

Let's Do Some Math		
Standards Unpacking		
Key	Standard	Prerequisites/Vocabulary
Put a box around the conceptual component of the standard. Underline the procedural/fluency component of the standard. Put a cloud around the application component of the standard.	4.NF.1- Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?
	4.NF.2- Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?
	4.NF.3- Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?
	4.NF.3a- Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?

Standards Unpacking		
Key	Standard	Prerequisites/Vocabulary
Put a box around the conceptual component of the standard. Underline the <u>procedural/fluency</u> <u>component</u> of the standard. Put a cloud around the application component of the standard.	4.NF.3b- Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. <i>Examples: $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2\ 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$.</i>	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?
	4.NF.3c- Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?
	4.NF.3d- Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.	What prior knowledge should my students have?
		What vocabulary/ notation should students know for this standard?

Mr. Benson is making burgers based on the information below.

- He has 4 pounds of meat.
- He uses $\frac{1}{4}$ pound of meat for each burger.
- He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers?

S	Study the Problem Underline the question. This problem is asking me to find
O	Organize the Facts Identify the facts. Eliminate the unnecessary facts. List the necessary facts.
L	Line up a Plan Write in words what your plan of action will be. Choose an operation or operations.
V	Verify Your Plan with Action Estimate your answer. Carry out your plan.
E	Examine Your Results Does your answer make sense? (Compare your answer to the question.) Is your answer reasonable? (Compare your answer to the estimate.) Is your answer accurate? (Check your work.) Write your answer in a complete sentence.

Fraction Kits	
Kit 1	
Kit 2	
Kit 3	
Notes	

LESSON 18: Add Mixed Fractions – Like Denominators

Directions: Complete the following SOLVE problem with your teacher. You will only complete the S step.

Aria's father is laying tile in their new kitchen. The length of one side of the room is 17 feet. Each of the tiles has a length of $1\frac{5}{12}$ feet. What is the length of two tiles placed together?

S Underline the question.

This problem is asking me to find _____.

Directions: Complete this page with your teacher and partner.

1.

Problem: $1\frac{1}{3} + \frac{1}{3}$



Think about this:
Are the denominators the same?



What is the sum in simplest form?

2.

Problem: $1\frac{1}{6} + \frac{3}{6}$



Think about this:
Are the denominators the same?



What is the sum in simplest form?

3.

Problem: $2\frac{1}{4} + \frac{2}{4}$



Think about this:
Are the denominators the same?



What is the sum in simplest form?

4.

Problem: $3\frac{2}{5} + \frac{1}{5}$



Think about this:
Are the denominators the same?



What is the sum in simplest form?

LESSON 18: Add Mixed Fractions – Like Denominators

Directions: Complete this page with your teacher and partner.

1.

Problem: $1\frac{1}{8} + \frac{2}{8} =$

Mixed fraction to improper fraction

Rewrite number sentence and add.

Is the sum an improper fraction?

Change to mixed fraction.

Simplify.

2.

Problem: $1\frac{2}{4} + \frac{1}{4} =$

Mixed fraction to improper fraction

Rewrite number sentence and add.

Is the sum an improper fraction?

Change to mixed fraction.

Simplify.

LESSON 18: Add Mixed Fractions – Like Denominators

Directions: Complete this page with your partner.

3.

Problem: $1\frac{1}{6} + \frac{4}{6} =$

Mixed fraction to improper fraction

Rewrite number sentence and add.

Is the sum an improper fraction?

Change to mixed fraction.

Simplify.

4.

Problem: $1\frac{3}{10} + \frac{3}{10} =$

Mixed fraction to improper fraction

Rewrite number sentence and add.

Is the sum an improper fraction?

Change to mixed fraction.

Simplify.

LESSON 18: Add Mixed Fractions – Like Denominators

Directions: Complete this page with your teacher and partner.

Draw your problem.	Legally trade, if needed, changing mixed fraction(s) to improper fractions with common denominators and add.	Change improper fraction to mixed fraction sum.	Write numerically what you have in the previous column.
1. $1\frac{2}{10} + \frac{7}{10} =$			
2. $1\frac{5}{12} + 2\frac{6}{12} =$			
3. $1\frac{4}{6} + 3\frac{1}{6} =$			

LESSON 18: Add Mixed Fractions – Like Denominators

Directions: Complete this page with your teacher and partner.

1. $1\frac{3}{8}$ + $\frac{4}{8}$ _____ Are denominators common? Addends as improper fractions: Rewrite number sentence and sum as improper fraction and mixed fraction:	4. $2\frac{1}{3} + 1\frac{1}{3}$ Are denominators common? Addends as improper fractions: Rewrite number sentence and sum as improper fraction and mixed fraction:
2. $1\frac{4}{6} + 1\frac{1}{6}$ Are denominators common? Addends as improper fractions: Rewrite number sentence and sum as improper fraction and mixed fraction:	5. $3\frac{1}{10} + 2\frac{5}{10}$ Are denominators common? Addends as improper fractions: Rewrite number sentence and sum as improper fraction and mixed fraction:
3. $1\frac{2}{12}$ + $2\frac{3}{12}$ _____ Are denominators common? Addends as improper fractions: Rewrite number sentence and sum as improper fraction and mixed fraction:	6. $4\frac{3}{5}$ + $1\frac{1}{5}$ _____ Are denominators common? Addends as improper fractions: Rewrite number sentence and sum as improper fraction and mixed fraction:

LESSON 19: Subtract Mixed Fractions - Like Denominators

Directions: Complete the following SOLVE problem with your teacher. You will only complete the S step.

Alex and Tomas are training for a walk-a-thon. They will compete next week. Alex walked $1\frac{9}{10}$ of a mile yesterday, and Tomas walked $\frac{3}{10}$ of a mile. How much farther did Alex walk than Tomas?

S Underline the question.

This problem is asking me to find _____.

Directions: Complete this page with your teacher and partner.

1.	Problem: $1\frac{3}{5} - \frac{1}{5}$ ↓ Think about this: Are the denominators the same? ↓ What is the difference in simplest form?	2.	Problem: $1\frac{3}{8} - \frac{1}{8}$ ↓ Think about this: Are the denominators the same? ↓ What is the difference in simplest form?

3.	Problem: $2\frac{3}{4} - \frac{2}{4}$ ↓ Think about this: Are the denominators the same? ↓ What is the difference in simplest form?	4.	Problem: $3\frac{2}{5} - \frac{1}{5}$ ↓ Think about this: Are the denominators the same? ↓ What is the difference in simplest form?

LESSON 19: Subtract Mixed Fractions - Like Denominators

Directions: Complete this page with your teacher and partner.

1.

Problem: $1\frac{1}{6} - \frac{3}{6} =$

Mixed fraction to improper fraction

Rewrite the number sentence and subtract.

Is the difference an improper fraction?

Change to a mixed fraction.

Simplify.

2.

Problem: $1\frac{1}{3} - \frac{1}{3} =$

Mixed fraction to improper fraction

Rewrite the number sentence and subtract.

Is the difference an improper fraction?

Change to a mixed fraction.

Simplify.

LESSON 19: Subtract Mixed Fractions - Like Denominators

Directions: Complete this page with your partner.

3.

Problem: $1\frac{5}{10} - \frac{3}{10} =$

Mixed fraction to improper fraction

Rewrite the number sentence and subtract.

Is the difference an improper fraction?

Change to a mixed fraction.

Simplify.

4.

Problem: $1\frac{2}{4} - \frac{1}{4} =$

Mixed fraction to improper fraction

Rewrite the number sentence and subtract.

Is the difference an improper fraction?

Change to a mixed fraction.

Simplify.

Understanding Modeling Questions

Use this sheet as a reflection tool to support the understanding of the evidence statement around the modeling questions. After you engage/learn about the questions, use the tool to make notes around your take aways and implementation ideas.

Current Unit Topics:

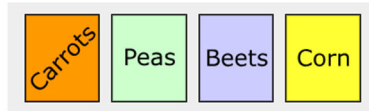
	Evidence Statement for Modeling
What Content Standards Are Addressed in This Evidence Statement from the Current Unit?	
Takeaways About the Statement – What Do Students Need to Be Able to Do	
What Should Be Evident in a Student Response	

Think Quantities!	Think Structure!	Think Repetition!
What can I count? What can I measure? How are the quantities related? How can I represent the quantities so I can see relationships?	How is this situation behaving? What kind of problem is this? Does the problem remind me of another I've solved? Will changing the form help? How can I chunk this expressions/number/visual?	Is there a process that keeps repeating? Am I counting /building/drawing in the same way each time? Do I keep repeating the same calculations? How can I use repetition to write a rule?

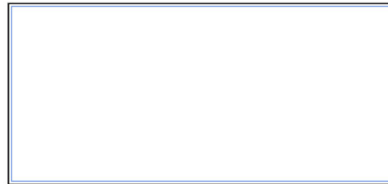
Modeling Question – 4.D.1*Used from: NJ Released Questions – 4.D.1- Fractions - 2019- UIN-0216-M00278***Part A**

A community garden is divided into 10 equal sections. Carrots are planted in $\frac{5}{10}$ of the garden and peas are planted in $\frac{1}{10}$ of the garden. The rest of the garden is planted with beets and corn. More of the garden is planted with beets than corn. Find the number of sections of carrots, peas, beets, and corn that were planted.

Drag and drop the correct number of vegetable sections to build the garden.



Community Garden

**Part B**

What fraction of the garden is planted only with beets? Show your work or explain your answer using equations.