

Continuing the Journey: How to Move Forward When Your GPS is Telling You to Make a U-Turn

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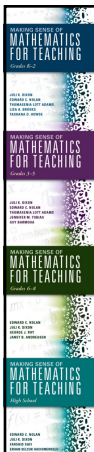
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Goals for this Session

- Discuss elements of planning with unfinished learning in mind.
- Examine implementation of engaging and multifaceted tasks while using formative assessment in real time.
- Explore priority topics for intervention.

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Your GPS for Success

Plan

1. Before the chapter begins, make sense of:
 - a) The learning goal
 - b) Prerequisites to the learning goal, and
 - c) Common errors connected to both the learning goal and the prerequisites.

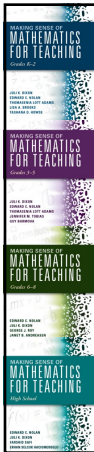
Implement

2. Implement engaging, multifaceted tasks.

Assess

3. Use formative assessment in real time to provide scaffolding just in time rather than just in case.

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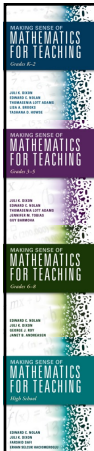
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Apply properties of operations as strategies to multiply.

- Interpret products of whole numbers, e.g., interpret 5×7 as 5 groups of 7 objects each.
- Solve multiplication word problems in situations involving equal groups, arrays, and measurement.

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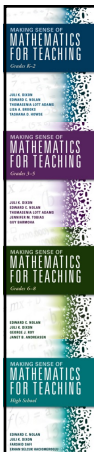
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Apply properties of operations as strategies to multiply.

In grade 2 students connected repeated addition to arrays equal grouping situations.

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Apply properties of operations as strategies to multiply.

Students may confuse the roles of the factors so that their equations do not model their representations.

Schools might focus on fact fluency prior to strategy development.

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Implement

2. Implement engaging, multifaceted tasks.

Use a strategy to determine the product of 6×7 .

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Implement

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Implement


2. Implement engaging, multifaceted tasks.

Use a strategy to determine the product of 6×7 .

What mathematics is involved in each strategy?

- Drawing
- Counting Strategies
- Multiplicative Reasoning

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Implement 

2. Implement engaging, multifaceted tasks.

Use a strategy to determine the product of 6×7 .

We need to understand the different models to move students' learning forward.

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Assess 

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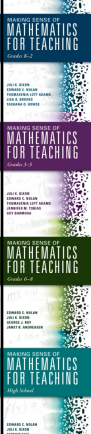
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6×7

Consider this video



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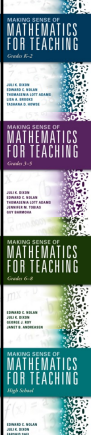


Plan ⚠

1. Before the chapter begins, make sense of:
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Extend previous understanding of division to compute quotients of fractions and mixed numbers using visual models and equations to represent the problem.

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Extend previous understanding of division to compute quotients of fractions and mixed numbers using visual models and equations to represent the problem.

adding fractions visual representations division word problems

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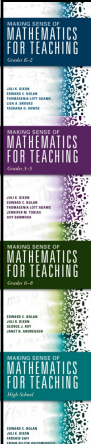



Implement ⚠

2. Implement engaging, multifaceted tasks.




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Implement


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Spark Your Learning 


Four friends go hiking. They bring snacks, a compass, and $3\frac{1}{3}$ quarts of water. If they share the water equally, how many quarts will each person get?

Do not use an algorithm.

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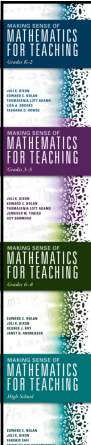



Assess


3. Use formative assessment in real time to provide scaffolding just in time rather than just in case.

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Assess


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I saw someone do this....



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3. Use formative assessment in real time to provide scaffolding just in time rather than just in case.

Now what do you see?


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I saw another student do this....

Students have more entry points to make sense of problems with multifaceted tasks.


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What happens when the teacher uses Gradual Release of Responsibility (I do, we do, you do)?

We lose the opportunity to assess what students know and need support to do.

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Assess 

Let's return to this solution path:

$\frac{1}{2} \frac{1}{3}$ $\frac{1}{2} \frac{1}{3}$ $\frac{1}{2} \frac{1}{3}$ $\frac{1}{2} \frac{1}{3}$

What do you think the student did next? And how would you support teachers to respond?

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Don't underestimate...

the power of "shush" 😊

Blog: <https://tinyurl.com/yyz6alrl>

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Teachers maintain control of the navigation to the learning goal by providing strategies "as if" they came from the students (by "detouring" when needed ☺).

"I heard someone say..."

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Assess

Let's return to this solution path:

$\frac{1}{2} \frac{1}{3}$ $\frac{1}{2} \frac{1}{3}$ $\frac{1}{2} \frac{1}{3}$ $\frac{1}{2} \frac{1}{3}$

"I heard someone say they added the fractions and got $\frac{2}{5}$."

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Assess

Let's return to this solution path:

$\frac{1}{2} \frac{1}{3}$ $\frac{1}{2} \frac{1}{3}$ $\frac{1}{2} \frac{1}{3}$ $\frac{1}{2} \frac{1}{3}$

Anticipating student errors may be the most important part of planning. This must be modeled for teachers!

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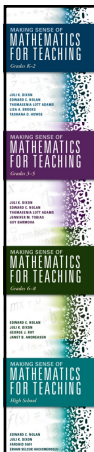


Cultivating Perseverance

- Just-in-case scaffolding
- Just-in-time scaffolding

Blog: <https://tinyurl.com/y5pcxcoq>

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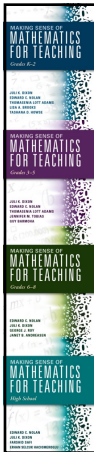
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Compose and decompose two-digit numbers in multiple ways using tens and ones.

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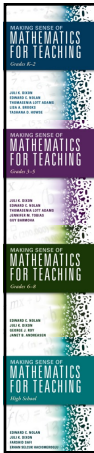
Plan ⚠

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Compose and decompose two-digit numbers in multiple ways using tens and ones.

Compose and decompose numbers from 11 to 19 into ten ones and some further ones using drawings, objects, and equations.

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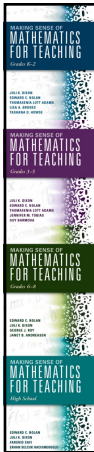
Implement ⚠

2. Implement engaging, multifaceted tasks.

How can you make 24?

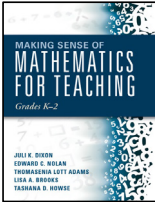
How might you support a teacher to implement this task in a discourse-rich environment?

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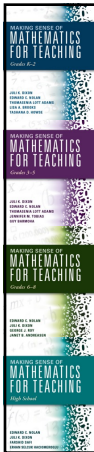
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Making Sense of Mathematics for Teaching Grades K-2

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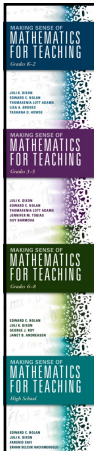


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3. Use formative assessment in real time to provide scaffolding just in time rather than just in case.

What might have happened if a student struggled?

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Priority Topics

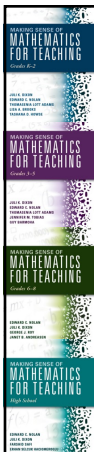
What do we focus on with students who are significantly far behind?

This needs to be a deep (and supported) conversation. How is intervention being supported?

What coaching strategies are in play?

What content is being prioritized?

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Priority Topics

What do we focus on with students who are significantly far behind?

- Fact strategies
- Place Value
- Multidigit Addition and Subtraction
- Estimation (with whole numbers and fractions!)

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