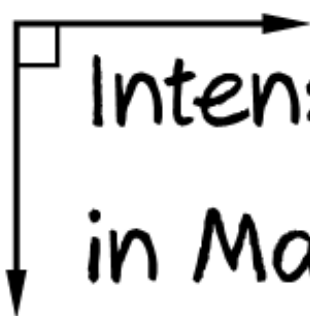
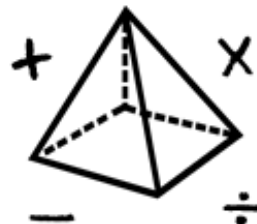




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Intensive Interventions
in Mathematics



Module 8

Activity Workbook

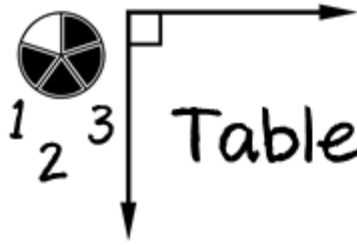
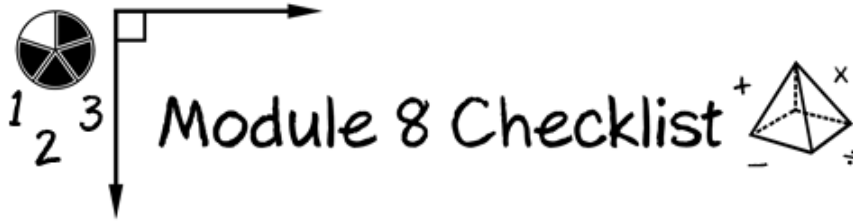


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Module 8 Checklist

The purpose of this Activity Workbook is to help organize content for this Module. You will do some Activities on your own to help you engage with and think about the content. You will not be required to submit your responses for those activities. There are other activities, however, that you will submit online and apply in your classroom. The activities that you must submit before completing this Module are listed in the “Online” column below.

Section	Assignment	To Be Completed In Activity Workbook	To Be Completed Online	To Be Completed With Coach
Intro	Video		<input type="checkbox"/> Watch Module 8 Introduction Video Presentation	
Part 1	Video		<input type="checkbox"/> Watch Module 8 Part 1 Video Presentation	
	Activity 1	<input type="checkbox"/> Compare Fidelity Checklist to Accompanying Lesson		
	Activity 2	<input type="checkbox"/> Choosing Qualitative Components		
	Activity 3	<input type="checkbox"/> Create and Use Fidelity Checklist		
	Discussion		<input type="checkbox"/> Discussion Board: <i>Rate Fidelity of a Tutor</i>	
Part 2	Video		<input type="checkbox"/> Watch Module 8 Part 2 Video Presentation	
	Activity 4	<input type="checkbox"/> Extend Adaptation within DBI		
	Activity 5	<input type="checkbox"/> Analyze and Improve a Previous Lesson		
	Discussion		<input type="checkbox"/> Discussion Board: <i>Current Decision Making within DBI</i> <input type="checkbox"/> Write Your Response <input type="checkbox"/> Respond to 2 Others	
Part 3	Video		<input type="checkbox"/> Watch Module 8 Part 3 Video Presentation	
	Activity 6	<input type="checkbox"/> Create DBI Implementation Plan		
	Discussion		<input type="checkbox"/> Discussion Board: <i>Share Excitement and Concerns About DBI</i> <input type="checkbox"/> Write Your Response <input type="checkbox"/> Respond to 2 Others	
Next Steps	Video		<input type="checkbox"/> Watch Module 8 Closing Video Presentation	
	Classroom Application			<input type="checkbox"/> Implement DBI



Intensive Interventions
in Mathematics



- Module 8
- Part 1
- Activity #1



Look at the fidelity checklist and accompanying lesson.
Compare to understand how much detail is provided within the fidelity checklist.

PIRATE MATH

FIDELITY OF TREATMENT (DAYS 6 - 48)

Tutor: _____ Treatment fidelity checked by: _____

Student: _____ Session #: _____ Accuracy: ___ / ___ = ___

Scoring code: + = Behavior Observed - = Behavior Not Observed NA = Not Applicable

Math Fact Flash Cards

- Tutor greets student.
- Tutor starts timer.
- Tutor begins flash card activity immediately.
- Tutor reminds student of flash card procedures; answers questions if necessary.
- Tutor sets timer for 1 minute.
- Tutor allows student to respond to cards.
- Tutor prompts student to Count Up if incorrect.
- Tutor stops presenting cards when timer goes off.
- Tutor prompts student to count correct cards.
- Tutor encourages student to "beat the score."
- Tutor sets timer for 1 minute.
- Tutor allows student to respond to cards.
- Tutor prompts student to Count Up if incorrect.
- Tutor stops presenting cards when timer goes off.
- Tutor prompts student to count correct cards.
- Tutor prompts student to graph the higher number.
- Tutor records flash card score in attendance log.
- Tutor rewards student with gold coin.

Word Problem Warm-Up

- Tutor presents word problem from previous session's Pirate Problems.
- Tutor encourages student to talk through solution steps.
- Tutor assists with explanation, as needed.
- Tutor rewards student with gold coin.

Tutoring Lesson

- Tutor begins tutoring lesson immediately.
- Tutor prompts student to describe Counting Up strategy.
- Tutor quizzes student on 4 math facts, reminding student to Count Up as necessary.

- Tutor presents story problem #1.
- Tutor allows time for student to respond.
- Tutor praises/corrects student's responses.
- Tutor rewards student with gold coin.

- Module 8
- Part 1
- Activity #1 (cont.)



- ___ Tutor presents story problem #2.
- ___ Tutor allows time for student to respond.
- ___ Tutor praises/corrects student's responses.
- ___ Tutor rewards student with gold coin.

- ___ Tutor presents story problem #3.
- ___ Tutor allows time for student to respond.
- ___ Tutor praises/corrects student's responses.
- ___ Tutor rewards student with gold coin.

Sorting Activity

- ___ Tutor begins sorting activity immediately.
- ___ Tutor reminds student of sorting procedures and answers questions as necessary.
- ___ Tutor sets timer for 2 minutes.
- ___ Tutor reads cards out loud for student.
- ___ Tutor allows student to place cards on sorting mat without interrupting.
- ___ Tutor prompts student to stop when timer goes off.
- ___ Tutor goes through correction procedure with up to 3 cards from "incorrect" pile.
- ___ Tutor goes through cards with student, counting the number of correct cards.
- ___ Tutor rewards student with gold coin.
- ___ Tutor records sorting cards score on Attendance Log.

Pirate Problems Daily Review

- ___ Tutor begins Pirate Problems Daily Review immediately.
 - ___ Tutor reminds student of Pirate Problems procedures; answers questions as necessary.
 - ___ Tutor sets timer for 2 minutes.
 - ___ Tutor allows student to work independently for 2 minutes.
 - ___ Tutor prompts student to stop when timer goes off.
 - ___ Tutor sets timer for 2 more minutes (for word problem on back).
 - ___ Tutor allows student to work independently for 2 more minutes.
 - ___ Tutor prompts student to stop when timer goes off.
 - ___ Tutor corrects the problems while student watches.
 - ___ Tutor models Counting Up strategy for incorrectly answered items.
 - ___ Tutor writes score on corner of sheet.
 - ___ Tutor records Pirate Problems score in attendance log.
 - ___ Tutor rewards student with gold coin.
-
- ___ Tutor prompts student to count coins and mark on map.
 - ___ Tutor dismisses student to return to class.
 - ___ Tutor stops timer.
 - ___ Tutor records time of session in attendance log.
 - ___ Tutor records date in attendance log.

- Module 8
- Part 1
- Activity #1 (cont.)



DAY 30

MATERIALS

Stopwatch	Day 29 Pirate Problems
Treasure Map	<i>RUN!</i> poster
Coins	<i>Change</i> poster
Treasure chest	<i>Difference</i> poster
Math Fact Flash Cards	Highlighter
Timer	Sorting Cards
Flash Card Graph	Sorting Mat
Colored pencil	Day 30 Student Worksheet
Attendance Log	Day 30 Pirate Problems

ACTIVITY 1: FLASH CARDS

Let's start with flash cards.

Use script as needed (see *Activity Guide: Math Fact Flash Cards* in Activity Guide section).



ACTIVITY 2: WORD PROBLEM WARM-UP

Use script as needed (see *Activity Guide: Word Problem Warm-Up* in Activity Guide section).



ACTIVITY 3: LESSON

Every time you see a math problem, what are two ways to get the answer to a math fact? (Student.)

Good. Let's talk about counting up. How do you count up an addition problem? (Student.)
How do you count up a subtraction problem? (Student.) **Very good.**

Now, it's time for a math fact quiz. I'll give you a fact, and you tell me the answer. Try to get the answer directly from your brain, right off the bat. Count up to find the answer only if you don't know the answer right away. Ready?

6 plus 4? (Student.)
9 plus 7? (Student.)
14 minus 6? (Student.)
13 minus 8? (Student.)

- Module 8
- Part 1
- Activity #1 (cont.)




The last time we worked together, we learned how to solve Change story problems. Can you tell me how to recognize a Change problem? (Student.) That's exactly right. In a Change problem, we start with an amount of something, like dollars or apples, and that amount increases or decreases. We end up with a different amount. So, tell me a story that would be a good example of a Change problem. (Student.) That was great!

When we solve Change problems, we read the problem carefully to find what kind of thing changes and the three important pieces of information for each story. The three pieces of information are the start amount, or St (point to poster), the amount that changes, or C (point to poster), and the end amount, or E (point to poster).

PIRATE MATH STUDENT WORKSHEET
DAY 30

NAME: _____
DATE: _____



A. Tom had 3 buckets of strawberries. Then he picked 4 more buckets of strawberries. It took him 2 hours. How many buckets of strawberries does Tom have now?

Write the number sentence: $\square \square \square \square \square$
St C = E

X = _____

B. Mary saw 9 frogs in the pond. 6 of the frogs hopped away. She saw 7 turtles. How many frogs are still in the pond?

Write the number sentence: _____
St C = E

X = _____

Today, we'll work on math word problems just like we did last time. Look at this problem. (Problem A: Tom had 3 buckets of strawberries. Then he picked 4 more buckets of strawberries. How many buckets of strawberries does Tom have now?) Let's follow the two posters to solve it.

Solution to Problem A

Problem Type: Change, single-digit
 Relevant Info: St = 3; C = + 4; E = X
 Number Sentence: 3 + 4 = X
 Answer: X = 7 buckets

What's the first thing we do when we see a word problem? We RUN through the problem.

Use script as needed (see Activity Guide: RUN! in Activity Guide section).

Let's go to the Change poster.

Use script as needed (see Activity Guide: Change Problems in Activity Guide section).



Let's do another problem. (Problem B: Mary saw 9 frogs in the pond. 6 of the frogs hopped away. She saw 7 turtles. How many frogs are still in the pond?) Let's follow the two posters to solve this problem.

Solution to Problem B

Problem Type: Change, single-digit, irrelevant info*
 Relevant Info: St = 9; C = - 6; E = X
 Irrelevant info: "She saw 7 turtles."
 Number Sentence: 9 - 6 = X
 Answer: X = 3 frogs

Start out with the RUN! poster. R. (Point.) Read the problem. Let's read this problem together. (Read with student.)

U. (Point.) Underline the question. Do you see a question in that problem? (Student.) Very nice. Underline the question.

- Module 8
- Part 1
- Activity #1 (cont.)



Let's keep **RUNning** through the problem. **N.** (Point.) **Name the problem type. What type of problem is this?** (Student.) **Yes, this is a Change problem because it tells a story about the amount of frogs Mary saw after some of them hopped away. Write a C next to the problem so you remember this is a Change problem.** (Student.)

Let's read the problem carefully and circle the **Important Information**. **First, what changes in this story?** (Student.) **Good. The amount of frogs changes. Circle frogs.** (Student.) **That will be the label for the answer. Do you see the word frogs anywhere else? Circle those, too.** (Student.)

Let's find the numbers we need to solve the problem about frogs. **The first sentence says, "Mary saw 9 frogs in the pond." What information should you circle?** (Student.) **9 tells about frogs so we probably need that number to answer the question. Circle 9.** (Student.)

Let's read the next sentence. **"6 of the frogs hopped away." What information should you circle?** (Student.) **Yes, 6 tells about frogs so we probably need that number to answer the question. Circle 6. What else should you circle?** (Student.) **Very good! Hopped away tells us that there's a decrease in the amount of frogs, so we'll subtract. Circle hopped away.** (Student.)

Let's read the next sentence. **"She saw 7 turtles." Remember, the question asks, "How many frogs are left in the pond?" Do we need to know how many turtles she saw to answer the question?** (Student.) **What do we call this type of information?** (Student.) **That's right. We call this irrelevant information.**

What do we do with it? (Student.) **Yes, we cross it out and solve the problem without it. Do that now.** (Student.)

Let's finish reading. **"How many frogs are left in the pond?" There is no number to circle in this sentence. We already underlined the question.**

Let's think about what we've circled. **We have frogs (point), which tells us what the problem is about. We also have 9 and 6 (point). We also have hopped away (point), which tells us the amount of frogs decreased, and we'll need to subtract.**

So, let's go to the **Change poster**.

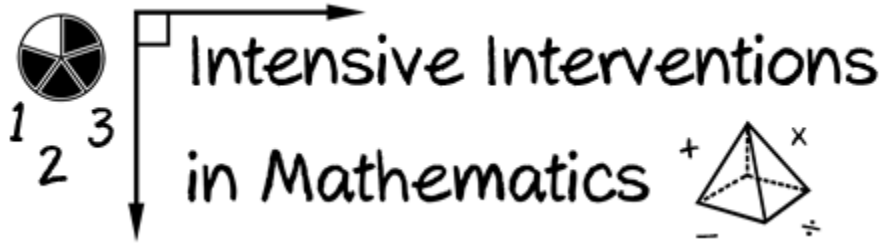
Use script as needed (see *Activity Guide: Change Problems* in Activity Guide section).




OK! Let's do another problem. Be sure to label the graph before you answer the word problem. (Problem C: Joan went to the mall. She bought a pair of shoes and a hat. How much more did Joan spend on the pair of shoes?) **Let's follow the two posters to solve this problem.**

Solution to Problem C

<i>Problem Type:</i>	<i>Difference, double-digit, pictograph</i>
<i>Relevant Info:</i>	$B = \$30, s = \$15, D = X$
<i>Number Sentence:</i>	$\$30 - \$15 = X$
<i>Answer:</i>	$X = \$15$



Intensive Interventions in Mathematics

- Module 8
 - Part 1
 - Activity #2
- 

Go back and look at the lesson for Activity #1.

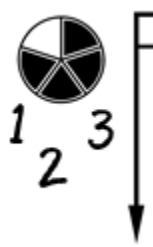
What qualitative components would you include on a qualitative fidelity checklist?
(List at least three.)

1.


2.

3.

4.



Intensive Interventions in Mathematics

- Module 8
 - Part 1
 - Activity #3
- 

First, look at the materials for a lesson on counting up.

What quantitative and/or qualitative components would you include on a fidelity checklist?

Hi, _____,

Today we are going to practice counting up to help us with adding. This is important, because you don't always know the answer for an addition problem right away in your head, but you can still answer problems you don't know, really quickly!

First, I want you to look at this problem. (Point to A.) It says 6 plus 8 is the same as blank. Show me how you would answer this problem.

Student responds.

Awesome work! Sometimes when you add two numbers together, you know the answer right away in your brain, and that's great! But sometimes, we don't know the answer right away. Counting up is a neat trick to help you figure out the answer quickly.

<p>COUNTING UP Addition</p> <ol style="list-style-type: none"> 1. Put the bigger number in your fist and say it. 2. Count up the smaller number on your fingers. 3. Your answer is the last number you say. 	<p>COUNTING UP Subtraction</p> <ol style="list-style-type: none"> 1. Put the minus number in your fist and say it. 2. Count up your fingers to the number you start with. 3. Your answer is the number of fingers you have up.
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Display Counting Up Addition poster.

This poster shows the three steps to counting up for adding. Let's use these steps to solve 4 plus 2 is the same as blank. (Point to B.)

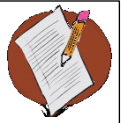
The first step says, "Put the greater number in your fist and say it." (Point to Step 1.) Greater means bigger, larger, or more. Which number is more?

4.

That's right! Start with the greater number, 4. Put that number in your fist and say, "4."

Tap closed fist on leg and say, "4."

- Module 8
- Part 1
- Activity #3 (cont.)



Look at Step 2. (Point to Step 2.) **Step 2 says, “Count up the lesser number on your fingers.” Now, count up 2 more, and use your fingers to keep track of how many you’re adding. Watch me.**

I put the greater number in my fist, 4 (tap closed fist on leg), **5** (hold up 1 finger), **6** (hold up 2 fingers). **I knew I had to add 2 more to 4** (point to “+ 2”). **I used my fingers to make sure I counted up exactly 2 more** (show students the 2 fingers still held up).

Now look at Step 3. (Point to Step 3.) **Step 3 says, “Your answer is the last number you say.” Watch: I put the greater number in my fist, 4** (tap closed fist on leg), **5** (hold up 1 finger), **6** (hold up 2 fingers). **What was the last number I said out loud?**

6.

So, what’s the answer to 4 plus 2?

6.

That’s right! 4 plus 2 is the same as 6. Write 6 in the blank.

(Student writes 6.)

Just like the number line, be careful! When you count up with your fingers, don’t put a finger up for the number you start with. That number goes in your fist. You have to add more fingers!

Watch me. I’ll practice this problem. (Point to C.) **7 plus 3 is the same as blank. I put the greater number, 7, in my fist.** (Tap closed fist on leg and say, “7.”) **Then I count up 3 more. Watch: 8** (hold up 1 finger), **9** (hold up 2 fingers), **10** (hold up 3 fingers). **10 is the last number I say. That’s the answer. Write 10 in the blank.**

(Student writes 10.)

I use my fingers to keep track of how many I add. So, 7 plus 3 is the same as 10. 10 is more than 7 and more than 3. Your answer is always more than each of the numbers you add together.

Before we solve the next problem, I’ll tell you something cool about addition problems. In addition problems, you always start with the greater number. It doesn’t matter

- Module 8
- Part 1
- Activity #3 (cont.)



whether the greater number is here (point to 7 of $7 + 3$) or here (point to 3 of $7 + 3$). You always start with the greater number. What number do you always start with?

The greater number.

That's right! For addition problems, you always start with the greater number.

The greater number.

That's right! For addition problems, you always start with the greater number.

Now, let's practice counting up together. Look at this problem. (Point to D.) This problem says 3 plus 4 is the same as blank. In this problem, the greater number, 4, doesn't come first. You still solve the problem the same way, though.

What number do you put in your fist?

4.

Yes, put the 4 in your fist.

(Student taps closed fist on leg and says) 4.

How many do you count up?

3.

So, count up 3 more.

5 (student holds up 1 finger), 6 (student holds up 2 fingers), 7 (student holds up 3 fingers).

So, what's 3 plus 4?

7.

Yes, 7 was the last number you said. 7 is the answer. 3 plus 4 is the same as 7. Write your answer in the blank.

- Module 8
- Part 1
- Activity #3 (cont.)



(Student writes 7.)

Let's try this problem. (Point to E.) **6 plus 4 is the same as blank. Show me how to count up 6 plus 4.**

(Student counts up.)

Very good. (Count up 6 plus 4.) **6 plus 4 is the same as 10. Write your answer in the blank.**

(Student writes 10.)

Let's try another problem. (Point to F.) **This problem says 5 plus 8 is the same as blank. This is an addition problem, so the answer is more than each of the numbers you add together. Try counting up 5 plus 8.**

(Student counts up.)

Great. (Count up 5 plus 8.) **5 plus 8 is the same as 13. Write your answer in the blank.**

(Student writes 13.)

(Point to G.) **This problem says 7 plus 6 is the same as blank. Show me how to count up 7 plus 6.**

(Student counts up.)

Awesome. (Count up 7 plus 6.) **7 plus 6 is the same as 13. Write 13 in the blank.**

(Student writes 13.)

Let's try one more problem. (Point to H.) **Show me how to count up 8 plus 9.**

(Student counts up.)

Yes! (Count up 8 plus 9.) **8 plus 9 is the same as 17. Great job! Write 17 in the blank.**

(Student writes 17.)



Nice work with addition! You earn a treasure coin!

Your "Counting Up" Fidelity Checklist

- Module 8
- Part 1
- Activity #3 (cont.)




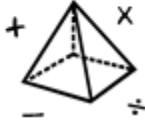
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Then, watch the video.

Rate the tutor against your checklist.

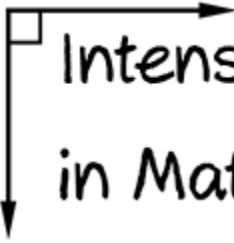
<https://youtu.be/aUEm1rmCWxg>

 Intensive Interventions
in Mathematics 

- Module 8
 - Part 1
 - Discussion
- 


Share your fidelity checklist from Activity #3 and describe how well the tutor adhered to your checklist.

(This space is for organizing your ideas.)



Intensive Interventions in Mathematics




- Module 8
 - Part 2
 - Activity #4
- 

List three additional ways to adapt the mathematics content with DBI. Describe why each might be helpful.


1.

2.

3.



Intensive Interventions in Mathematics



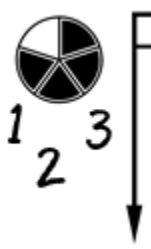
- Module 8
- Part 2
- Activity #5




Select a lesson that you taught recently. Fill in the graphic organizer about how you *used* explicit instruction.

Then, go back and revise your lesson by including *one additional component* of modeling, guided practice, independent practice, and each of the support practices. In other words, how could you have done it better?


Modeling		Practice	
I Do			We Do
			You Do
Supporting Practices			



Intensive Interventions in Mathematics




- Module 8
- Part 2
- Discussion




**Describe how you will make decisions about adaptations within DBI.
 Will you work on your own or with a team?
 What resources will you have available?**

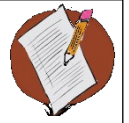
**Write an original post on the Discussion Board and respond to two peers.
 (This space is for organizing your ideas.)**



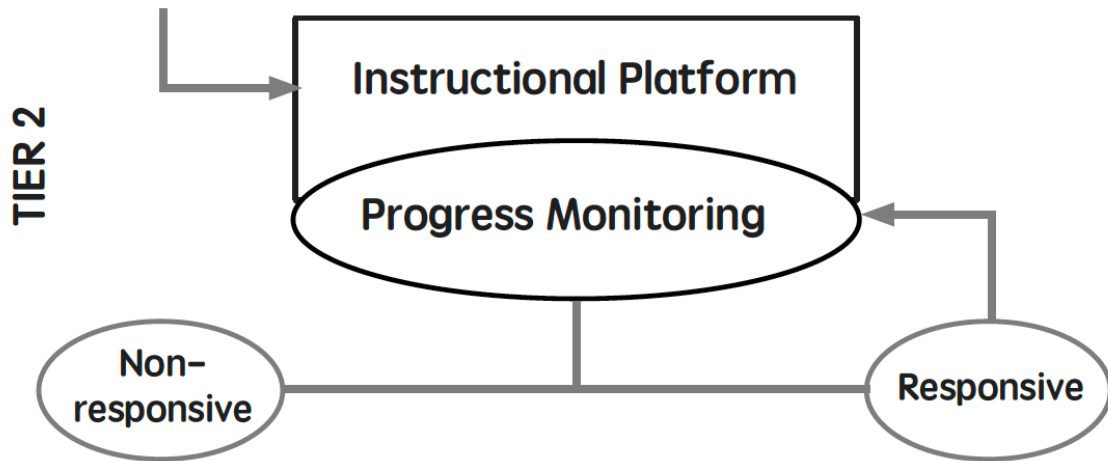
Intensive Interventions
in Mathematics



- Module 8
- Part 3
- Activity #6



Create your plan for implementation of DBI. Fill in the DBI diagram.

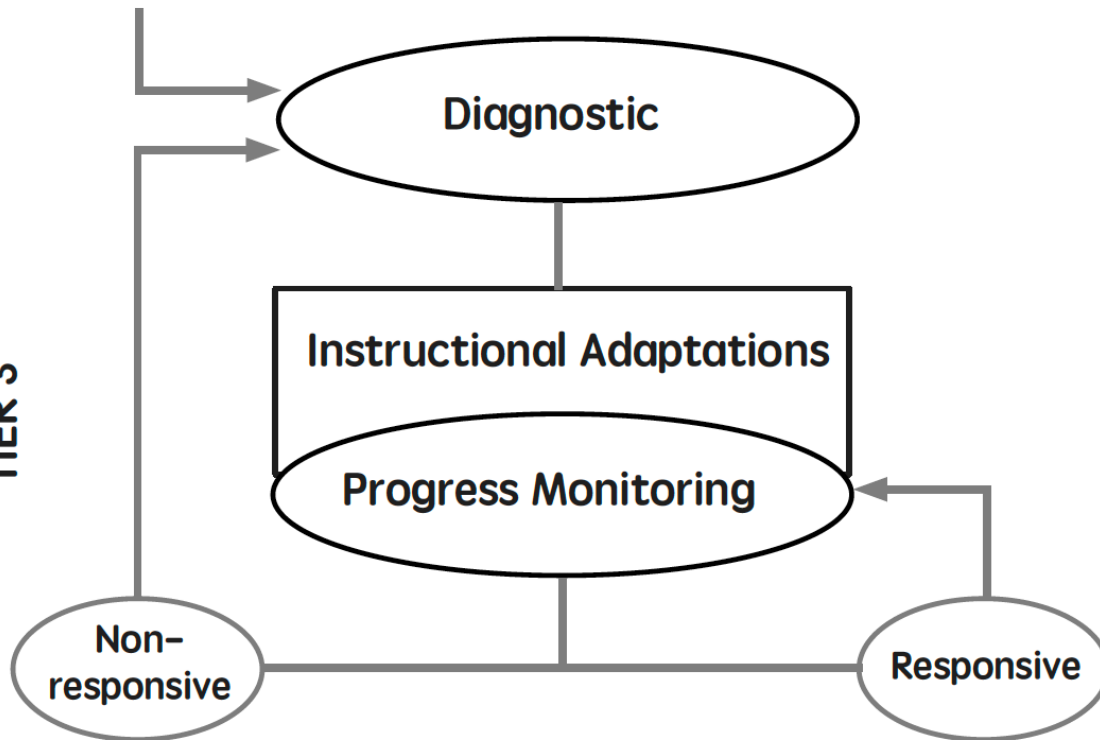


Instructional Platform:

Progress Monitoring:

Decision Making:

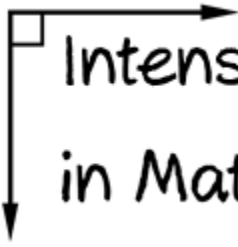
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Diagnostic:

Instructional Adaptations:

Progress Monitoring and Decision Making:



Intensive Interventions in Mathematics



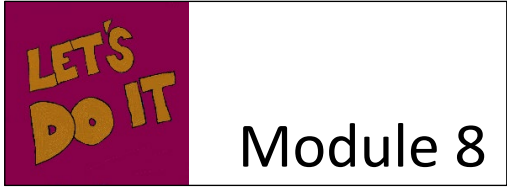
- Module 8
- Part 3
- Discussion



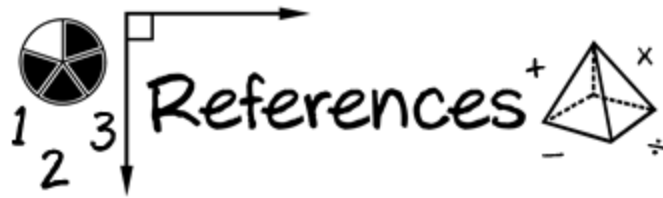
Share your excitement and concerns about starting (or continuing) DBI.

Write an original post on the Discussion Board and respond to two peers.

(This space is for organizing your ideas.)



Use the activities in this workbook as a platform to demonstrate what you've learned about DBI and how you are implementing the DBI process in your classroom!



Powell, S. R., & Fuchs, L. S. (2015). Intensive intervention in mathematics. *Learning Disabilities Research and Practice, 30*, 182–192. <https://doi.org/10.1111/ldrp.12087>