


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

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 @thestrokofluck  
[www.DNAMath.com](http://www.DNAMath.com)



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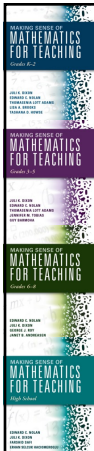
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## Goals for this Session

- 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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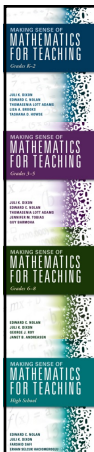
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## Your GPS for Success

**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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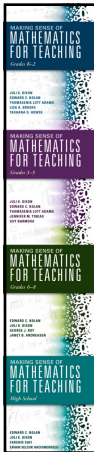
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## Plan

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.

Apply properties of operations as strategies to multiply.

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

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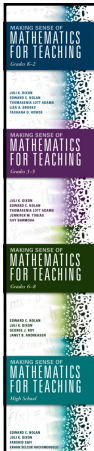
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## Plan

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  - a) The learning goal
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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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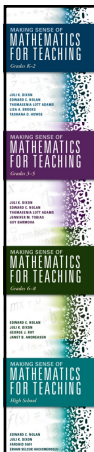
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## Implement

2. Implement engaging, multifaceted tasks.

Use a strategy to determine the product of  $6 \times 7$ .

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**Implement**

2. Implement engaging, multifaceted tasks.

Use a strategy to determine the product of  $6 \times 7$ .

What mathematics is involved in each strategy?

- Drawing
- Counting Strategies
- Multiplicative Reasoning

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**Implement**

Adapted from Fact Tactical Fluency™ Program

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**Implement**

2. Implement engaging, multifaceted tasks.

Use a strategy to determine the product of  $6 \times 7$ .

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

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**Assess** 

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

MARGARET SHULTZ'S MATHMATICS FOR TEACHING GRADE 2-5 JULIE BEHN MARGARET SHULTZ'S MATHMATICS FOR TEACHING GRADE 3-5 JULIE BEHN MARGARET SHULTZ'S MATHMATICS FOR TEACHING GRADE 4-5 JULIE BEHN MARGARET SHULTZ'S MATHMATICS FOR TEACHING HIGH SCHOOL JULIE BEHN

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**6 x 7**

Consider this video



**Houghton  
Mifflin  
Harcourt**

MARGARET SHULTZ'S MATHMATICS FOR TEACHING GRADE 2-5 JULIE BEHN MARGARET SHULTZ'S MATHMATICS FOR TEACHING GRADE 3-5 JULIE BEHN MARGARET SHULTZ'S MATHMATICS FOR TEACHING GRADE 4-5 JULIE BEHN MARGARET SHULTZ'S MATHMATICS FOR TEACHING HIGH SCHOOL JULIE BEHN

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**Plan** 

1. Before the chapter begins, make sense of:

- a) The learning goal
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- c) Common errors connected to both the learning goal and the prerequisites.

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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## 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.

adding fractions
visual representations
division
word problems

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## Implement ⚠

2. Implement engaging, multifaceted tasks.

Connect Concepts on Skills
Name

### Explore Division of Mixed Numbers

I can find the quotient of a mixed number or fraction and a mixed number, fraction, or whole number.

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?

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## Implement ⚠

2. Implement engaging, multifaceted tasks.

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.

I saw someone do this....

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**Assess** 

What happens when we use 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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Don't underestimate...

the power of "shush" 😊

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

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**Assess** 

We 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.

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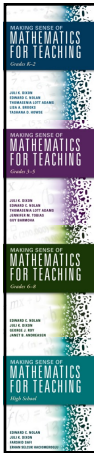
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## Cultivating Perseverance

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

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

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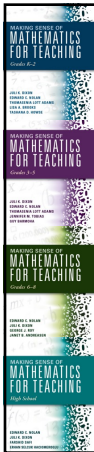


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## Priority Topics

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

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

What coaching strategies are in play?

What content is being prioritized?

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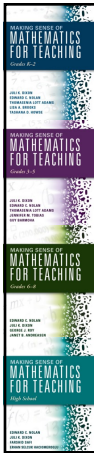
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## Priority Topics

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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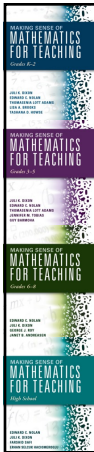
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## Priority Topics

<b>Grades 3-5</b>	<b>Grades 6-7</b>
<ul style="list-style-type: none"> <li>• Fact Strategies</li> <li>• Place Value</li> <li>• Multidigit Addition and Subtraction</li> <li>• Estimation (with whole numbers and fractions!)</li> </ul>	<ul style="list-style-type: none"> <li>• Fraction Operations</li> <li>• Equivalent Ratios</li> <li>• Integer Operations</li> <li>• Equivalent Expressions</li> </ul>

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