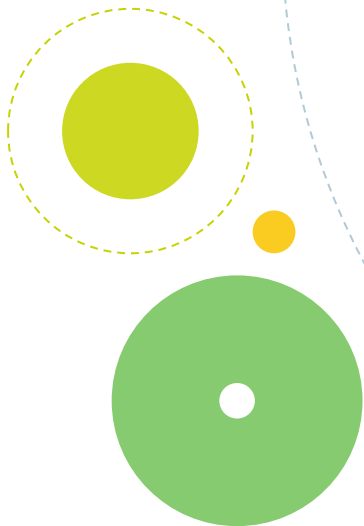




Supporting ALL Learners: Closing the Opportunity Gap

tinyurl.com/SAL-NCTM2019



Icebreaker



**Introduce yourself to the people around you
(share your name and where you're from)
and share a recent success that you are
most proud of.**

Introduction

Richard
Bobinchuck

Hollywood, FL
BCPS

A colleague
facilitated a
successful PL
that I provided
mentoring and
coaching on.



Professional Learning Goals

- ✓ Understand why it is crucial for ALL students to work with and learn grade-level math content.
- ✓ Learn strategies for supporting students who struggle to access grade-level math content.
- ✓ Identify and apply specific strategies to access grade-level content.

Session Norms



Engage Fully



Practice a Growth Mindset



Contribute Productively



Collect Wisdom



Be Open to Different Perspectives



Presume Positive Intent



As a teacher...

Bus Duty

Planning

After School Tutoring



Grades Are Due



Staff Meetings



Parent Phone
Calls

PLC

Lesson Plans
Are Due

Professional
Development

What's on your plate?





As a student...

Socializing and
Social Media

Test Today

Working Late

Homework Due



Relationships



No Entiendo Mi Maestro



Free Breakfast/
Lunch

Home Life



Will I Be Picked
Or Joked On

Will I Get
Compliments On
My New Shoes

Will I Make
The Team



What's on their plate?



Maslow's Hierarchy of Needs



Takeaways

- **Fostering emotional intelligence in the classroom builds strong teacher-student relationships and will positively influence student success.**
- **ALL students need a learning environment where they feel welcomed, valued, and at ease.**
- **Good teaching should include modeling, support, and nurturance.**



Stop and Jot #1

ALL students need a learning environment where they feel welcomed, valued, and at ease.

How do you help to create this learning environment?

*Follow **@RBobinchuck** after the session to continue the conversation.*



Essential Element: Access and Equity

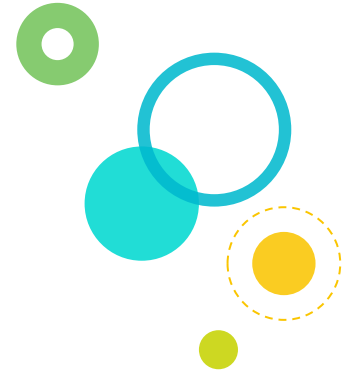
“The effective teaching and learning of mathematics are possible only when school mathematics programs have in place a commitment to Access and Equity”

Principles to Actions, Ensuring Mathematical Success for All, NCTM 2014

Access



Equity



Access and Equity





Obstacles Facing Access and Equity

- ✦ The quality of instruction available to students.
- ✦ Differential opportunities to learn high-quality grade-level mathematics content.
- ✦ Holding high expectations for mathematics achievement.
- ✦ Separating students academically on the basis of presumed ability.

Closing the Opportunity Gap



What can I do?

Support for Access and Equity requires, but not limited to:

- **High expectations**
- **Access to high-quality curriculum and instruction**
- **Adequate time for students to learn**
- **Appropriate emphasis on differentiated processes**
- **Provide productive engagement opportunities**

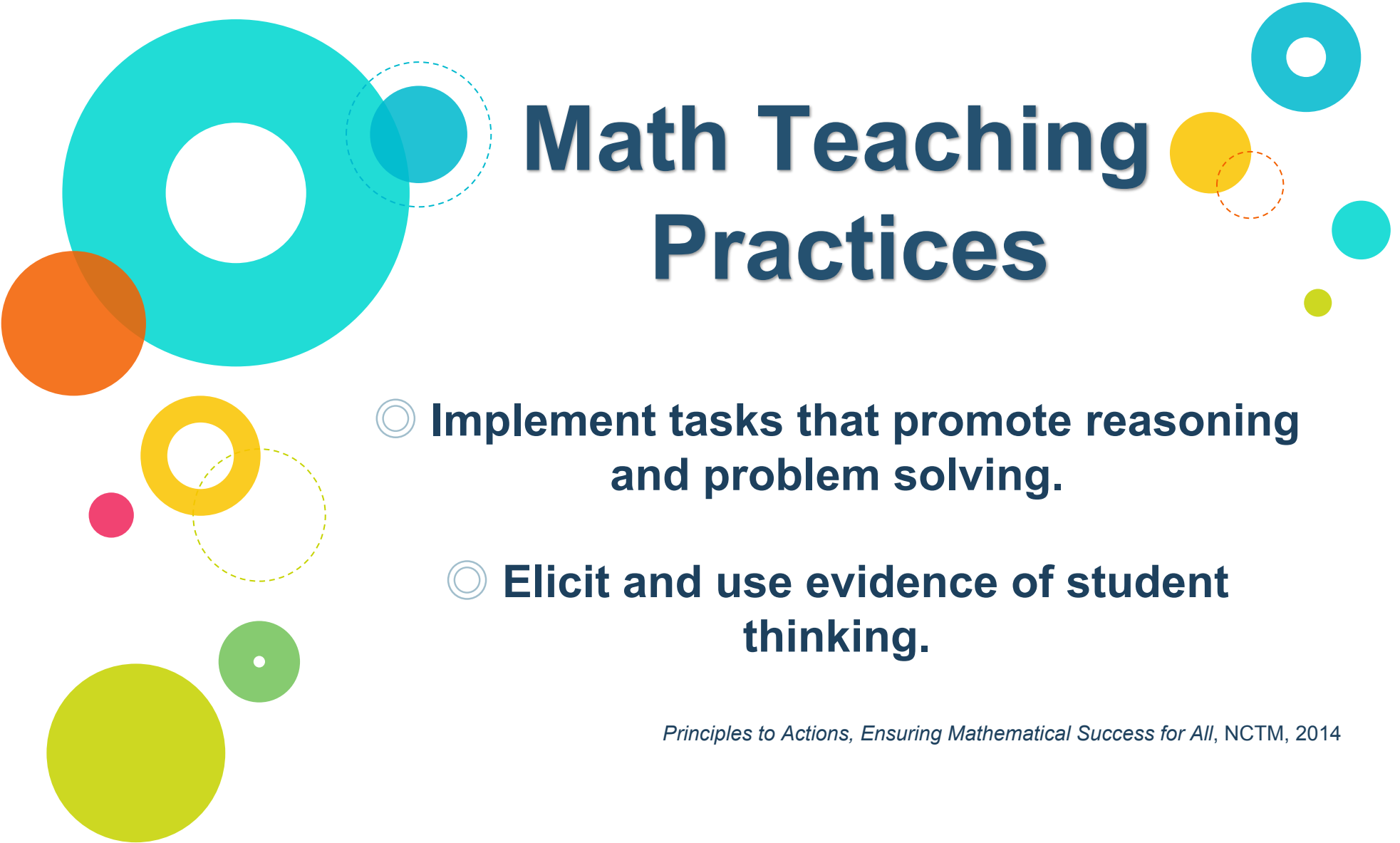


Stop and Jot #2

Access and Equity means recognizing that inequitable learning opportunities can exist in any setting.

How can you alter traditional beliefs and practices to promote success for all?

*Follow **@RBobinchuck** after the session to continue the conversation.*

A decorative graphic on the left side of the slide features several overlapping circles and rings in various colors: a large cyan ring, an orange circle, a yellow ring, a pink circle, a green circle, and a large yellow circle. To the right of the title, there are more circles including a cyan ring, a yellow circle, a cyan circle, and a small yellow circle, some with dashed outlines.

Math Teaching Practices

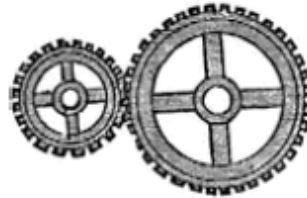
- ◎ Implement tasks that promote reasoning and problem solving.
- ◎ Elicit and use evidence of student thinking.

Principles to Actions, Ensuring Mathematical Success for All, NCTM, 2014

Anticipating Gaps

Think
Time

Juan learned that gear ratio refers to the number of times one gear rotates in relation to the other gear. The ratio of the gears in the picture below is $1\frac{1}{2}$ to $\frac{1}{2}$.



1. Write two unit rates to represent the gear ratio above.
2. Explain what each unit rate means in the context of the problem.



Guiding Questions

Turn
and
Talk

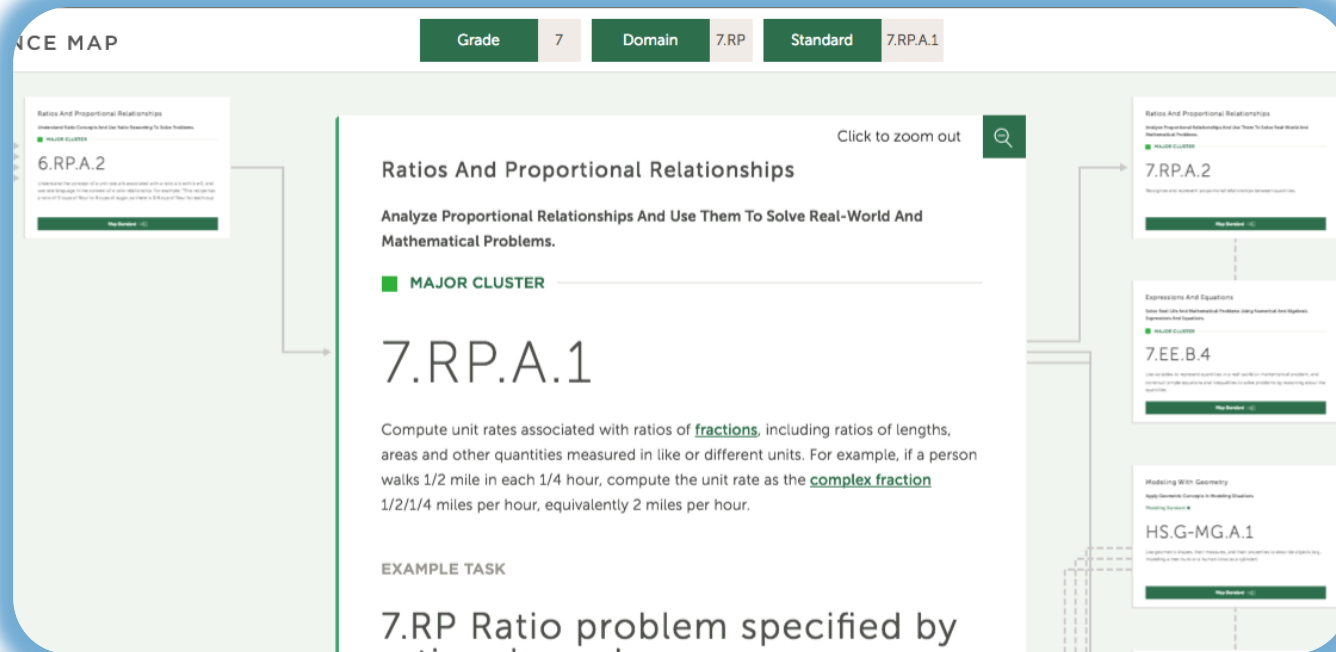
- 1) Which Standard(s)/Cluster(s) does this task aligned to? (*Focus*)
- 2) Which Standard(s) for Mathematical Practices does this task permit?
- 3) Which skills, or knowledge, do students need to have been exposed to in order to solve this task? (*Coherence*)
- 4) What are some anticipated misconceptions? What could be some reasons for these misconceptions?
- 5) What are some different representations and/or strategies you expect students to use?

Common Core Standards App



 MASTERY
CONNECT

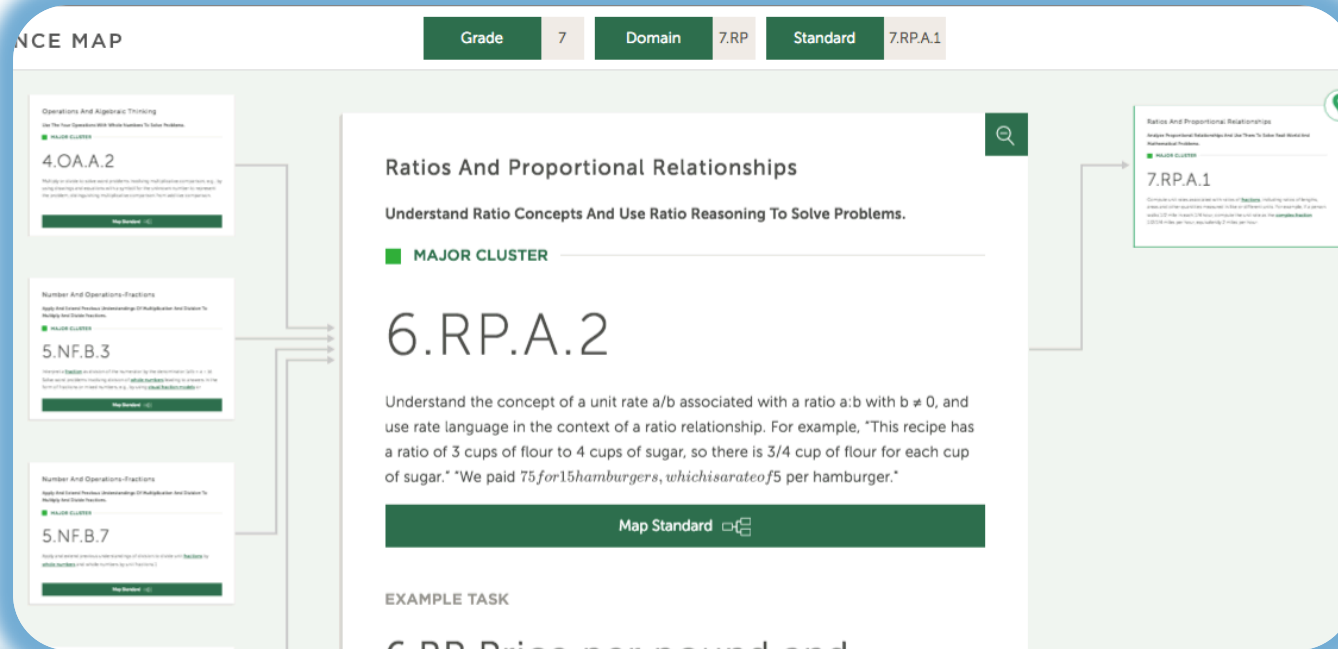
Coherence Map



STUDENT
ACHIEVEMENT
PARTNERS
ACHIEVETHECORE.ORG

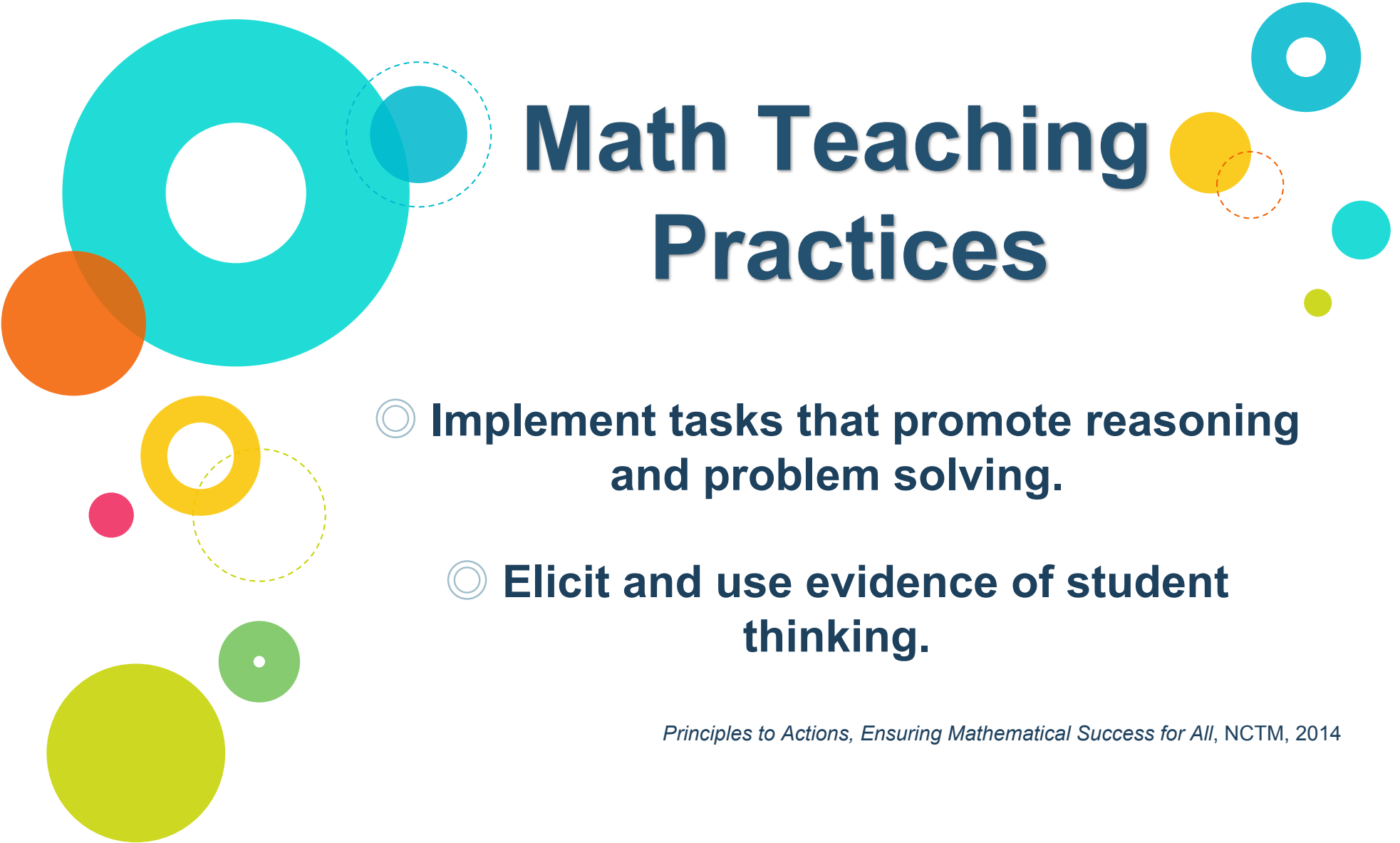
www.achievethecore.org/coherence-map

Coherence Map



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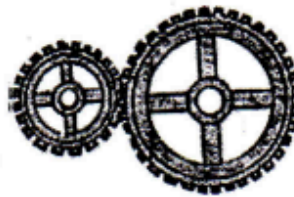
Math Teaching Practices

- ◎ **Implement tasks that promote reasoning and problem solving.**
- ◎ **Elicit and use evidence of student thinking.**

Principles to Actions, Ensuring Mathematical Success for All, NCTM, 2014

Diagnosing Gaps

Turn
and
Talk



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1. Write two **unit rates** to represent the gear ratio above.

1. $\frac{1\frac{1}{2}}{\frac{1}{2}}$

2. $\frac{1}{\frac{1}{2}}$

2. Explain each unit rate.



Providing Access to Grade-Level Content for All Students

Diagnose

What gaps exist?

For whom?

STUDENT
ACHIEVEMENT
PARTNERS
ACHIEVETHECORE.ORG

Understand the Progression

Majority of Students

- Is it a true prerequisite for the upcoming content
- Can we address the gap alongside upcoming material, or must it come before?

Small Group of Students

- Use the Coherence Map to deepen knowledge of the progression
- Prioritize (what's most important?)

Take Action

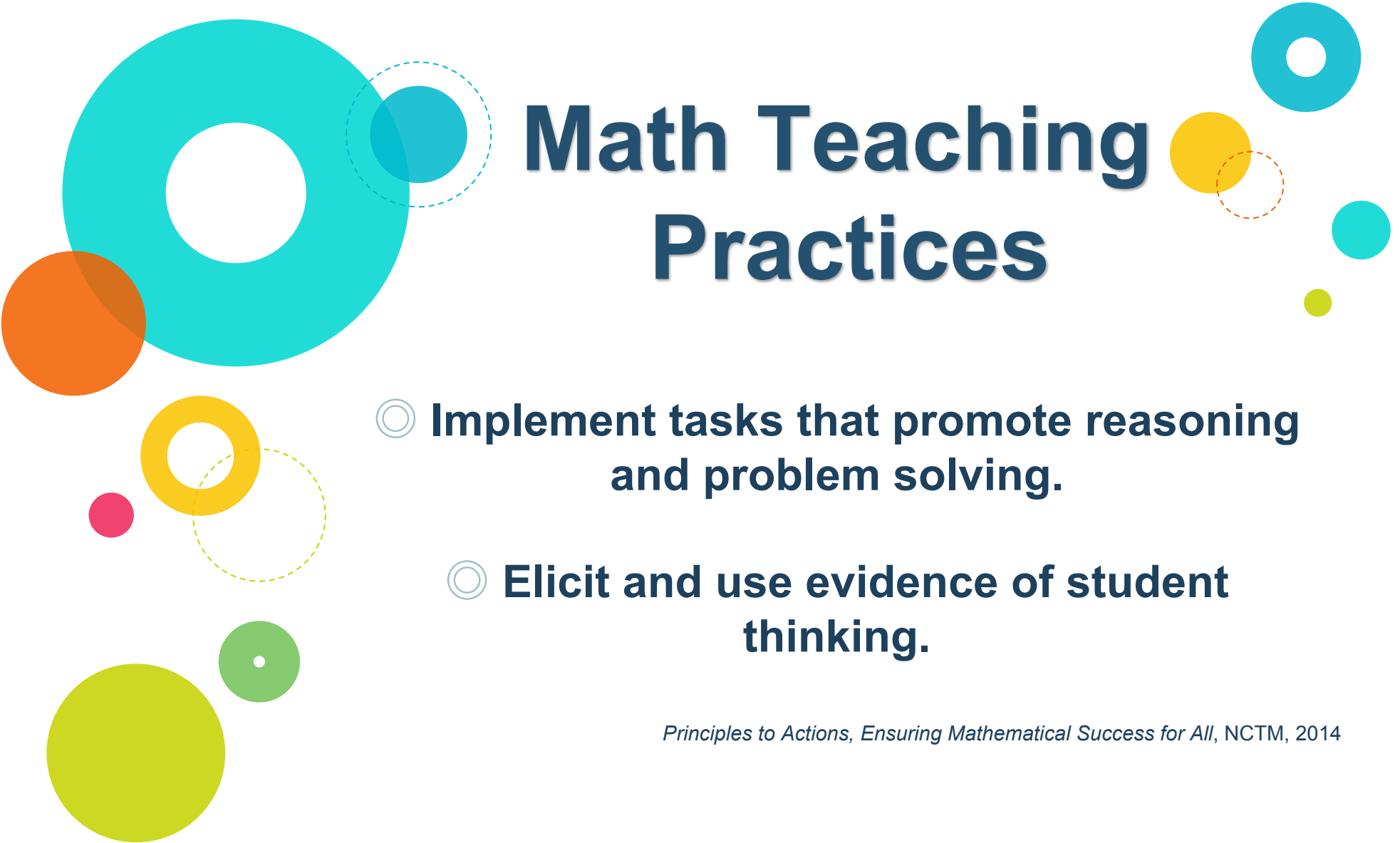
True Prerequisite

- Analyze an upcoming lesson
- Make note of the prerequisites
- Anticipate where students will struggle
- Identify and leverage existing supports
- Insert additional supports as necessary

Not True Prerequisite

- Determine if and when you will address the gap:**
- Can it be spiraled throughout this unit?
 - Is there a natural opportunity in an upcoming unit?

- Dig deeper (ask more questions)
- Designate time for instruction (when?)
- Find or develop materials
- Monitor progress and add additional, more intensive supports where necessary

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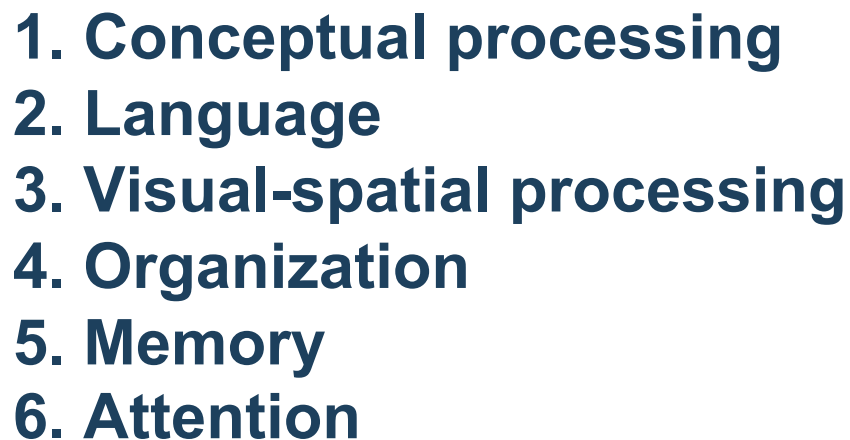
Math Teaching Practices

- ◎ Implement tasks that promote reasoning and problem solving.
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Math Accessibility Strategies

- 
1. Conceptual processing
 2. Language
 3. Visual-spatial processing
 4. Organization
 5. Memory
 6. Attention

Accessibility Strategies

Conceptual		
Type of Task	Examples of Student Difficulty	Accessibility Strategies to Consider
Use or manipulate	<ul style="list-style-type: none"> Does not always connect symbols with what they represent Does not remember the meaning of symbols 	<ul style="list-style-type: none"> Use manipulatives to connect symbols to concrete objects Post wall charts or provide resource sheets with symbols and meanings
Solve abstract problems	<ul style="list-style-type: none"> Does not understand abstract problems easily Tends to think concretely 	<ul style="list-style-type: none"> Set up the investigation so that students move from the concrete to the abstract Make connections to familiar context
Visualize and extend patterns	<ul style="list-style-type: none"> Has difficulty visualizing and identifying patterns 	<ul style="list-style-type: none"> Use manipulatives to build and extend patterns Provide simpler patterns
Make Generalizations	<ul style="list-style-type: none"> Finds it difficult to make generalizations and to write rule Tends to think concretely 	<ul style="list-style-type: none"> Provide generalizations for students to test Have students use multiple representations of situation and then make a generalization
Understand mathematical relationships and make connections	<ul style="list-style-type: none"> Think of mathematics as disparate parts and doesn't see the connections 	<ul style="list-style-type: none"> Make explicit connections between current and prior lessons or units Use concept maps



Supporting English Language Learners

- **Objective 1: Support the majority of mathematical language acquisition within the context of the mathematical learning.**

- **Objective 2: Provide supports to allow all ELLs access to the mathematical concepts being introduced.**

- **Objective 3: Write tasks with care to allow ELLs to engage with the mathematical concepts.**

Supporting ELLs

Objective 1: Support the majority of mathematical language acquisition within the context of the mathematical learning. Limit explicit language instruction to the occasions when the necessary terminology is a prerequisite for engaging with the content.⁷

Supporting Actions

1A. Provide, and invite students to produce, multi-modal representations of terms and concepts, including: pictures, diagrams, presentations, written explanations, gestures, and non-examples.

Key Source: Council of the Great City Schools. (2016). *A framework for re-envisioning mathematics instruction for English language learners*.

This document seeks to define a new vision for mathematics instruction that addresses the learning needs of ELLs. Based on the belief that grade-level mathematics are for ALL students, the framework articulates a theory of action for allowing ELLs to participate fully in grade-level instruction, identifies instructional practices that allow ELLs to participate, and lays out criteria that should be present in instructional materials supportive of ELLs.

Notable Points:

Specifically related to the concepts of multi-modal representations, the framework says that:

- “Students’ understanding deepens when they are given the opportunity to create and analyze diagrams, tables, and graphs to represent a problem concretely or pictorially, as well as verbally or in writing, and to make explicit connections between and among these various representations” (p. 14).

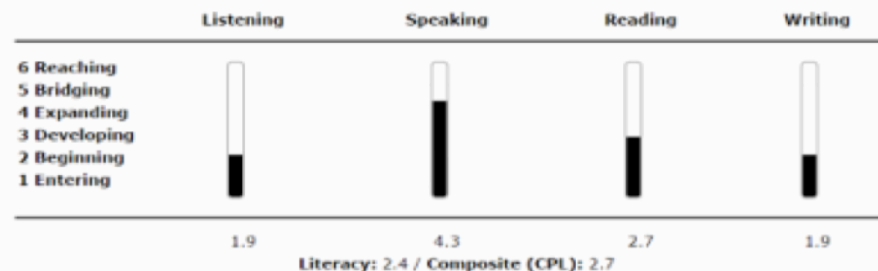
ELP Standards Report



Student:
Student #:
Date of Birth:
School:
ELL Plan Date : 9/15/2016
2nd Date Exited ESOL :

Test Date: 1/30/2017
Grade Level: 12
ELP Test Type: ACCESS for ELLs 2.0
Cluster: Grades 9-12
Lang. Classification : 2
Basis of Entry : A-Aural/Oral

Test Results



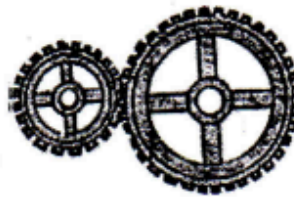
Note: Performance Definitions for the Levels of English Language Proficiency in Grades K-12 are available in the *CAN DO Performance Definitions* listing.

WiDA Can Do Descriptors

At this ESOL student's level of English proficiency, you can expect that they will be able to:

Listening	Speaking	Reading	Writing
<ul style="list-style-type: none"> Point to or show basic parts, components, features, characteristics, and properties of objects, organisms, or persons named orally Match everyday oral information to pictures, diagrams, or photographs Group visuals by common traits named orally (e.g., "These are polygons.") Identify resources, places, products, figures from oral statements, and visuals 	<ul style="list-style-type: none"> Take a stance and use evidence to defend it Explain content-related issues and concepts Compare and contrast points of view Analyze and share pros and cons of choices Use and respond to gossip, slang, and idiomatic expressions Use speaking strategies (e.g., circumlocution) 	<ul style="list-style-type: none"> Match data or information with its source or genre (e.g., description of element to its symbol on periodic table) Classify or organize information presented in visuals or graphs Follow multi-step instructions supported by visuals or data Match sentence-level descriptions to visual representations Compare content-related features in visuals and graphics Locate main ideas in a series of related sentences 	<ul style="list-style-type: none"> Label content-related diagrams, pictures from word/phrase banks Provide personal information on forms read orally Produce short answer responses to oral questions with visual support Supply missing words in short sentences

Meet them (but don't keep them) where they are.




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2. $\frac{1}{\frac{1}{2}}$

2. Explain each unit rate.



Turn
and
Talk

Stop and Jot #3

Meeting students where they are at, but not keeping them there is essential for Access and Equity.

What are some strategies you can employ to meet the needs of your students?

*Follow **@RBobinchuck** after the session to continue the conversation.*



Common Missteps


Complete the Common Missteps Sort:

h5p.org/node/453277

**Match the Common Misstep with its suggested
Recommendation for Targeted Math Support and
Intervention.**

Common Missteps

Misstep	Recommendation
Blindly adhering to a pacing guide/ calendar	Use formative data to gauge student understanding and inform pacing
Halting instruction for a broad review	Provide just in time support within each unit or during intervention
Trying to address every gap a student has	Provide most essential prerequisite skills and understanding for upcoming content
Trying to build from the ground up or going back too far	Trace the learning progression, diagnose, and go back just enough to provide access to grade level material.
Re-teaching students using previously failed methods and strategies	Provide a new experience for students to re-engage, where appropriate
Disconnecting intervention from content students are learning in math class	Connect learning experiences in intervention and universal instruction
Choosing content for intervention based solely on students' weakest areas	Focus on major work clusters from current or previous grades as it relates to upcoming content.
Teaching all standards during intervention in a step-by-step, procedural way	Consider the aspect of rigor called for in the standards when designing and choosing tasks, activities, or learning experiences
Over-reliance on computer programs in intervention	Facilitate rich learning experiences for students to complete unfinished learning from previous or current grade.



Turn
and
Talk

Stop and Jot #4

Complete the Common Missteps
Sort: h5p.org/node/453277

What is a common Misstep that you
have used in the past and how you
will use the recommendations
moving forward?

*Follow @RBobinchuck after the
session to continue the conversation.*

A Challenge to You

How do I
support
Access and
Equity?

How do I
develop a
Growth
Mindset?

How do I plan
to support
ALL
learners?

What is your Personal Purpose in Life?

My purpose in life is to inspire, motivate, and empower others to be the change they wish to see in this world.

Be The Change

