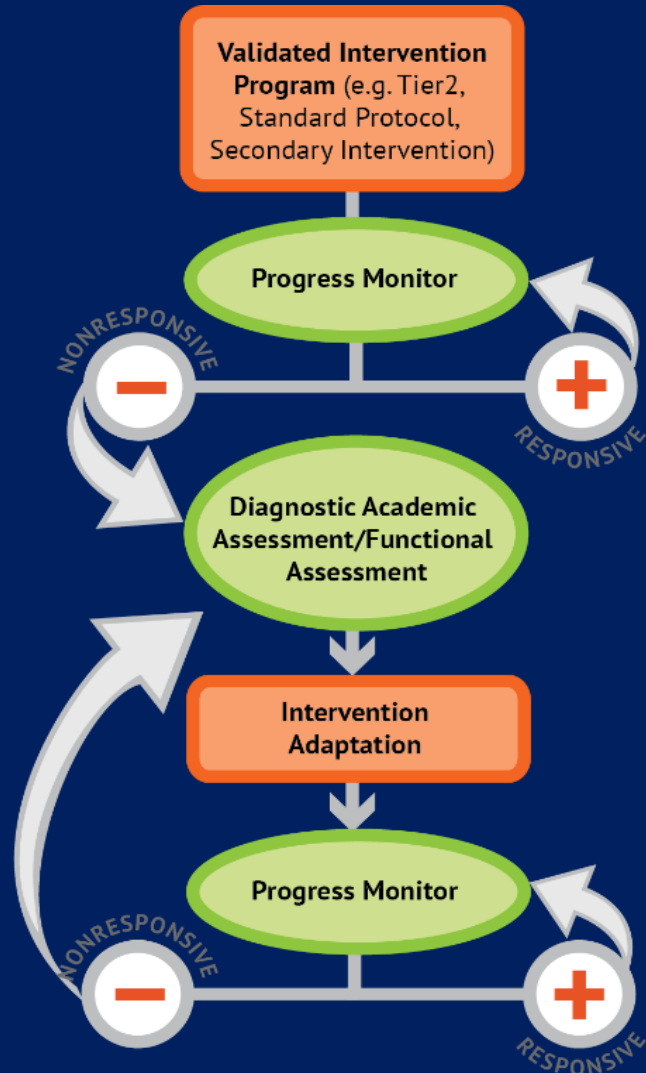
2. Key Components of DBI

1

- Establish that there is a Tier 2 validated intervention program in place



2. Key Components of DBI



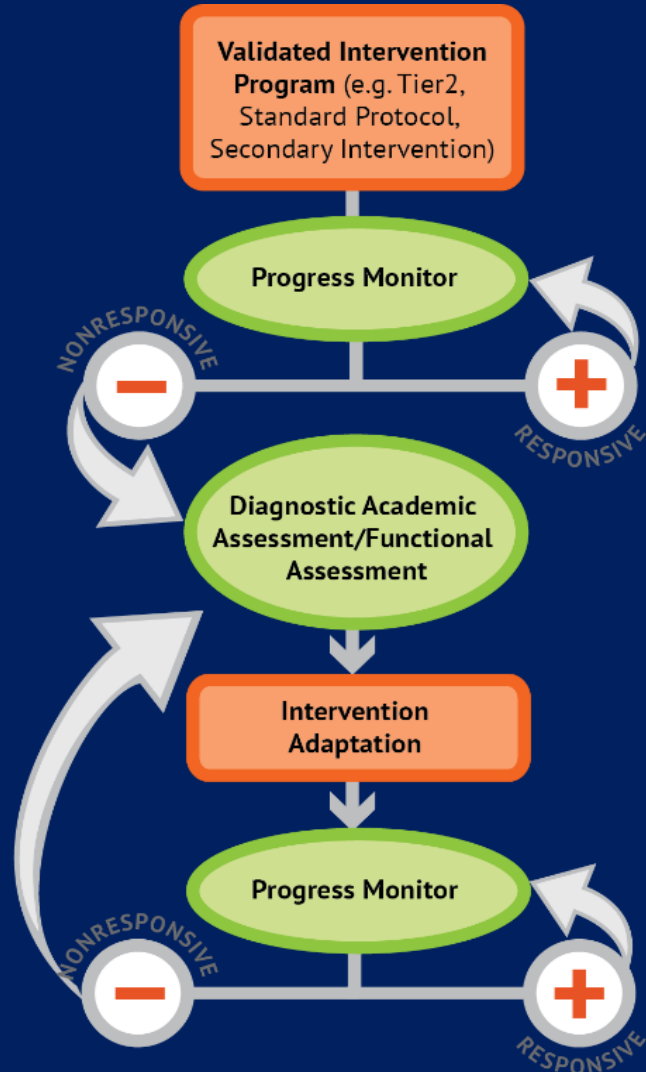
1

- Establish that there is a Tier 2 validated intervention program in place

2

- Progress monitor
 - Establish a present level
 - Set an ambitious long term goal
 - Collect frequent assessment data
 - Use decision rules

2. Key Components of DBI



1

- Establish that there is a Tier 2 validated intervention program in place

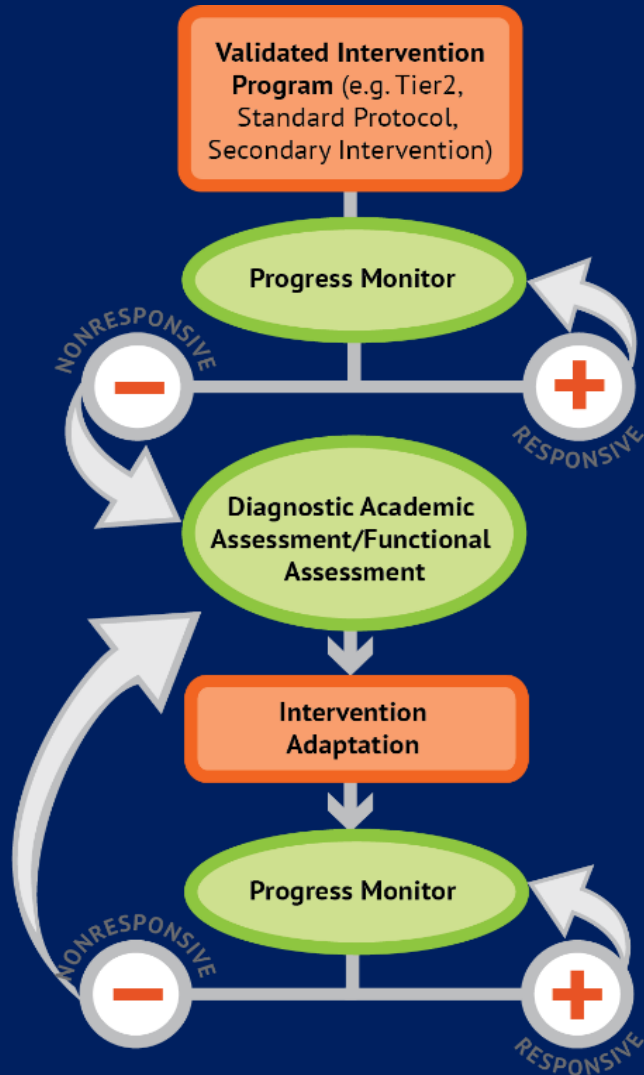
2

- Progress monitor
 - Establish a present level
 - Set an ambitious long term goal
 - Collect frequent assessment data
 - Use decision rules

3

- Based on student responsiveness:
 - Continue the Tier 2 program with progress monitoring
 - Collect Diagnostic data

2. Key Components of DBI



1

- Establish that there is a Tier 2 validated intervention program in place

2

- Progress monitor
 - Establish a present level
 - Set an ambitious long term goal
 - Collect frequent assessment data
 - Use decision rules

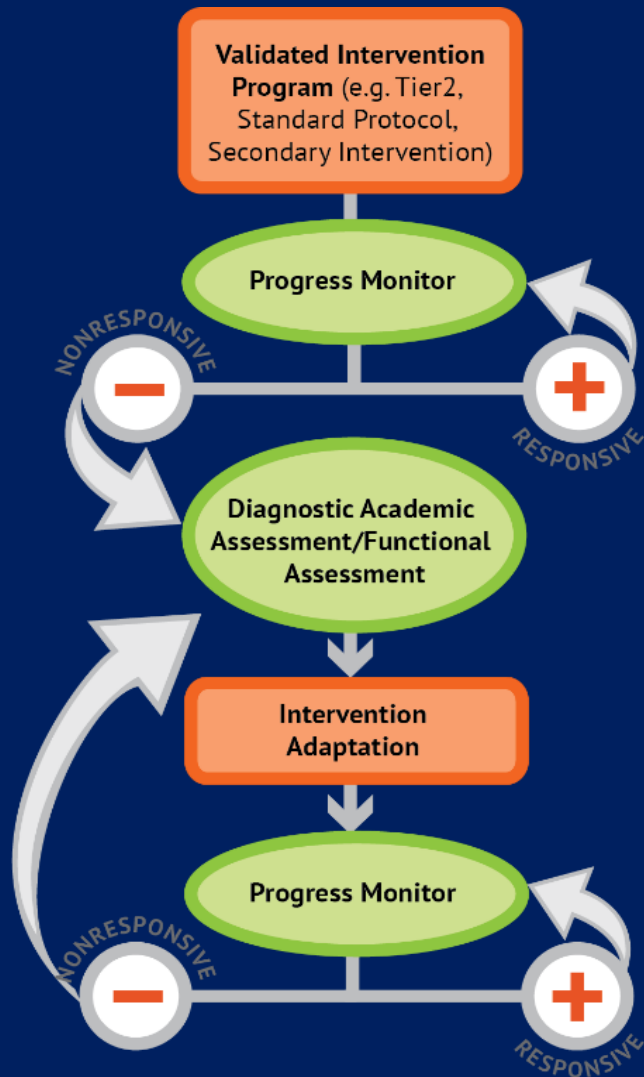
3

- Based on student responsiveness:
 - Continue the Tier 2 program with progress monitoring
 - Collect Diagnostic data

4

- Make an instructional change based on hypothesis

2. Key Components of DBI



1

- Establish that there is a Tier 2 validated intervention program in place

2

- Progress monitor
 - Establish a present level
 - Set an ambitious long term goal
 - Collect frequent assessment data
 - Use decision rules

3

- Based on student responsiveness:
 - Continue the Tier 2 program with progress monitoring
 - Collect Diagnostic data

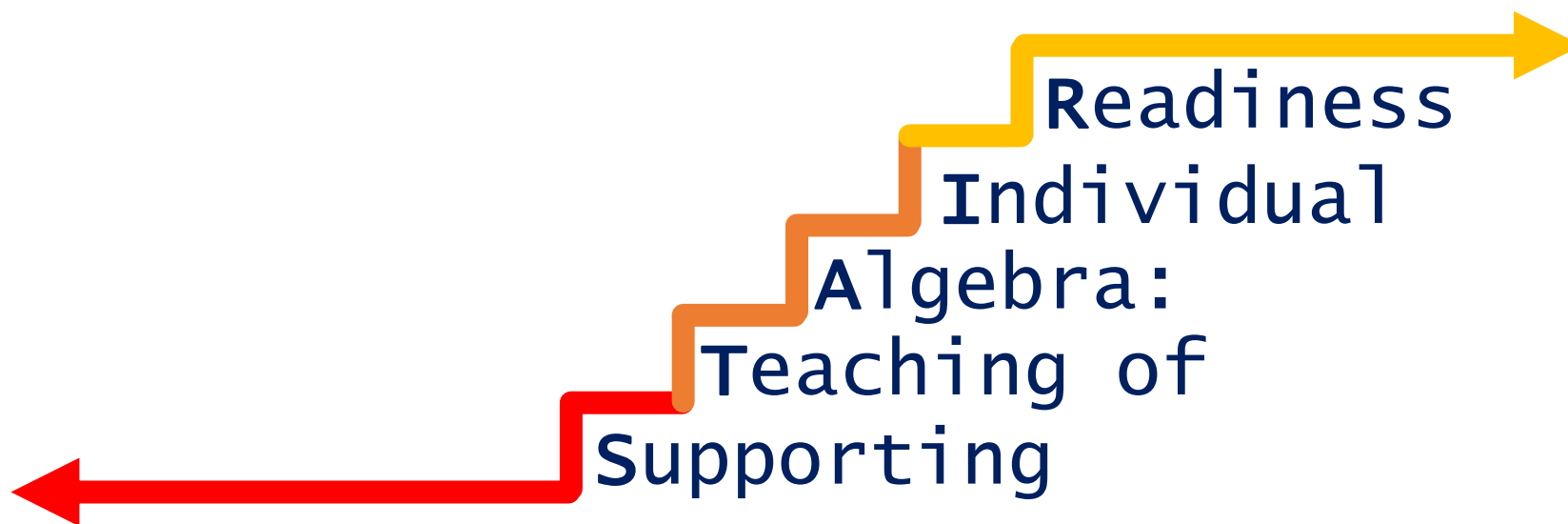
4

- Make an instructional change based on hypothesis

5

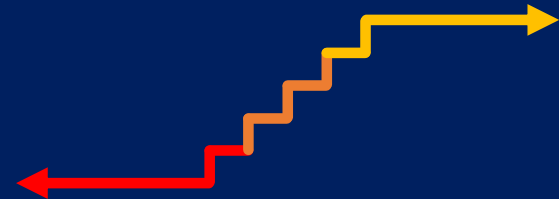
- Continue to monitor progress to determine if student is/is not responsive to instruction

DBI: why do we use it?



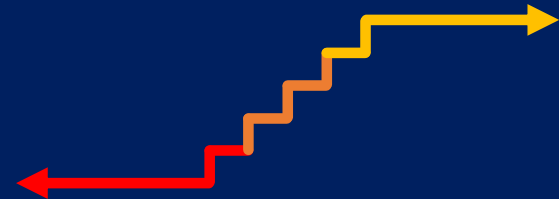
why Implement DBI?

- Some students do not respond to research-based interventions.
- DBI provides a framework to individualize instruction.
- When teachers use DBI correctly, student achievement can improve.



Who Should Receive DBI?

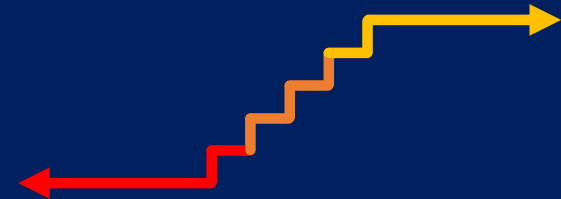
- DBI is intended for *students who require intensive, individualized instruction*
 - Students for whom core instruction and/or supplemental intervention is not sufficient
 - Students identified as in need of Tier 3 instruction in an RTI model
 - Students in special education



So does this DBI process really work?

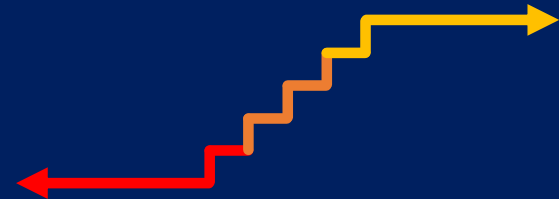
“Data based [individualization] takes the emotion out and makes me a better instructor.”

(Quote from Missouri teacher participant, February 2018)



Review!

- Use your cellular telephone and **send a text to 37607**
- Message: **ERICAMASON662**
- Then, answer our Poll Everywhere questions to check your understanding! 😊



Data-based instruction (DBI) is

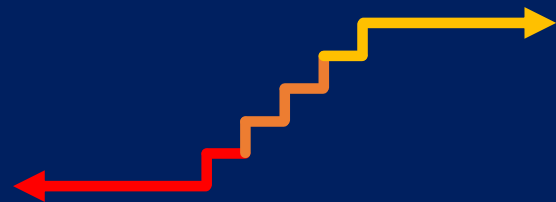
a curriculum

an assessment

a process

a professional
development model

a process



The "data" in DBI comes from

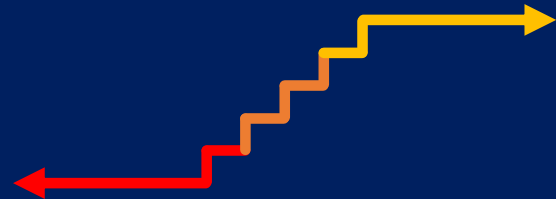
teachers' observations
of student performance

students' opinions about
what they learned

a state standardized
test (e.g., the MAP)

formative assessments

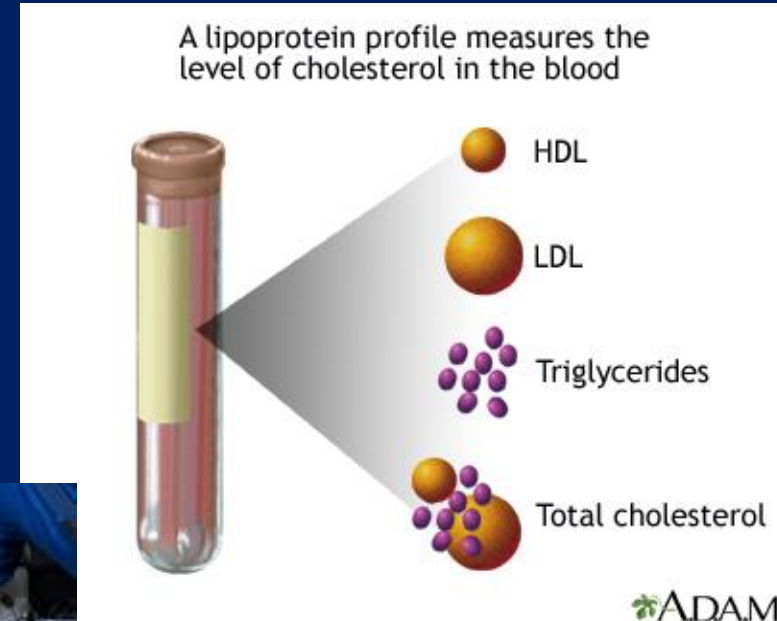
formative assessments



what is Universal Screening?



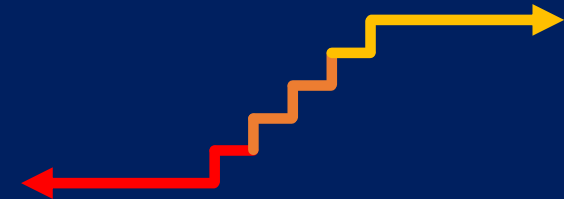
Well-baby check-up



Cholesterol tests

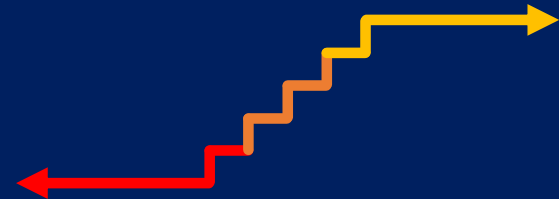


Tune-up for your car

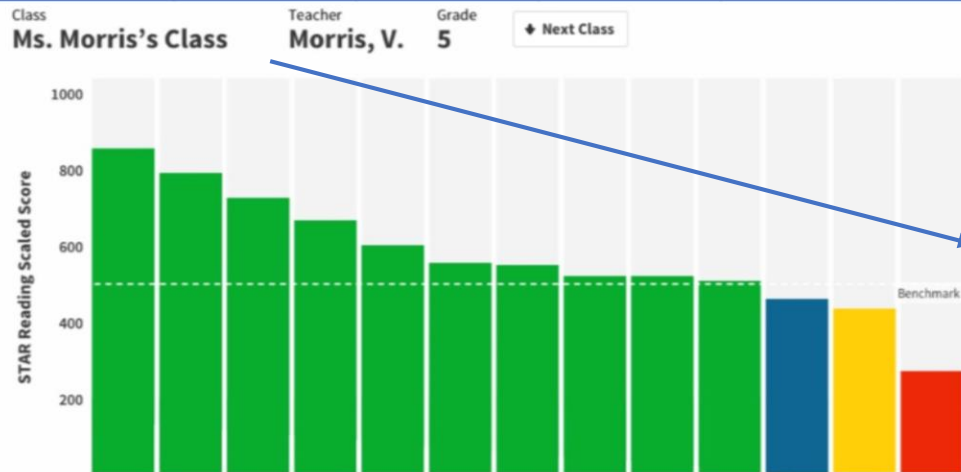


Decisions from Universal Screening Data

- Are students at-risk or underperforming?
- Which students need interventions?
- What degree of intensity of intervention is needed?
- Not intended to provide diagnostic information

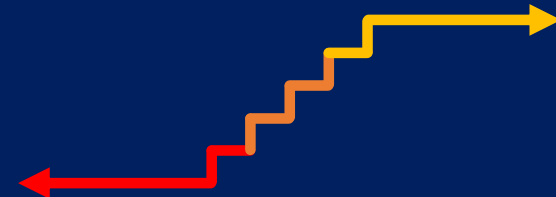


Interpreting Results from Universal Screeners



As the scores
go down,

The risk goes
up!

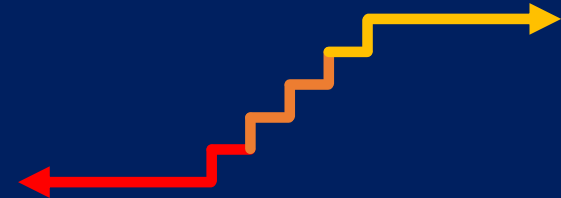
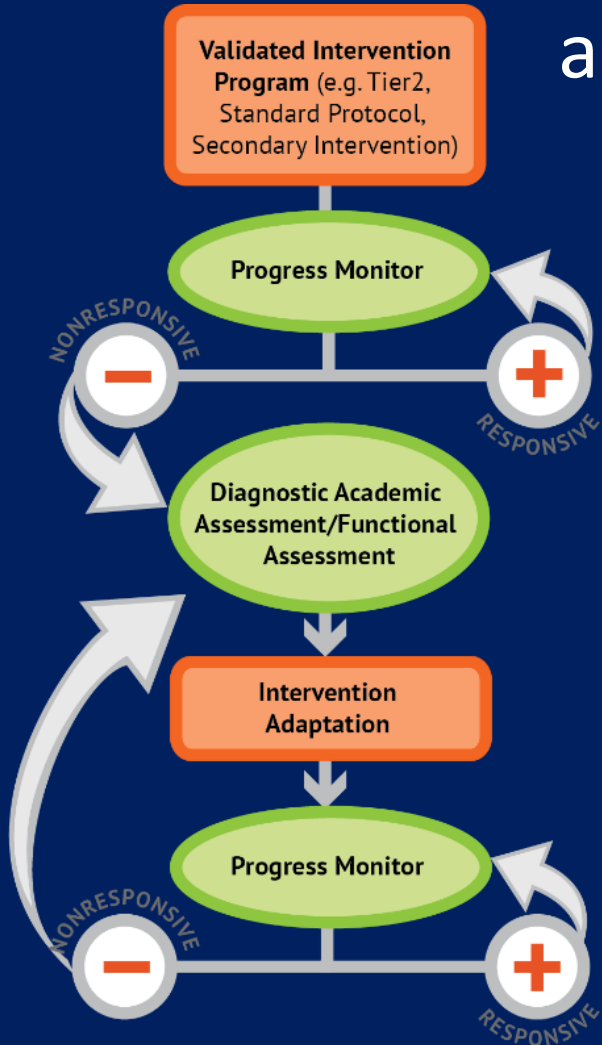


Assessments for DBI

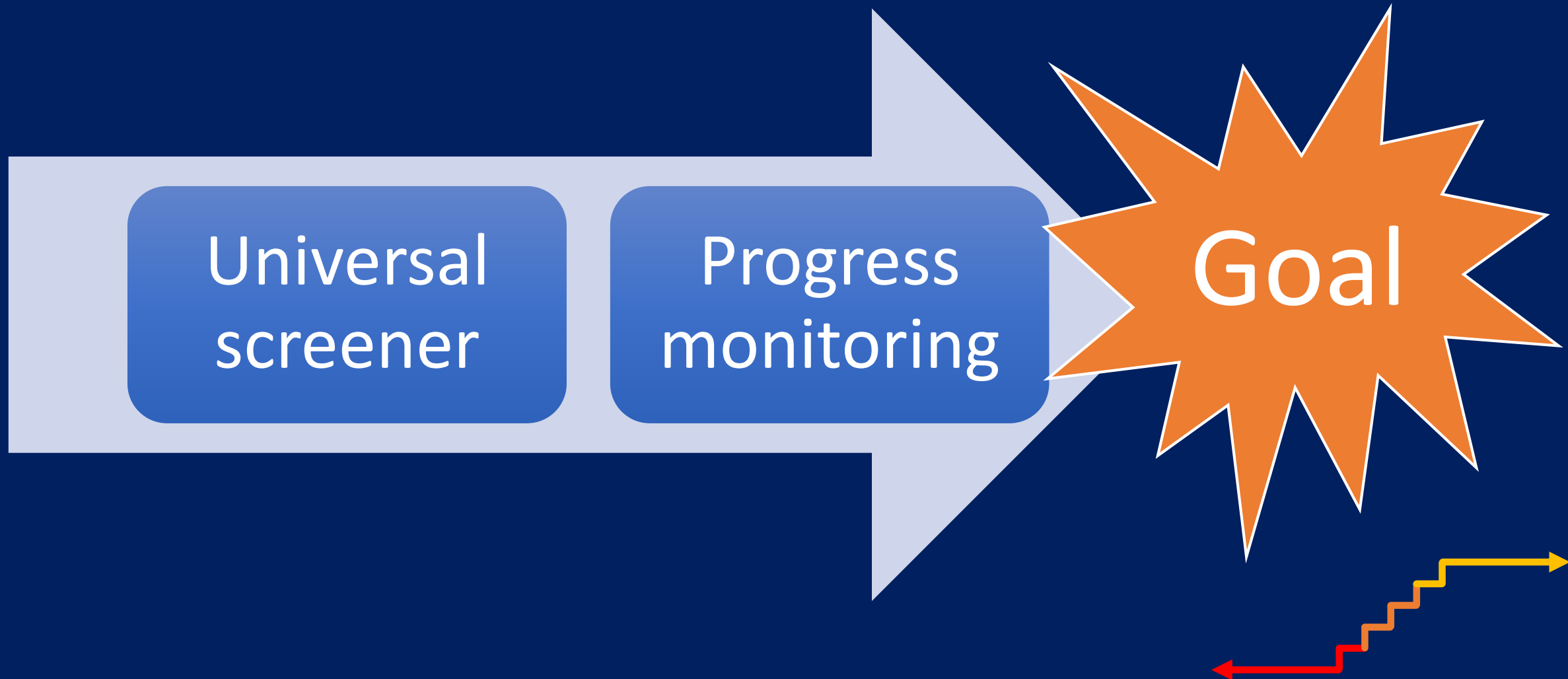
Establish present level of mathematics performance
and use this information to set ambitious goals

Universal Screener

Progress Monitoring Measure



Establish Present Level of Performance and Set Goals



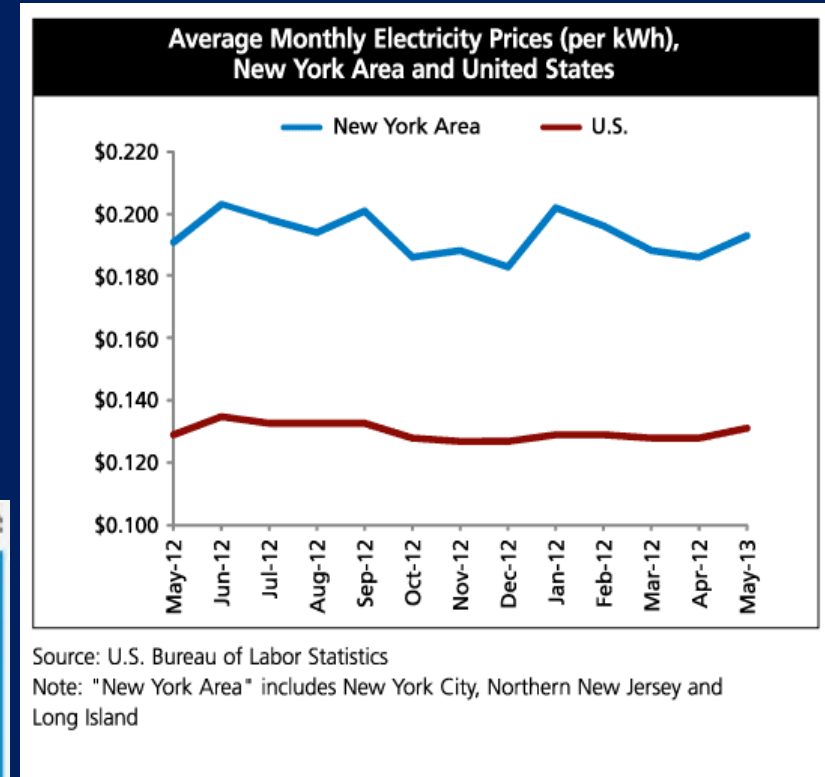
What is Progress Monitoring?



Exercise Tracker



Baby Growth Chart



Average Monthly Electricity Prices in NY & US

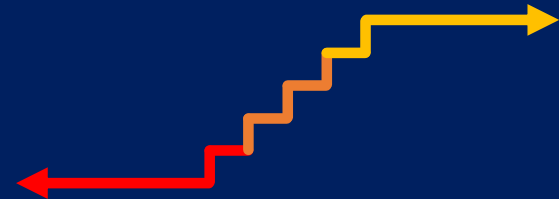


Characteristics of Progress Monitoring Measures

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

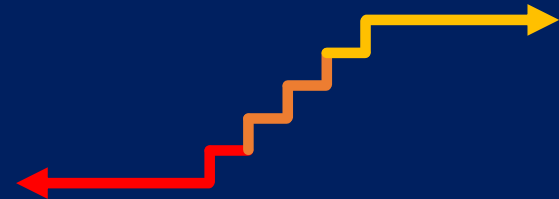


Why are these features important?



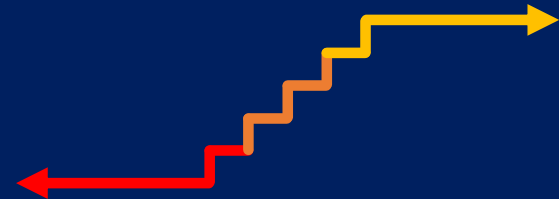
Algebra Readiness Progress Measures (ARPM) from iStation

- Three types of measures:
 - Number properties
 - Proportional Reasoning
 - Quantity Discrimination



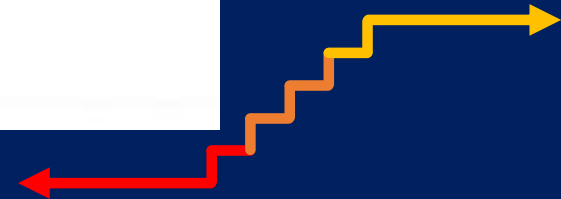
Number properties

$\frac{1}{2}(10 \times 60)$	<input type="checkbox"/>	5×10	16	$58 + 1.7$	<input type="checkbox"/>	$1.7 + 5.8$
$\frac{2}{3} \times \frac{3}{2}$	<input type="checkbox"/>	0	17	$\frac{3}{12} \times \frac{5}{8}$	<input type="checkbox"/>	$\frac{5}{8} \times \frac{1}{4}$
8.8×1.2	<input type="checkbox"/>	1.3×8.8	18	$1\frac{1}{4}(7 \times 8)$	<input type="checkbox"/>	$8\frac{3}{4} \times 1\frac{1}{2}$
$-9(-2 + -6)$	<input type="checkbox"/>	$90 + 54$	19	-90×-32	<input type="checkbox"/>	-90×-32
-198×-78	<input type="checkbox"/>	-78×-199	20	$\frac{3}{9} + \left(\frac{5}{16} + \frac{1}{8}\right)$	<input type="checkbox"/>	$\left(\frac{7}{9} + \frac{5}{16}\right) + \frac{1}{8}$
$-\frac{1}{2} + \frac{1}{2}$	<input type="checkbox"/>	1	21	$3\frac{1}{4} \times \left(5\frac{5}{6} \times 2\frac{7}{8}\right)$	<input type="checkbox"/>	$\left(3\frac{3}{4} \times 5\frac{5}{6}\right) \times 2\frac{7}{8}$
			22			



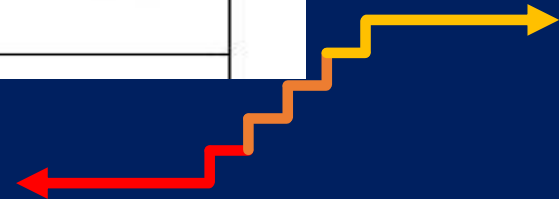
Proportional Reasoning

37% of 100 <input type="text"/> 12% of 100	47% of 34 <input type="text"/> 89% of 34
45 out of 90 <input type="text"/> 30 out of 90	3 to 7 <input type="text"/> 8 to 9
$\frac{3}{5}$ of 80 <input type="text"/> $\frac{9}{15}$ of 80	2 to 5 <input type="text"/> 2 to 7
5:8 <input type="text"/> 3:10	6:7 <input type="text"/> 18:21
12% of 65 <input type="text"/> 12% of 97	8 out of 48 <input type="text"/> 18 out of 20
$\frac{1}{5}$ of 10 <input type="text"/> $\frac{1}{5}$ of 50	1:4 <input type="text"/> 1:2



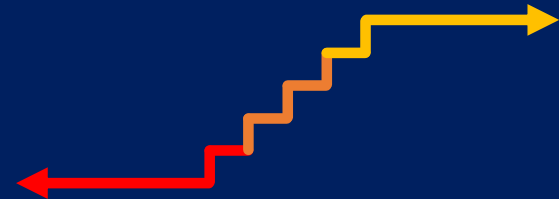
Quantity Discrimination

7	$\frac{43}{6}$	2	$\frac{1}{2}$	0.33	3	-15	-13
1.25	137%	5	$5\frac{3}{10}$	5.7	6	25%	$\frac{1}{5}$
$6\frac{15}{16}$	$\frac{26}{4}$	8	$3\frac{1}{2}$	32%	9	151%	$15\frac{1}{10}$
16.95	$19\frac{17}{20}$	11	2.2	-24	12	62%	0.062
$\frac{9}{10}$	88%	14	0.15%	1.5%	15	$\frac{5}{2}$	$2\frac{1}{4}$
0.23	$\frac{1}{4}$	17	$\frac{7}{8}$	$\frac{3}{4}$	18	0.07%	0.5%
		20			21		

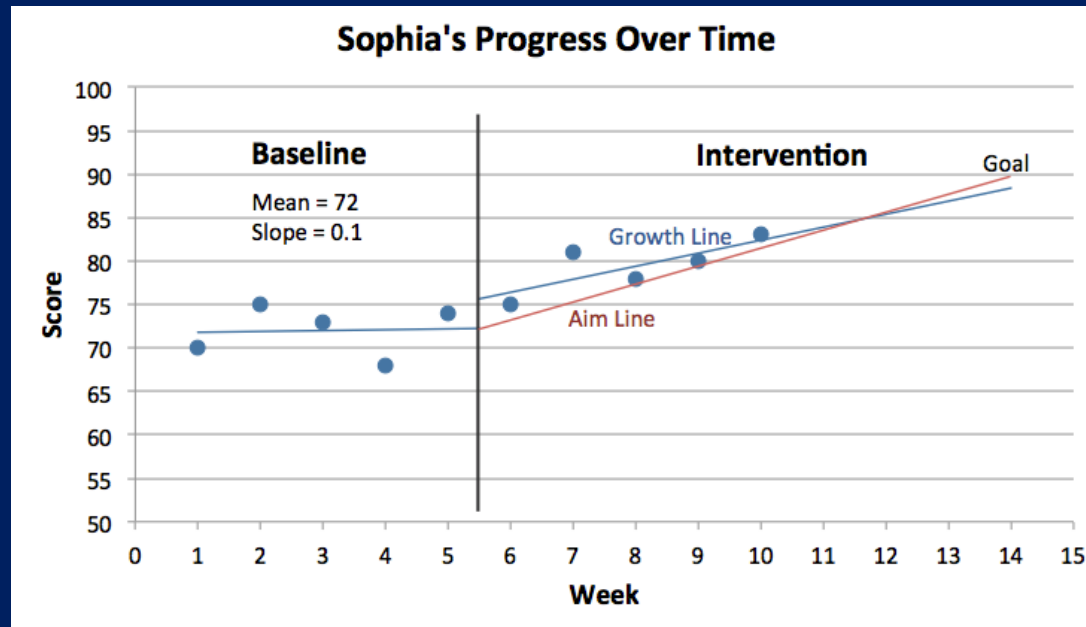


what do you notice?

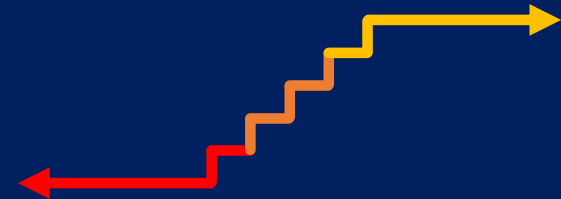
- Take a look at the progress monitoring measures
- What do you notice about the:
 - Content covered?
 - Format of the test?
 - Format of each item?
- What could these tell you about student's performance and progress?



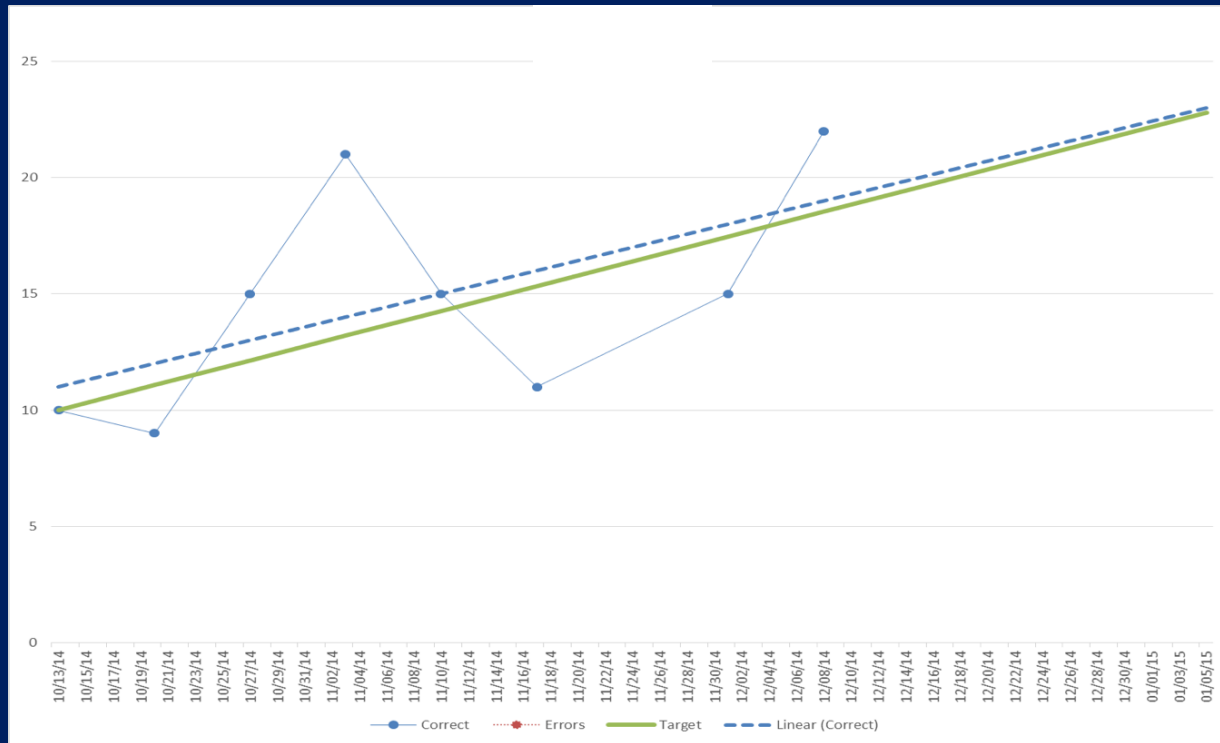
Interpreting Results from Progress Monitoring Measures



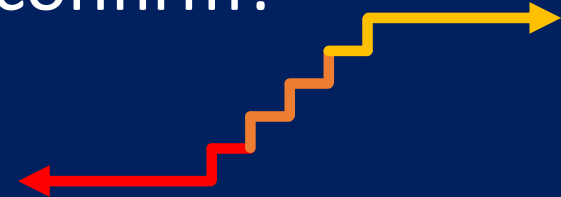
1. Gather baseline data
2. Set performance goals
3. Implement the intervention
4. Administer progress monitoring measures at regular intervals
5. Evaluate the student's progress



Make Decisions from Progress Monitoring Results



- Is the student making adequate progress toward his or her goals?
 - How do you know?
 - How could you confirm?
- Is the intervention effectively meeting the student's needs?
 - How do you know?
 - How could you confirm?



Who participates in universal screening?

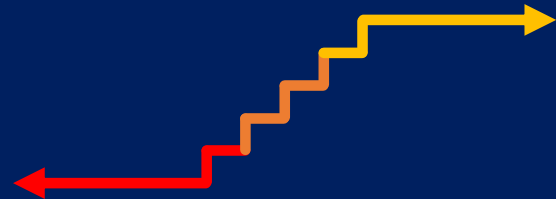
All students

Students who have been identified
as "at risk" by teachers

Students with IEPs

Students who scored "below basic"
on the state standardized test

all students



The main purpose of progress monitoring is to

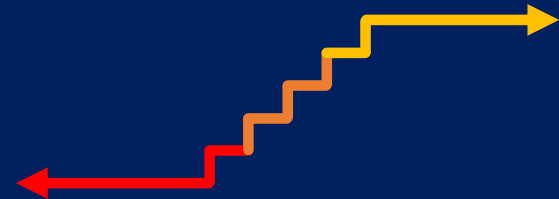
determine if a student is making progress towards their goals

evaluate whether the intervention is effective for a student

Both A and B

None of the above

both A & B



In Review: Assessments for DBI

Establish present level of mathematics performance
and use this information to set ambitious goals

?

Monitor student's progress toward the goal

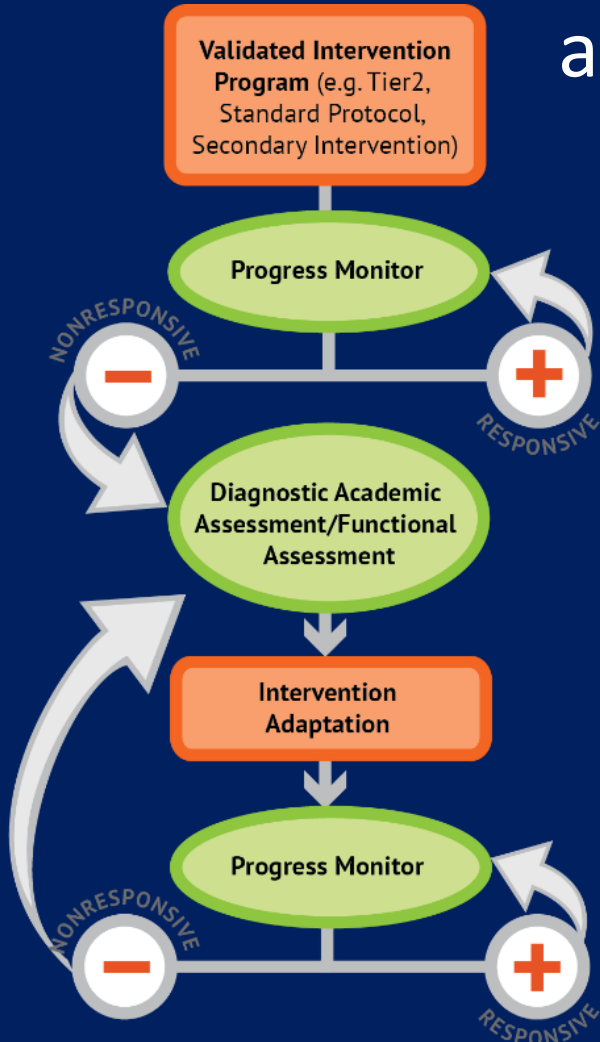
?

Diagnose student's persistent misconceptions
And errors

?

Monitor student's progress toward the goal

?



In Review: Assessments for DBI

Establish present level of mathematics performance and use this information to set ambitious goals

Universal Screener

Monitor student's progress toward the goal

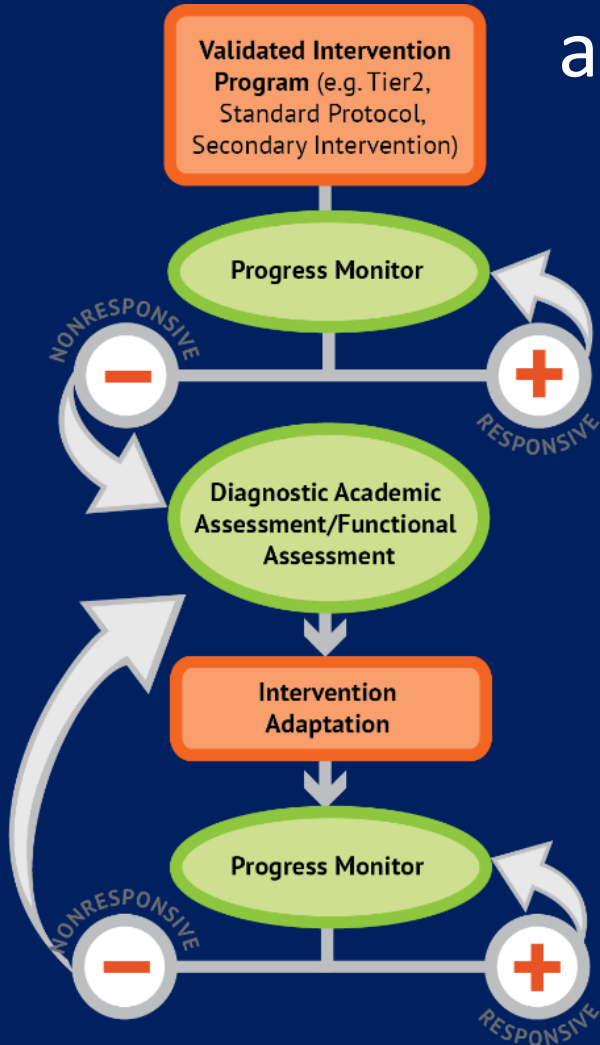
Progress Monitoring Measure

Diagnose student's persistent misconceptions
And errors

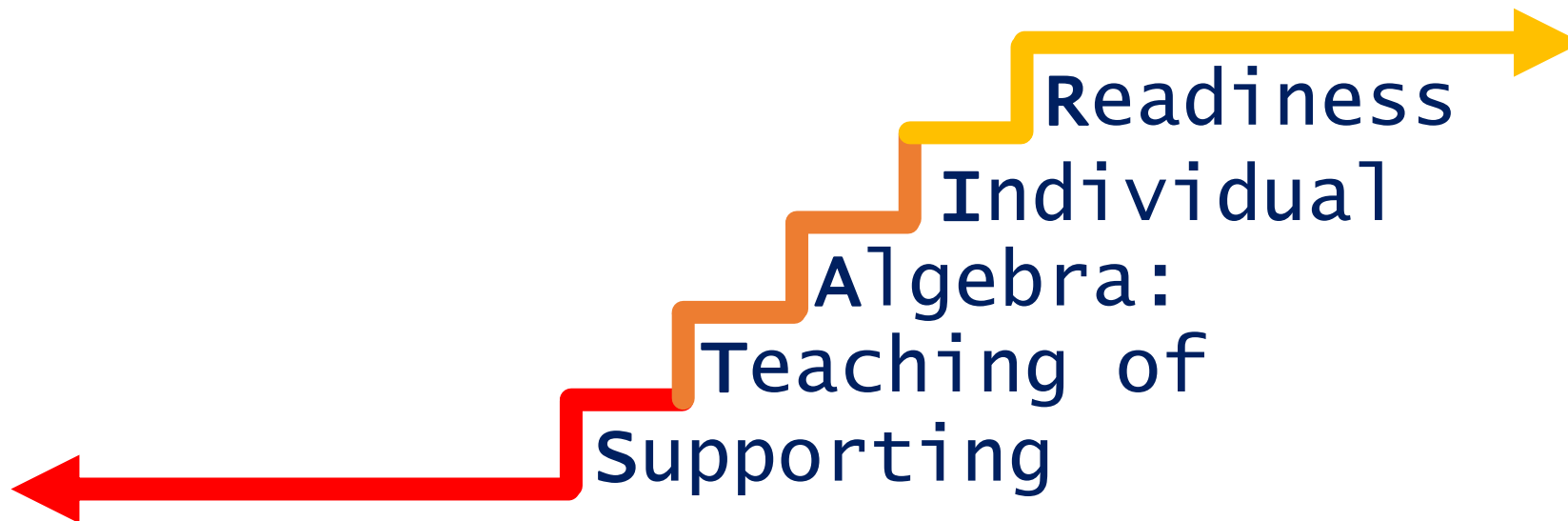
Diagnostic Assessment

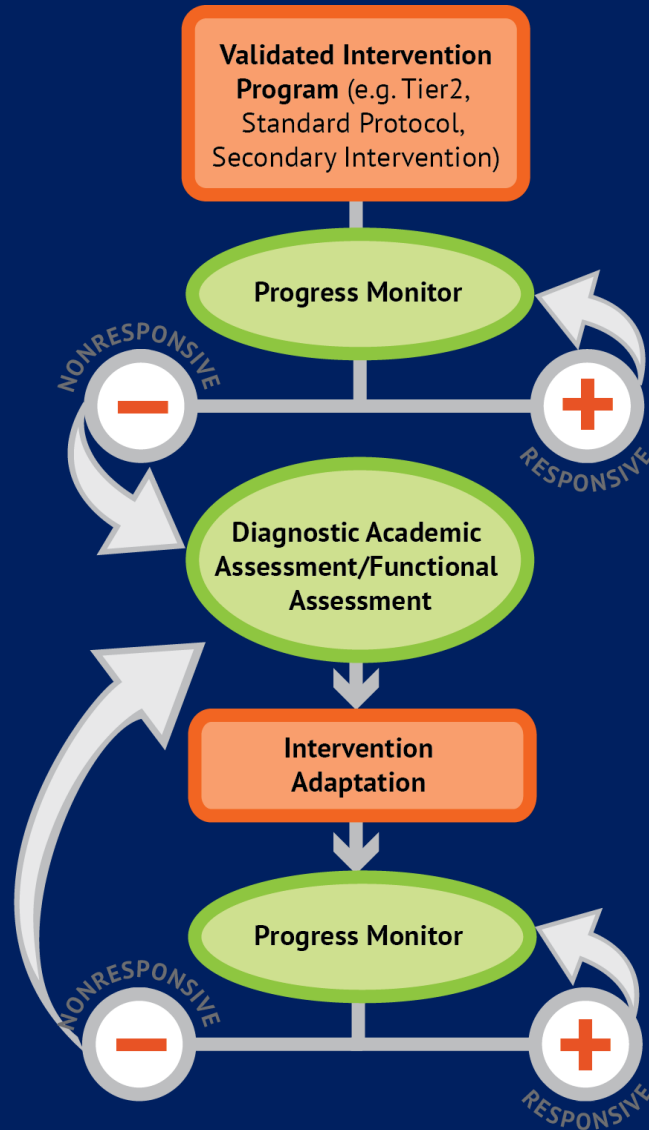
Monitor student's progress toward the goal

Progress Monitoring Measure



Instructional Platform





Instructional Platform

INSTRUCTIONAL DELIVERY

Explicit instruction

Multiple representations

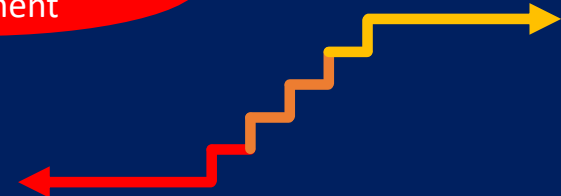
Precise language

INSTRUCTIONAL STRATEGIES

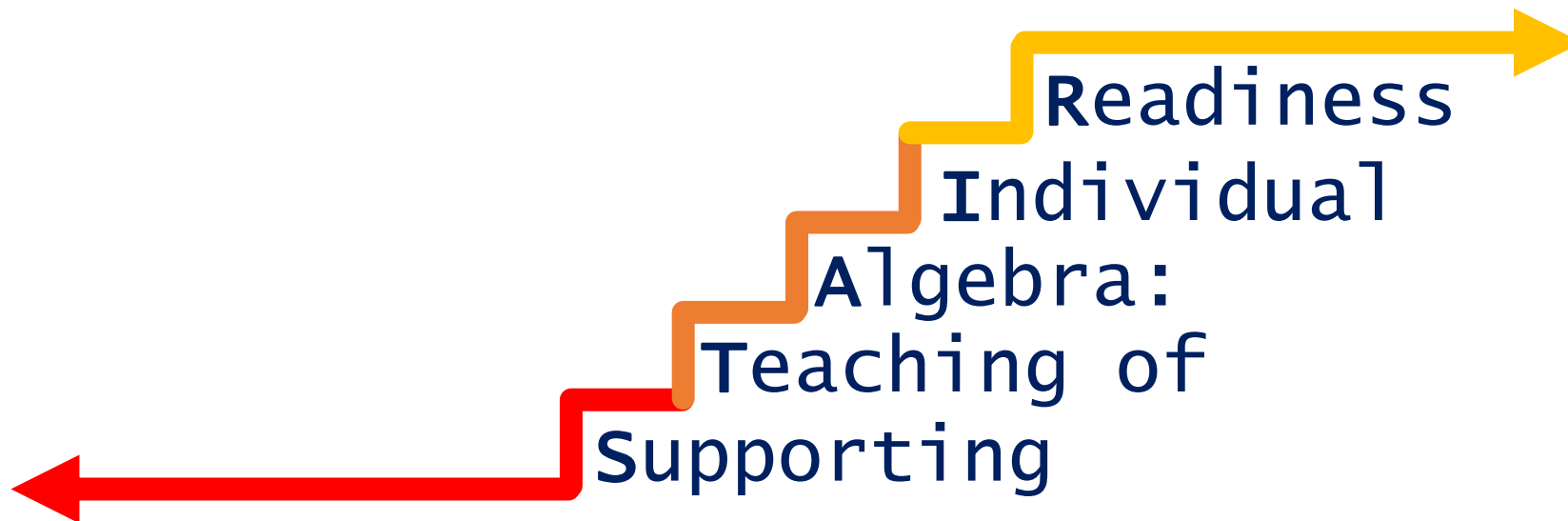
Fluency building

Problem solving instruction

Motivation component

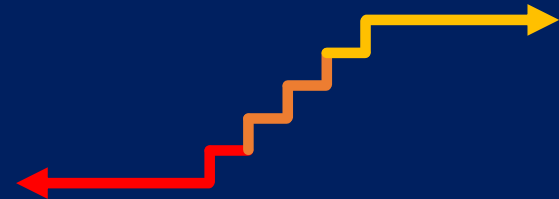


Professional Development



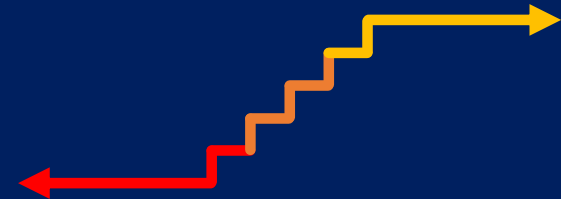
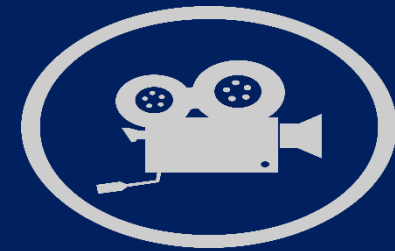
Core Professional Development (PD)

- Whole-group
- Similar to Tier 1 or Universal supports
- Introduction
- Content and skill focused
- Interactive

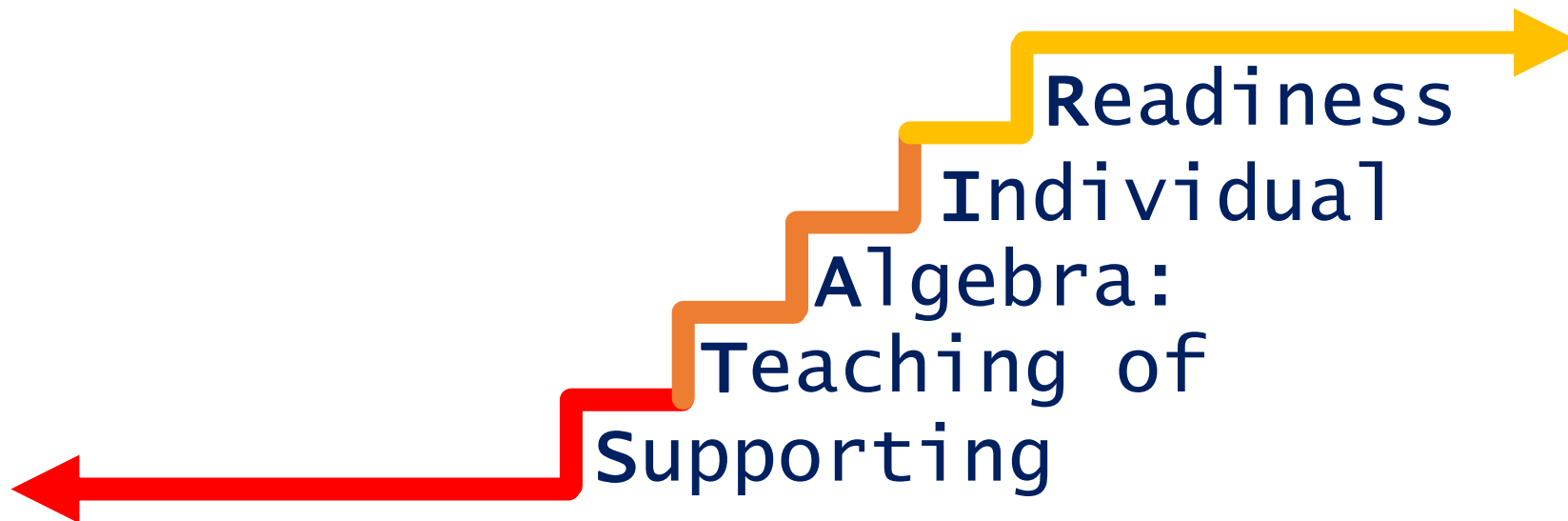


Tailored Professional Development (PD)

- Individualized
- Tailored to content and skills of need
- Provided through lightboard videos and coaching sessions

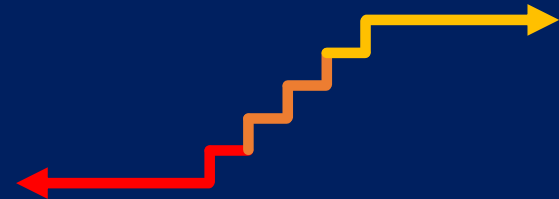


Coaching



word cloud

- When you think about professional coaching, what comes to mind?
- *** use hyphenated phrases to respond ***
- e.g., someone-to-brainstorm-with

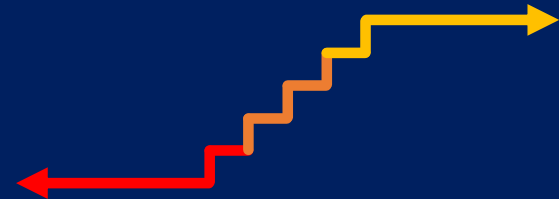




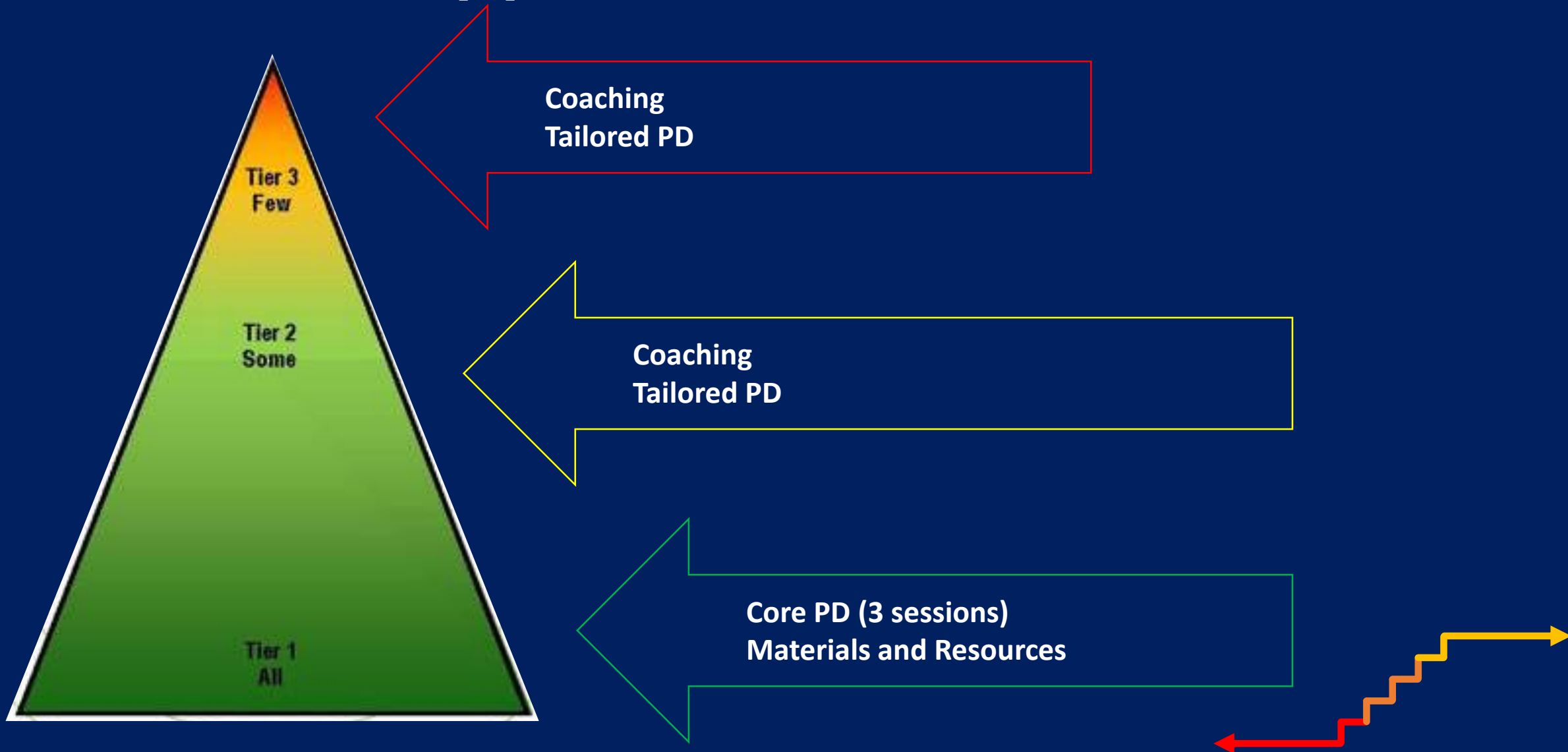
When you think about professional coaching, what comes to mind?

What Does Coaching Look Like?

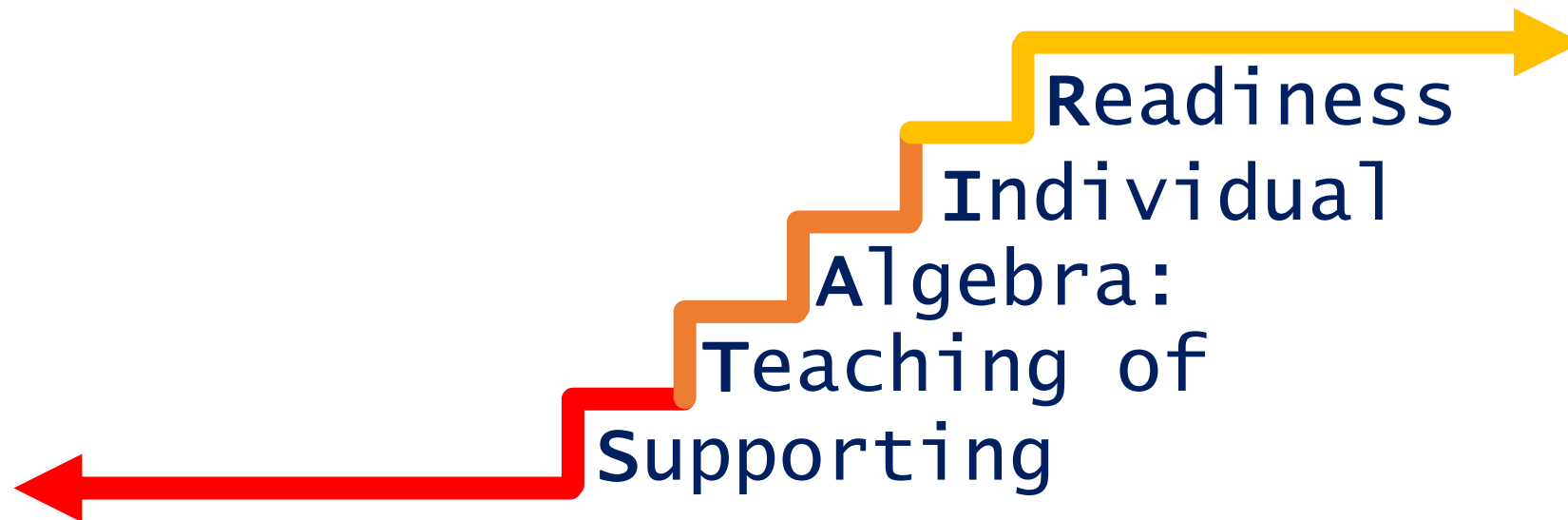
- Contact every other week
 - Virtual (e.g., Zoom, Google Hangouts)
 - Face-to-face
- Structured Conversation
- Purposeful



Tiered Supports for Adults

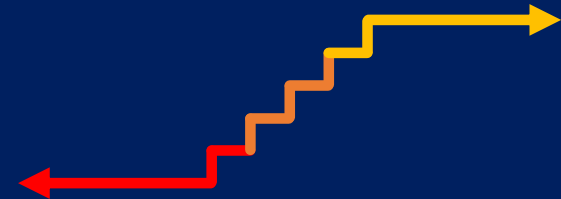


Project STAIR Basic Steps

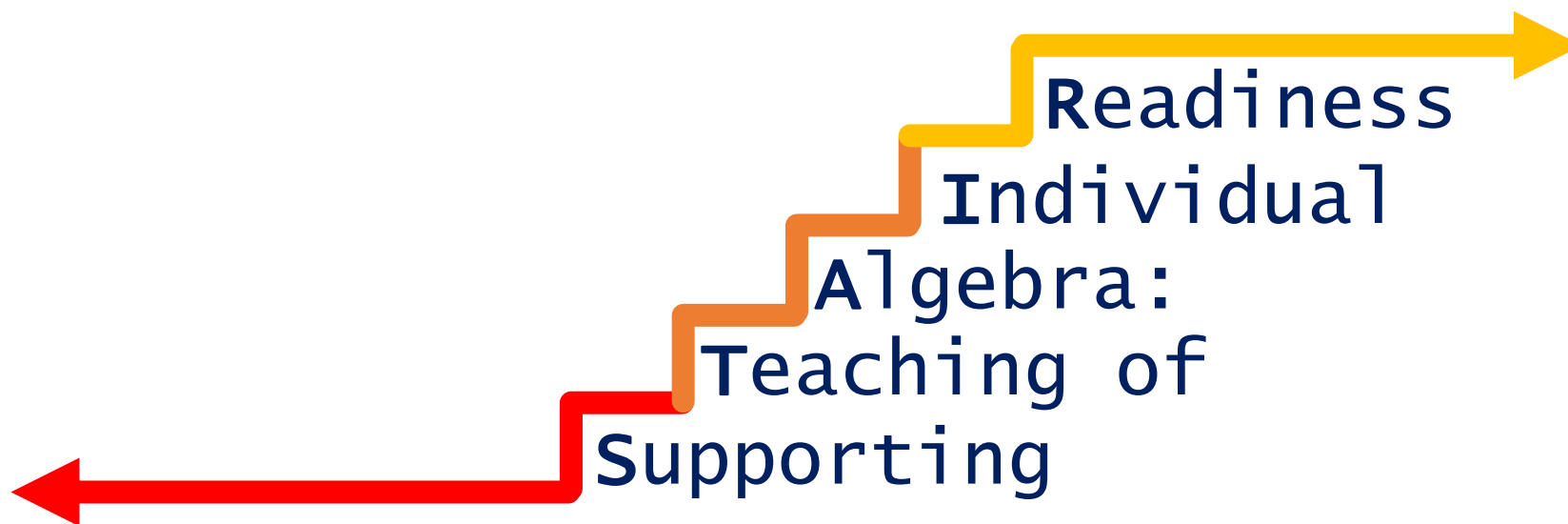


Project STAIR Basic Steps 2018–2019

- Basic Steps for this Year
- Sample
 - Two Middle Schools
 - District 1 Mid-Sized Urban
 - 6 Teachers
 - District 2 Mid-Sized Suburban
 - 7 Teachers
- Process so Far
- Pilot Year
- Next Couple of Years

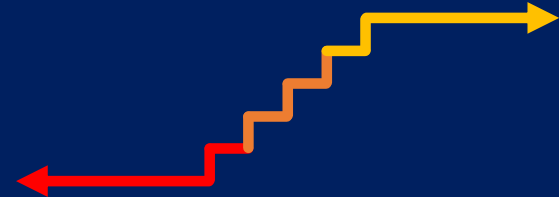


Adapting Framework to Your District

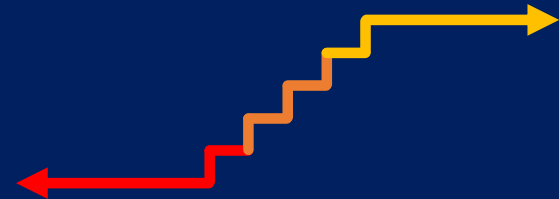


Adapting Framework to Your District

- BASIC STEPS
- 1) Identify Goal (Focused Objective)
- 2) Identify Participants (e.g. School or Team Goal)
- 3) Start Small (Phase 1, Phase 2, Phase 3)
- 4) Pilot Framework
- 5) Data Driven Decision Making (Implement, Reflect, Tweak, Refine, Implement)



Questions, comments? Share
with someone next to you a
next step...



Thank You!

Please contact Erica Lembke, lembkee@Missouri.edu, for more information.

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