

Math & Science Collaborative Lesson Plan

Lesson Title: Developing the Concept of Mixed Number and Improper Fractions

<p>Unit Learning Target (Standard/Performance Expectation(s)) 4.2.F Write a fraction equivalent to a given fraction (including mixed numbers).</p>		
<p>Building Block or Lesson Learning Target: RNP lesson 17: develop the concept of improper fractions and mixed numbers and name them.</p>	<p>Student Success Criteria: I can write a mixed number and an improper fraction from a picture representation. I can make a picture representation for any mixed number or improper fraction.</p>	
<p>Previous Lesson Learning Target: Reconstruct the unit when given the fractional part.</p>		
<p>Target Introduction/ Thinking Question * Last night Margo ate $\frac{3}{4}$ of a large pepperoni pizza. (Show that with circles) In the morning she ate some leftover cheese pizza that equaled $\frac{2}{4}$ of a pizza. Ask students to show the extra $\frac{2}{4}$ of a pizza to show the total pizza eaten.</p>		
<p>Lesson Progression (Flow) with Talk-Structures</p> <ul style="list-style-type: none"> • Warm-up: Imagine a tower made of 1-inch cubes. You can't see my tower but I will tell you that 12 cubes would be $\frac{2}{3}$ the height of my tower. How many cubes in my tower? • Building wholes: ask students to use their fraction circles with the black circles as the unit to show $\frac{2}{2}$, $\frac{4}{4}$, $\frac{5}{5}$, and $\frac{12}{12}$. • The Thinking Question (showing pictures), individually • Whole class discussion of two names for their pictures. (Transparency 1) • Individual or partner work for student page A, B and C. 	<p>Anticipated Misconceptions:</p> <ul style="list-style-type: none"> • May not understand the thinking question has another pizza. • Large number as the numerator • Mixed number and improper fraction • Numerator, denominator 	<p>Formative Task or Question* <i>Designed to elicit student misconception(s)</i> Ask student to use their fraction circles to build $\frac{8}{6}$, $\frac{3}{4}$, $\frac{3}{2}$, $1\frac{1}{3}$, $1\frac{2}{4}$, $\frac{2}{3}$. Name two ways to say each amount. (Teacher circulates looking for misconceptions.)</p>
	<p>Key Terms In Lesson:</p> <ul style="list-style-type: none"> • Mixed numbers • Improper fractions • Greater than (>) and less than(<) 	
<p>Lesson Closure Students share their pictures for the problems from student Page 3. Student should explain how the picture was used to solve each problem. Ask students to name the fractional answer in two ways.</p>		<p>Exit Task* Name the amount in another way: $\frac{7}{5}$, $\frac{13}{6}$, $\frac{11}{2}$, $1\frac{3}{4}$.</p>

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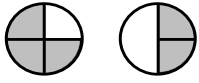
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Northwest Educational
Service District 189

Together We Can

Do the Math for the Thinking Question



$$\frac{3}{4} + \frac{2}{4} = \frac{5}{4} \text{ or } 1\frac{1}{4}$$

Transparency 1: 1) $2\frac{1}{4}$; $9/4$, 2) $2\frac{2}{3}$; $8/3$, 3) $3\frac{1}{2}$; $7/2$, 4) same as #3, 5) $3\frac{6}{8}$ (or $3\frac{3}{4}$); $30/8$ (or $15/4$),
6) $2\frac{2}{4}$ or $2\frac{1}{2}$; $10/4$ or $5/2$, 7) $1\frac{2}{4}$ or $1\frac{1}{2}$; $6/4$ or $3/2$, 8) $2\frac{3}{8}$; $19/8$

Anticipated Misconceptions:

- May not understand the thinking question has another pizza.
- Large number as the numerator
- Mixed number and improper fraction
- Numerator, denominator

Instructional Adjustment (if needed)

Tied to common misconception(s)

Use paper strip or chips as another conceptual way to see.

* Opportunity for formative assessment