Teaching-Learning Plan

Team Members

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Lesson Date:	Instructor:	Grade Level:
5/15/2018	*Alexandra Johansen Laughlin*	*5*

1. Title of Lesson

Divide a Fraction by a Whole Number

$$\frac{1}{2} \div 4$$

2. Research Theme
The long-term goals of our students

Teach scholars to make sense of problems and persevere in solving them by teaching math through problem solving.

Teach scholars to construct viable arguments and critique the reasoning of others through note-taking, board work, and students' discourse.

3. Background and Research on the Content

- Why we chose to focus on this topic - for example, what is difficult for our students, what we noticed about student learning
- What resources we studied, and what we learned about the content and about student thinking

> *Up to this point, students have worked extensively with the division of whole numbers (2-digit/2-digit and 3-digit/2-digit and with the division of decimal numbers by whole numbers.*
>
> Last year, my highest performing students struggled with the concept of dividing a fraction by a whole number. Conceptually, this is difficult for students to grasp.
>
> From EngageNY's Module 4, Lesson 26 Problem 3

4. Rationale for the Design of Instruction

- What we learned from studying our own curriculum and other resources
- Why the unit and lesson are designed as they are - for example, why we chose this particular task, representations, contexts, lesson sequence, etc.
- How the unit and lesson design address the research theme

> ***Refer to Plan | Step 8: Final Preparations***
>
> *Insert text here*

5. Goals of the Unit

> ***Refer to Plan | Step 2: Create a Unit***
>
> *Prompt: Students will understand/know what/...and thus be able to...*

6. Unit Plan

The lesson sequence of the unit, with the task and learning goal of each lesson. The asterisk (*) shows the research lesson

Lesson	Learning goal(s) and tasks
1	***Refer to*** [***Plan	Step 2: Create a Unit***](#) ***Lesson Goal:*** *Divide a fraction by a whole number* ***Task:*** *Insert text here*
2	***Lesson Goal:*** *Practice: Divide a fraction by a whole number* ***Task:*** *Insert text here*
3	***Lesson Goal:*** *Divide a whole number by a fraction* ***Task:*** *Insert text here*
4	***Lesson Goal:*** *Mixed Problems/ Word Problem/Measurement Application* ***Task:*** *Insert text here*

7. Relationship of the Unit to the Standards

- How the learning in the unit relates to the grade-level standards.
- How the learning in the unit relates to prior standards and future standards.

Prior learning standards that unit builds on	Learning standards for this unit	Later standards for which this unit is a foundation

*Refer to Plan	Step 2: Create a Unit* *Insert text here*	*Insert text here*	*Insert text here*

8. Goals of the Research Lesson

Refer to Plan | Step 3: Identify the Lesson

Prompt: Students will understand/know that/appreciate

Summary: Today as a hardworking class, we learned that we can divide a fraction by a whole number by drawing a tape diagram with "the whole" as the fraction and the groups as
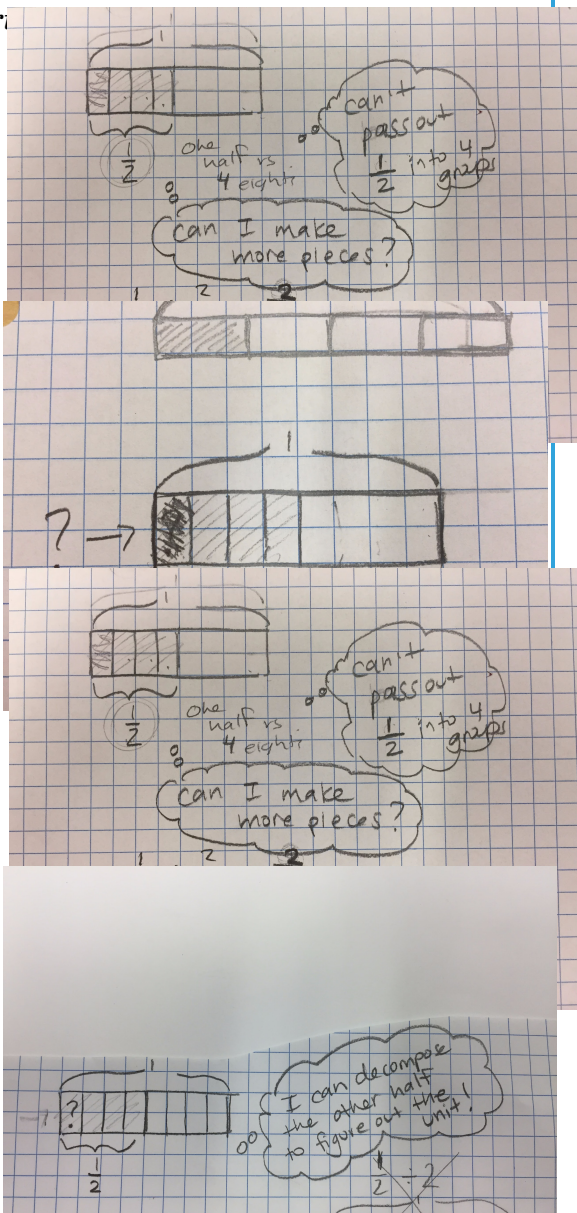
9. Research Lesson Plan

Learning task and activities, anticipated student responses, key questions or comparisons that will build insights	Teacher support	Assessment (Points to Notice)
Introduction	*So we are comfortable dividing any whole number by any whole number, right?* *Show me 3/2 2/4.*	*Insert text here*

Posing the Task *If _____ pours ½ liter of water into 4 bottles, putting an equal amount in each, how many liters of water will be in each bottle?*	*Insert text here*	*Insert text here*
Anticipated Student Responses $4 \, x \, \frac{1}{2}$ $\frac{1}{2} \div 4 \ = \ 8$ $\frac{1}{2} \div 4 = \frac{1}{8}$ $4 \div \frac{1}{2}$	*Insert text here*	*Insert text here*

|		
Comparing and Discussing, including Teacher Key Questions *Insert text here*	*How do we figure out the value of that one unit?*	*Can students prove with multiplication?* *Can students prove with a model?* *Can students prove using reasoning about the amount started with?*
Summing Up *Insert text here*	*Insert text here*	*Insert text here*

10. Points to notice (Assessment)

Prompts to focus observation and data collection.

> **Refer to** *Plan | Step 7: Focus the Data Collection*
>
> *Insert text here*

11. Board Plan
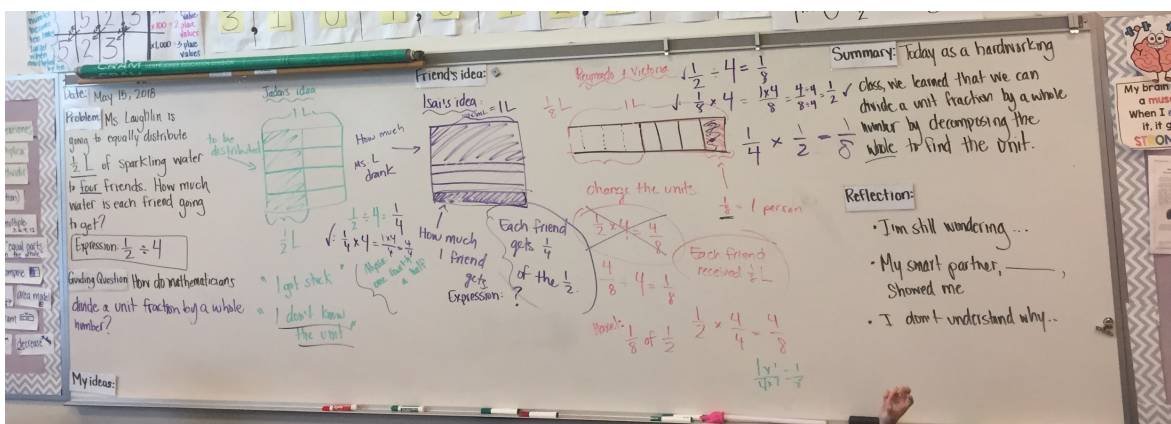
12. End of Cycle Reflection

What Did We Learn? (to be filled out after the post-lesson discussion)

> **Refer to** *Reflect | Step 4: Consolidate Your Learning*
>
> *Insert text here*