



Tier 3

Intervention Lessons

4.NF.3b

Learning Target: I will convert between improper fractions and mixed numbers

Readiness for 4.NF.3c: Add and subtract mixed numbers with like denominators

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Tier 3 Intervention Planning Guide

Learning Target: I will convert between improper fractions and mixed numbers

Readiness for adding and subtracting mixed numbers with like denominators

Recommended Actions	
Beginning (5 min.)	<ul style="list-style-type: none"> ➤ Review the learning target with the whole group ➤ Ask each student to set a goal for the day based on their previous Quick Check Score ➤ Have each student use a highlighter to plot their goal for the day
Middle (15 min.)	<ul style="list-style-type: none"> ➤ Model solving a word problem – “I do” (<i>Sessions 1, 3 and 6 only</i>) ➤ Guided Practice – “We do” <p>Sessions 1 and 2: Use fraction strips to convert between improper fractions and mixed numbers Sessions 3, 4 and 5: Use number lines to convert between improper fractions and mixed numbers Sessions 6, 7 and 8: Use understanding of whole numbers and fractional parts to find equivalent improper fractions and mixed numbers</p>
End (10 min.)	<ul style="list-style-type: none"> ➤ Bring the students back together. ➤ Ask students to reflect on their progress towards the learning target <ul style="list-style-type: none"> ○ What did I learn today about comparing fractions with the same numerator or denominator? ○ How confident do you feel about comparing fractions with the same numerator or denominator on my own? (Thumbs up, down, or sideways) ➤ Assess each student’s progress using the next Quick Check form ➤ Guide students to self-correct their Quick Check ➤ Guide students to chart their progress in their Growth Chart <ul style="list-style-type: none"> ○ If not using Delta Math lessons, record the activity in the table ➤ Collect each student’s Quick Check and Growth Chart
After Session 6	<ul style="list-style-type: none"> ➤ Differentiation Options: <ul style="list-style-type: none"> ○ Allow students who met the learning goal to work independently while others do the guided practice during the next session ○ Exit students who met the learning goal for a third time ➤ Problem solve with a team to plan additional support for students who do not meet the learning goal within 8 sessions



Session 1: Modeling (I Do)

Learning Target: I will convert between improper fractions and mixed numbers

Readiness for adding and subtracting mixed numbers with like denominators

Gianna is baking big brownies for her birthday party. The serving size for each brownie is $\frac{1}{4}$ of a brownie per person. If nine of her friends are invited to the party, how many brownies does she need to feed all of them?

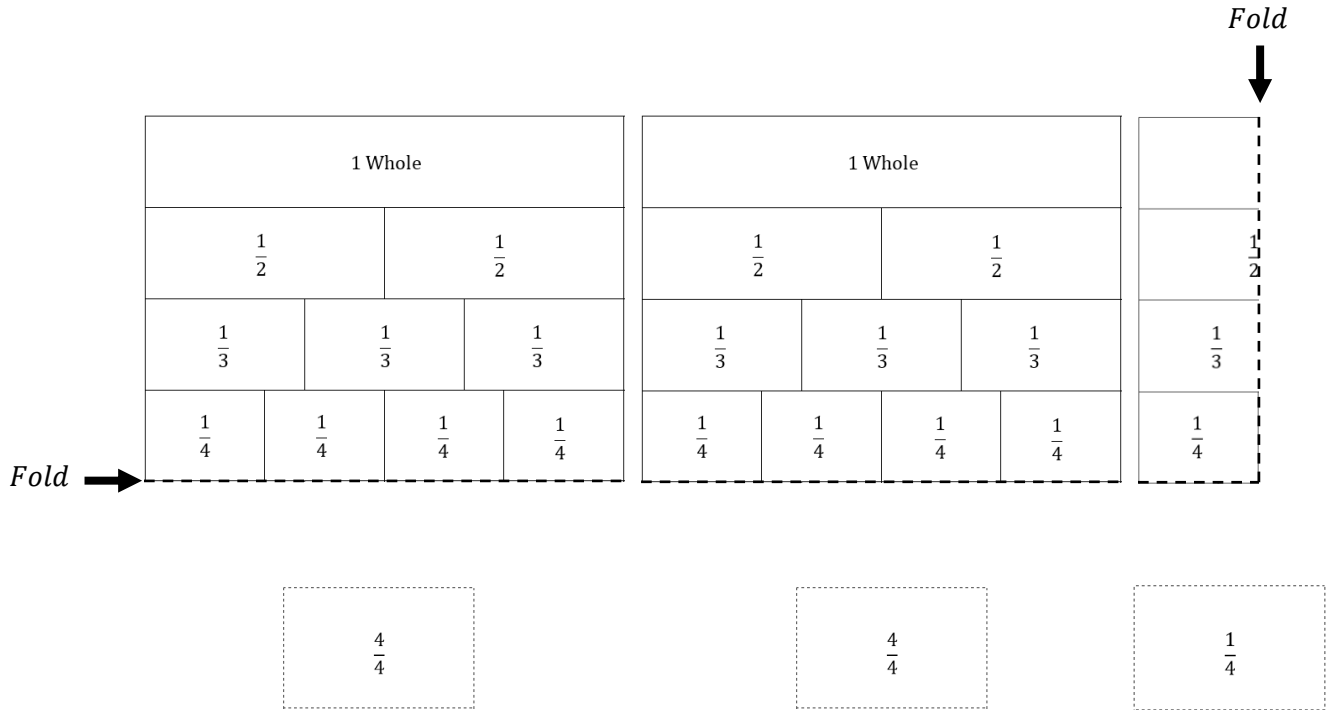


Session 1: Modeling (I Do – Visual Support)

Learning Target: I will convert between improper fractions and mixed numbers

Readiness for adding and subtracting mixed numbers with like denominators

Gianna is baking big brownies for her birthday party. The serving size for each brownie is $\frac{1}{4}$ of a brownie per person. If nine of her friends are invited to the party, how many brownies does she need to feed all of them?



Session 1: Modeling (I Do - Teacher Notes)

Learning Target: I will convert between improper fractions and mixed numbers

Readiness for adding and subtracting mixed numbers with like denominators

Gianna is baking big brownies for her birthday party. The serving size for each brownie is $\frac{1}{4}$ of a brownie per person. If nine of her friends are invited to the party, how many brownies does she need to feed all of them?

I am going to think aloud to model solving this problem.

Your job is to watch, listen, think and ask questions.

First, it is important to know what the problem is about.

This problem is about Gianna baking big brownies.

Second, I need to determine what I need to find.

I need to find how many brownies she needs for all of her friends.

Third, I need to determine what I know.

I know that the serving size is one-fourth of a brownie and she has 9 friends to feed.

Fourth, I need to figure out what I can try.

I am going to try using fraction strips to find how many brownies is equal to 9 one-fourth servings.

(Hold up four sets of fraction strips)

I am going to fold my fraction template to so that the “fourths” are visible as the bottom row...

(Fold the template so that four-fourths are visible at the bottom.)

One whole brownie has 4 one-fourth servings.

(Point to the 1 whole at the top of the template and place a “four-fourths” fraction card below it.)

I need 9 one-fourth servings, so I will add another fraction template showing fourths at the bottom.

(Fold another template so that four-fourths are visible at the bottom and place it next to the first template.)

These two brownies have 8 one-fourth servings.

(Point to the 1 whole at the top of the template and place a “four-fourths” fraction card below the second template.)

I need one more “fourth” to equal 9 one-fourth servings, so I will fold another template twice to show one-fourth.

(Fold the template twice so that one-fourth is visible at the bottom and place a “one-fourth” fraction card below.)

9 one-fourth servings is equal to 2 whole brownies and one-fourth of another.

Last, I need to make sure that my answer makes sense.

I found that Gianna needs two and one-fourth brownies to feed 9 friends. It makes sense because I used fraction templates represent how many brownies equaled 9 one-fourth portions.





Name _____

Date _____

Learning Target: I will convert between improper fractions and mixed numbers

Session 1: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Use fraction strips and cards to find each equivalent mixed number or improper fraction.

<p>1. Improper Fraction Mixed Number</p> $\frac{11}{6} = \underline{\hspace{2cm}}$	<p>2. Mixed Number Improper Fraction</p> $2 \frac{3}{4} = \underline{\hspace{2cm}}$
<p>3. Mixed Number Improper Fraction</p> $1 \frac{5}{8} = \underline{\hspace{2cm}}$	<p>4. Improper Fraction Mixed Number</p> $\frac{7}{3} = \underline{\hspace{2cm}}$

You Do Together: (As a class, or in small groups)

- Students take turns leading using strips and cards to find equivalent mixed numbers or improper fractions.

<p>5. Improper Fraction Mixed Number</p> $\frac{5}{2} = \underline{\hspace{2cm}}$	<p>6. Mixed Number Improper Fraction</p> $2 \frac{1}{6} = \underline{\hspace{2cm}}$
<p>7. Mixed Number Improper Fraction</p> $1 \frac{3}{4} = \underline{\hspace{2cm}}$	<p>8. Improper Fraction Mixed Number</p> $\frac{19}{8} = \underline{\hspace{2cm}}$



Fraction Strips (4 Sets)

Directions: Each student should receive two sets of strips...do not cut into individual strips. (See example on p. 6)

1 Whole								1 Whole							
$\frac{1}{2}$				$\frac{1}{2}$				$\frac{1}{2}$				$\frac{1}{2}$			
$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$			
$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$			
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$		
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$		
1 Whole								1 Whole							
$\frac{1}{2}$				$\frac{1}{2}$				$\frac{1}{2}$				$\frac{1}{2}$			
$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$			
$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$			
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$		
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$		



Modeling & Guided Practice Cards

Use for Problem 1

$$\frac{11}{6} = \underline{\hspace{2cm}}$$

Use for Problem 2

$$2\frac{3}{4} = \underline{\hspace{2cm}}$$

Use for Problem 3

$$1\frac{5}{8} = \underline{\hspace{2cm}}$$

Use for Problem 4

$$\frac{7}{3} = \underline{\hspace{2cm}}$$

Use for Problem 5

$$\frac{5}{2} = \underline{\hspace{2cm}}$$

Use for Problem 6

$$2\frac{1}{6} = \underline{\hspace{2cm}}$$

Use for Problem 7

$$1\frac{3}{4} = \underline{\hspace{2cm}}$$

Use for Problem 8

$$\frac{19}{8} = \underline{\hspace{2cm}}$$



Guided Practice Fraction Cards

$\frac{1}{2}$	$\frac{2}{2}$	$\frac{2}{2}$	$\frac{1}{3}$
$\frac{2}{3}$	$\frac{3}{3}$	$\frac{3}{3}$	$\frac{1}{4}$
$\frac{2}{4}$	$\frac{3}{4}$	$\frac{4}{4}$	$\frac{4}{4}$
$\frac{1}{6}$	$\frac{2}{6}$	$\frac{3}{6}$	$\frac{4}{6}$
$\frac{5}{6}$	$\frac{6}{6}$	$\frac{6}{6}$	$\frac{1}{8}$
$\frac{2}{8}$	$\frac{3}{8}$	$\frac{4}{8}$	$\frac{5}{8}$
$\frac{6}{8}$	$\frac{7}{8}$	$\frac{8}{8}$	$\frac{8}{8}$



Session 1: Self-Reflection

Learning Target: I will convert between improper fractions and mixed numbers

Briefly discuss student responses:

- What did I learn today about converting between improper fractions and mixed numbers?

- How confident do I feel about converting between improper fractions and mixed numbers on my own?
(Thumbs up, down, or sideways)



Quick Check - Form A

Name _____ Date _____

Learning Target: I will convert between improper fractions and mixed numbers.

Directions: Write each equivalent mixed number or improper fraction. (Work time: 5 minutes)

1.

$$5 \frac{3}{4} = \underline{\hspace{2cm}}$$

2.

$$3 \frac{2}{5} = \underline{\hspace{2cm}}$$

3.

$$4 \frac{1}{3} = \underline{\hspace{2cm}}$$

4.

$$\frac{13}{4} = \underline{\hspace{2cm}}$$

5.

$$\frac{8}{3} = \underline{\hspace{2cm}}$$

6.

$$\frac{9}{2} = \underline{\hspace{2cm}}$$

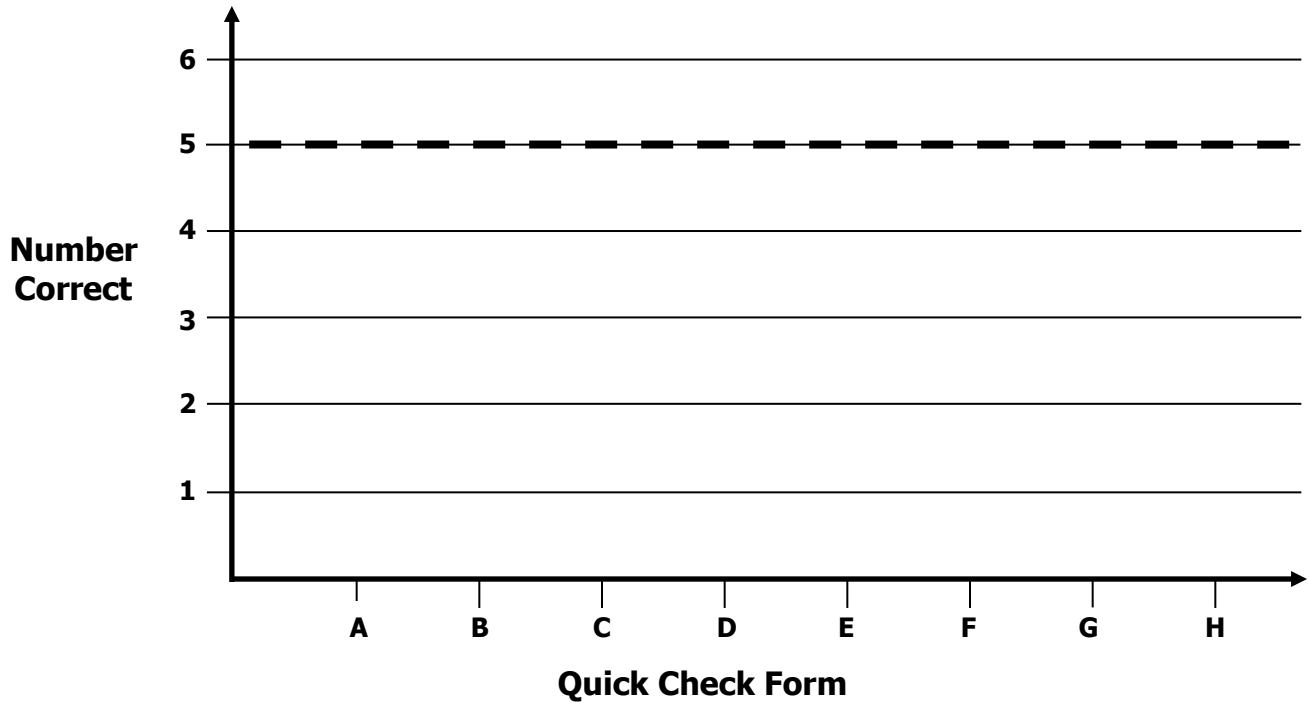


Growth Chart

Name _____ Date _____

Learning Target: I will convert between improper fractions and mixed numbers.

Goal: 5 out of 6 correct



Intervention	Date	Score
Session 1:		
Session 2:		
Session 3:		
Session 4:		
Session 5:		
Session 6:		
Session 7:		
Session 8:		

Learning Target: I will convert between improper fractions and mixed numbers

Session 2: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Use fraction strips and cards from Session 1 to find each equivalent mixed number or improper fraction.

<p>1. Improper Fraction Mixed Number</p> $\frac{13}{6} = \underline{\hspace{2cm}}$	<p>2. Mixed Number Improper Fraction</p> $2 \frac{1}{4} = \underline{\hspace{2cm}}$
<p>3. Mixed Number Improper Fraction</p> $1 \frac{7}{8} = \underline{\hspace{2cm}}$	<p>4. Improper Fraction Mixed Number</p> $\frac{8}{3} = \underline{\hspace{2cm}}$

You Do Together: (As a class, or in small groups)

- Students take turns leading using strips and cards to find equivalent mixed numbers or improper fractions.

<p>5. Improper Fraction Mixed Number</p> $\frac{7}{2} = \underline{\hspace{2cm}}$	<p>6. Mixed Number Improper Fraction</p> $2 \frac{5}{6} = \underline{\hspace{2cm}}$
<p>7. Mixed Number Improper Fraction</p> $2 \frac{3}{4} = \underline{\hspace{2cm}}$	<p>8. Improper Fraction Mixed Number</p> $\frac{17}{8} = \underline{\hspace{2cm}}$



Session 2: Self-Reflection

Learning Target: I will convert between improper fractions and mixed numbers

Briefly discuss student responses:

- What did I learn today about converting between improper fractions and mixed numbers?

- How confident do I feel about converting between improper fractions and mixed numbers on my own?
(Thumbs up, down, or sideways)



Quick Check - Form B

Name _____ Date _____

Learning Target: I will convert between improper fractions and mixed numbers.

Directions: Write each equivalent mixed number or improper fraction. (Work time: 5 minutes)

1.

$$4 \frac{2}{3} = \underline{\hspace{2cm}}$$

2.

$$3 \frac{1}{4} = \underline{\hspace{2cm}}$$

3.

$$2 \frac{3}{5} = \underline{\hspace{2cm}}$$

4.

$$\frac{10}{3} = \underline{\hspace{2cm}}$$

5.

$$\frac{7}{2} = \underline{\hspace{2cm}}$$

6.

$$\frac{17}{4} = \underline{\hspace{2cm}}$$

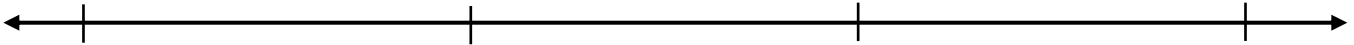


Session 3: Modeling (I Do)

Learning Target: I will convert between improper fractions and mixed numbers

Readiness for adding and subtracting mixed numbers with like denominators

Joe begins each track practice by jogging around the track 7 times. If each lap around the track is equal to one-quarter of a mile, how many miles does Joe run at the beginning of each practice? (Write your answer as a mixed number)



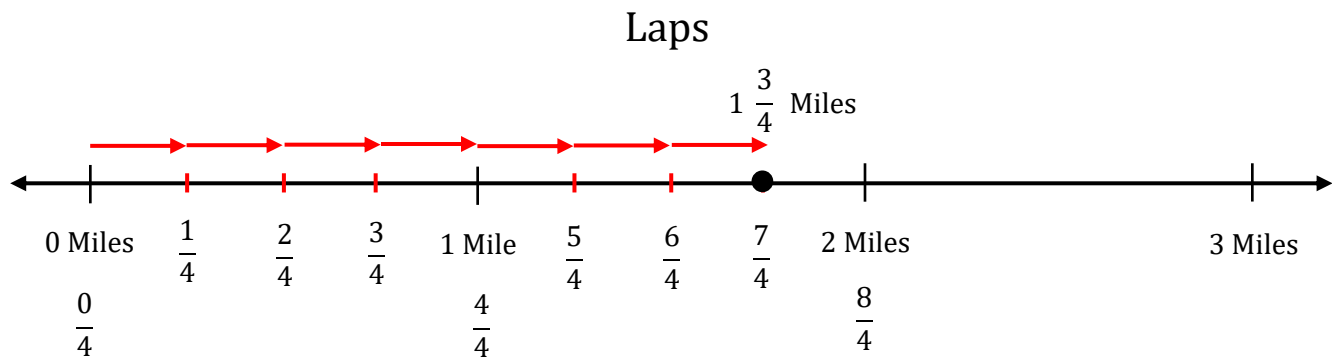


Session 3: Modeling (I Do – Visual Support)

Learning Target: I will convert between improper fractions and mixed numbers

Readiness for adding and subtracting mixed numbers with like denominators

Joe begins each track practice by jogging around the track 7 times. If each lap around the track is equal to one-quarter of a mile, how many miles does Joe run at the beginning of each practice? (Write your answer as a mixed number)





Session 3: Modeling (I Do - Teacher Notes)

Learning Target: I will convert between improper fractions and mixed numbers

Readiness for adding and subtracting mixed numbers with like denominators

Joe begins each track practice by jogging around the track 7 times. If each lap around the track is equal to one-quarter of a mile, how many miles does Joe run at the beginning of each practice? (Write your answer as a mixed number)

I am going to think aloud to model solving this problem.

Your job is to watch, listen, think and ask questions.

First, it is important to know what the problem is about.

This problem is about how Joe begins track practice.

Second, I need to determine what I need to find.

I need to find how many miles Joe runs to begin practice.

Third, I need to determine what I know.

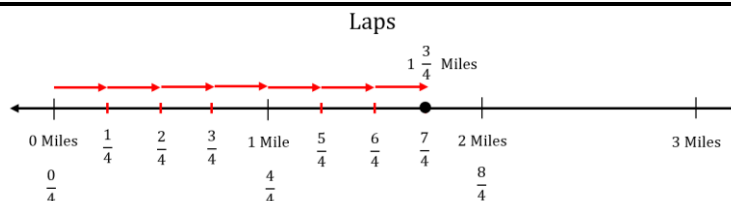
I know that he runs around the track 7 times and each lap is one-quarter of a mile.

Fourth, I need to figure out what I can try.

I am going to try using a number line to find the total distance in miles.

(Label the number line with the title "Laps".

Then label the dash marks with "0 Miles", "1 Mile", "2 Miles" and "3 Miles".)



Since each lap is one-quarter of a mile, I am going to show the first 4 laps in the first mile.

(Mark the middle dash first...then the middle of each half...then label each dash with it's fractional value.)

I need a total of 7 laps, so I know that Joe runs more than 1 mile...

I will need to show the next three laps in the second mile.

(Mark and label each fractional part of the second mile.)

I see that Joe runs seven-fourths of a mile at the beginning of practice. Seven-fourths is an improper fraction because the seven parts are greater than the number of parts that make up one whole.

(Draw a dot at the "seven-fourths" mark.)

We can represent improper fractions as the number of wholes and the fractional parts less than one whole...

This mixed number is one whole and three-fourths.

(Write "1 $\frac{3}{4}$ Miles" above the point.)

Last, I need to make sure that my answer makes sense.

I found that Joe runs one and three-fourths of a mile to begin each track practice. It makes sense because I represented 7 quarter-mile laps on a number to help me write this distance as a mixed number.

Learning Target: I will convert between improper fractions and mixed numbers

Session 3: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Use number lines to find each equivalent mixed number or improper fraction.

1.	Improper Fraction Mixed Number $\frac{11}{6} =$ _____	
2.	Mixed Number Improper Fraction $2 \frac{1}{2} =$ _____	
3.	Improper Fraction Mixed Number $\frac{12}{4} =$ _____	
4.	Mixed Number Improper Fraction $1 \frac{3}{8} =$ _____	
5.	Improper Fraction Mixed Number $\frac{8}{3} =$ _____	

Learning Target: I will convert between improper fractions and mixed numbers

Session 3: Guided Practice (We Do - Continued)

You Do Together: (As a class, or in small groups)

- Students take turns using number lines to find each equivalent mixed number or improper fraction.

6.	Improper Fraction	=	Mixed Number	
	$\frac{7}{3}$		_____	
7.	Mixed Number	=	Improper Fraction	
	$2 \frac{3}{4}$		_____	
8.	Improper Fraction	=	Mixed Number	
	$\frac{13}{6}$		_____	
9.	Mixed Number	=	Improper Fraction	
	$1 \frac{7}{8}$		_____	
10.	Improper Fraction	=	Mixed Number	
	$\frac{5}{2}$		_____	

Learning Target: I will convert between improper fractions and mixed numbers

Session 3: Guided Practice (We Do – Teacher Notes)

We Do Together: (Teacher Actions)

- Use number lines to find each equivalent mixed number or improper fraction.

<p>1.</p> <p style="text-align: center;">Improper Fraction Mixed Number</p> $\frac{11}{6} = \underline{1 \frac{5}{6}}$	
<p>2.</p> <p style="text-align: center;">Mixed Number Improper Fraction</p> $2 \frac{1}{2} = \underline{\frac{5}{2}}$	
<p>3.</p> <p style="text-align: center;">Improper Fraction Mixed Number</p> $\frac{12}{4} = \underline{3}$	
<p>4.</p> <p style="text-align: center;">Mixed Number Improper Fraction</p> $1 \frac{3}{8} = \underline{\frac{11}{8}}$	
<p>5.</p> <p style="text-align: center;">Improper Fraction Mixed Number</p> $\frac{8}{3} = \underline{2 \frac{2}{3}}$	



Session 3: Self-Reflection

Learning Target: I will convert between improper fractions and mixed numbers

Briefly discuss student responses:

- What did I learn today about converting between improper fractions and mixed numbers?

- How confident do I feel about converting between improper fractions and mixed numbers on my own?
(Thumbs up, down, or sideways)



Quick Check - Form C

Name _____ Date _____

Learning Target: I will convert between improper fractions and mixed numbers.

Directions: Write each equivalent mixed number or improper fraction. (Work time: 5 minutes)

1.

$$3 \frac{4}{5} = \underline{\hspace{2cm}}$$

2.

$$4 \frac{1}{5} = \underline{\hspace{2cm}}$$

3.

$$3 \frac{2}{3} = \underline{\hspace{2cm}}$$

4.

$$\frac{17}{5} = \underline{\hspace{2cm}}$$

5.

$$\frac{11}{4} = \underline{\hspace{2cm}}$$

6.

$$\frac{9}{2} = \underline{\hspace{2cm}}$$

Learning Target: I will convert between improper fractions and mixed numbers

Session 4: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Use number lines to find each equivalent mixed number or improper fraction.

1.	Improper Fraction Mixed Number $\frac{11}{4} =$ _____	
2.	Mixed Number Improper Fraction $2 \frac{1}{3} =$ _____	
3.	Improper Fraction Mixed Number $\frac{12}{6} =$ _____	
4.	Mixed Number Improper Fraction $1 \frac{5}{8} =$ _____	
5.	Improper Fraction Mixed Number $\frac{11}{4} =$ _____	

Learning Target: I will convert between improper fractions and mixed numbers

Session 4: Guided Practice (We Do - Continued)

You Do Together: (As a class, or in small groups)

- Students take turns using number lines to find each equivalent mixed number or improper fraction.

6.	Improper Fraction	=	Mixed Number	
	$\frac{5}{2}$		_____	
7.	Mixed Number	=	Improper Fraction	
	$2 \frac{1}{4}$		_____	
8.	Improper Fraction	=	Mixed Number	
	$\frac{15}{6}$		_____	
9.	Mixed Number	=	Improper Fraction	
	$2 \frac{3}{8}$		_____	
10.	Improper Fraction	=	Mixed Number	
	$\frac{5}{3}$		_____	



Session 4: Self-Reflection

Learning Target: I will convert between improper fractions and mixed numbers

Briefly discuss student responses:

- What did I learn today about converting between improper fractions and mixed numbers?

- How confident do I feel about converting between improper fractions and mixed numbers on my own?
(Thumbs up, down, or sideways)



Quick Check - Form D

Name _____ Date _____

Learning Target: I will convert between improper fractions and mixed numbers.

Directions: Write each equivalent mixed number or improper fraction. (Work time: 5 minutes)

1.

$$5 \frac{2}{3} = \underline{\hspace{2cm}}$$

2.

$$2 \frac{1}{4} = \underline{\hspace{2cm}}$$

3.

$$2 \frac{1}{5} = \underline{\hspace{2cm}}$$

4.

$$\frac{11}{3} = \underline{\hspace{2cm}}$$

5.

$$\frac{12}{5} = \underline{\hspace{2cm}}$$

6.

$$\frac{17}{4} = \underline{\hspace{2cm}}$$

Learning Target: I will convert between improper fractions and mixed numbers

Session 5: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Use number lines to find each equivalent mixed number or improper fraction.

1.	Improper Fraction Mixed Number $\frac{13}{6} = \underline{\hspace{2cm}}$	
2.	Mixed Number Improper Fraction $2 \frac{1}{4} = \underline{\hspace{2cm}}$	
3.	Improper Fraction Mixed Number $\frac{10}{4} = \underline{\hspace{2cm}}$	
4.	Mixed Number Improper Fraction $2 \frac{3}{8} = \underline{\hspace{2cm}}$	
5.	Improper Fraction Mixed Number $\frac{8}{6} = \underline{\hspace{2cm}}$	

Learning Target: I will convert between improper fractions and mixed numbers

Session 5: Guided Practice (We Do - Continued)

You Do Together: (As a class, or in small groups)

- Students take turns using number lines to find each equivalent mixed number or improper fraction.

6.	Improper Fraction Mixed Number $\frac{87}{3} =$ _____	
7.	Mixed Number Improper Fraction $1 \frac{3}{4} =$ _____	
8.	Improper Fraction Mixed Number $\frac{13}{8} =$ _____	
9.	Mixed Number Improper Fraction $1 \frac{3}{4} =$ _____	
10.	Improper Fraction Mixed Number $\frac{8}{4} =$ _____	



Session 5: Self-Reflection

Learning Target: I will convert between improper fractions and mixed numbers

Briefly discuss student responses:

- What did I learn today about converting between improper fractions and mixed numbers?

- How confident do I feel about converting between improper fractions and mixed numbers on my own?
(Thumbs up, down, or sideways)



Quick Check - Form E

Name _____ Date _____

Learning Target: I will convert between improper fractions and mixed numbers.

Directions: Write each equivalent mixed number or improper fraction. (Work time: 5 minutes)

1.

$$5 \frac{3}{4} = \underline{\hspace{2cm}}$$

2.

$$3 \frac{2}{5} = \underline{\hspace{2cm}}$$

3.

$$4 \frac{1}{3} = \underline{\hspace{2cm}}$$

4.

$$\frac{13}{4} = \underline{\hspace{2cm}}$$

5.

$$\frac{8}{3} = \underline{\hspace{2cm}}$$

6.

$$\frac{9}{2} = \underline{\hspace{2cm}}$$



Session 6: Modeling (I Do)

Learning Target: I will convert between improper fractions and mixed numbers

Readiness for adding and subtracting mixed numbers with like denominators

On the Delta Math readiness screener, Aubrey selected the following answer choice. Is she correct? If not, why do you think she chose her answer?

1.

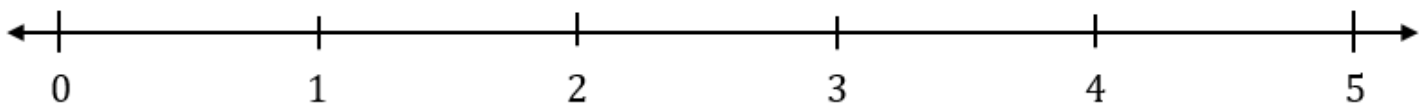
The mixed number $4\frac{2}{3}$ is equivalent to which expression?

$4 \times \frac{2}{3}$

$\frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3}$

$3 + \frac{2}{4}$

$\frac{3}{3} + \frac{3}{3} + \frac{3}{3} + \frac{3}{3} + \frac{2}{3}$





Session 6: Modeling (I Do – Visual Support)

Learning Target: I will convert between improper fractions and mixed numbers

Readiness for adding and subtracting mixed numbers with like denominators

On the Delta Math readiness screener, Aubrey selected the following answer choice. Is she correct? If not, why do you think she chose her answer?

1.

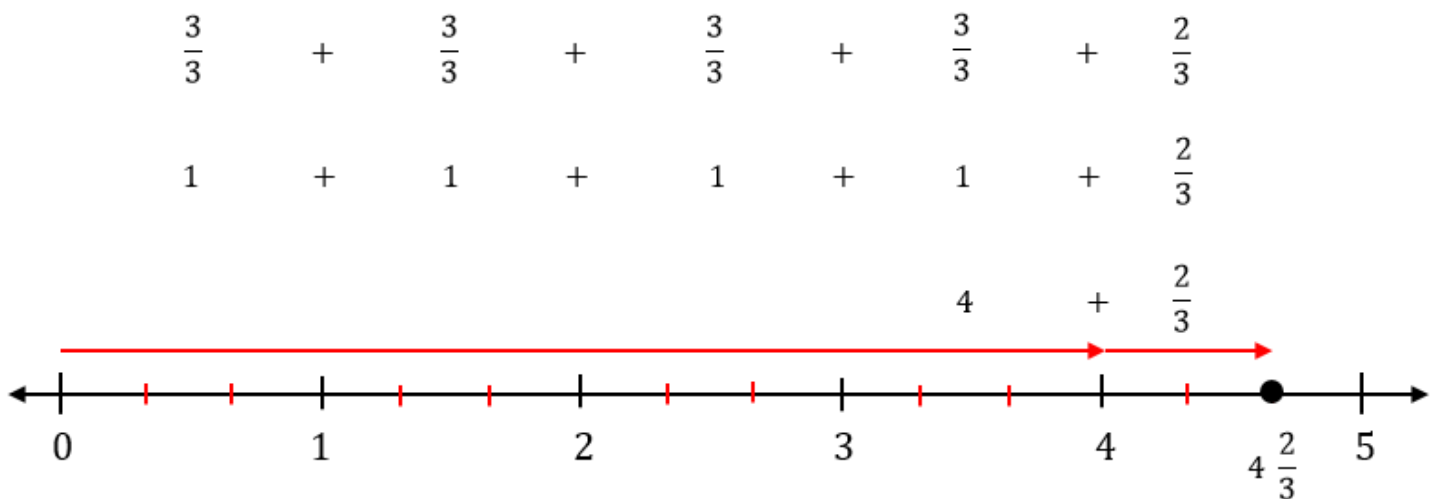
The mixed number $4\frac{2}{3}$ is equivalent to which expression?

$4 \times \frac{2}{3}$

$\frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3}$

$3 + \frac{2}{4}$

$\frac{3}{3} + \frac{3}{3} + \frac{3}{3} + \frac{3}{3} + \frac{2}{3}$





Session 6: Modeling (I Do – Teacher Notes)

Learning Target: I will convert between improper fractions and mixed numbers

Readiness for adding and subtracting mixed numbers with like denominators

On the Delta Math readiness screener, Aubrey selected the following answer choice. Is she correct? If not, why do you think she chose her answer?

I am going to think aloud to model solving this problem....your job is to watch, listen, think and ask questions.

First, it is important to know what the problem is about.

This problem is about Aubrey answering a problem about mixed numbers on a Delta Math readiness screener.

Second, I need to determine what I need to find.

I need to find if Aubrey chose the correct answer and if not, I need to guess why she chose the incorrect answer.

Third, I need to determine what I know.

I know that mixed numbers are made up of a whole number and a fractional part that is less than one whole.

Fourth, I need to figure out what I can try.

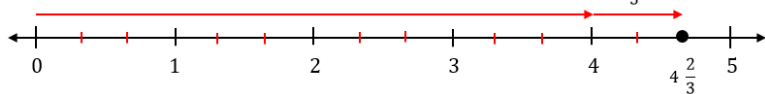
I am going to try drawing the mixed number on a number line to find other expressions equal to the mixed number.

$$\frac{3}{3} + \frac{3}{3} + \frac{3}{3} + \frac{3}{3} + \frac{2}{3}$$

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

$$4 + \frac{2}{3}$$

To draw four and two-thirds on a number line, I need to move 4 whole spaces to the right.
(Draw an arrow to represent the whole number, 4.)



Now I need to move 2 more thirds of another whole...so I will separate the next whole into 3 equal parts.
(Draw to dash marks separating the fifth whole into thirds.)

One expression equal to four and 2-thirds I see in this drawing is four plus 2-thirds.

(Write $4 + \frac{2}{3}$ above the arrows.)

Another equivalent expression I see is one plus one plus one plus one plus two-thirds.

(Write $1 + 1 + 1 + 1 + \frac{2}{3}$ above $4 + \frac{2}{3}$.)

Also, each of the four whole units can be separated into thirds
(Draw dash marks to separate each whole into thirds.)

Now, the equivalent expression I see is 3-thirds plus 3-thirds plus 3-thirds plus 3-thirds plus 2-thirds.

(Write $\frac{3}{3} + \frac{3}{3} + \frac{3}{3} + \frac{3}{3} + \frac{2}{3}$ above $1 + 1 + 1 + 1 + \frac{2}{3}$.)

The only expression that is equivalent to 4 and 2-thirds and an answer choice to the question is 3-thirds plus 3-thirds plus 3-thirds plus 3-thirds plus 2-thirds. So, this must be the correct answer to the question.



Session 6: Modeling (I Do – Teacher Notes Cont.)

Learning Target: I will convert between improper fractions and mixed numbers

Readiness for adding and subtracting mixed numbers with like denominators

But, Aubrey did not select this one. Instead, she selected 2-thirds plus 2-thirds plus 2-thirds plus 2-thirds.

I think she may have chosen this because the mixed number has a whole number “4” and a proper fraction $\frac{2}{3}$.

And, this answer choice has 2-thirds added to itself 4 times.

Last, I need to make sure that my answer makes sense.

I found that Aubrey did not choose the incorrect answer. It makes sense because I used a number line to find many expressions that are equal to four and two-thirds so that I could compare my expressions to the expression that she chose.

Learning Target: I will convert between improper fractions and mixed numbers

Session 6: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Use your understanding of whole numbers and fractional parts to find each equivalent mixed number or improper fraction.

<p>1.</p> $\frac{11}{6} =$	<p>2.</p> $1 \frac{5}{9} =$
<p>3.</p> $2 \frac{1}{7} =$	<p>4.</p> $\frac{15}{5} =$

You Do Together: (As a class, or in small groups)

- Students take turns leading to find each equivalent mixed number or improper fraction.

<p>5.</p> $\frac{15}{4} =$	<p>6.</p> $3 \frac{5}{8} =$
<p>7.</p> $1 \frac{7}{9} =$	<p>8.</p> $\frac{8}{2} =$

Learning Target: I will convert between improper fractions and mixed numbers

Session 6: Guided Practice (We Do – Teacher Notes)

We Do Together: (Teacher Actions)

- Use your understanding of whole numbers and fractional parts to find each equivalent mixed number or improper fraction.

<p>1.</p> $\frac{11}{6} = \frac{6}{6} + \frac{5}{6}$ $= 1 + \frac{5}{6} = 1 \frac{5}{6}$	<p>2.</p> $1 \frac{5}{9} = 1 + \frac{5}{9}$ $= \frac{9}{9} + \frac{5}{9} = \frac{14}{9}$
<p>3.</p> $2 \frac{1}{7} = 1 + 1 + \frac{1}{7}$ $= \frac{7}{7} + \frac{7}{7} + \frac{1}{7} = \frac{15}{7}$	<p>4.</p> $\frac{15}{5} = \frac{5}{5} + \frac{5}{5} + \frac{5}{5}$ $= 1 + 1 + 1 = 3$

You Do Together: (As a class, or in small groups)

- Students take turns leading to find each equivalent mixed number or improper fraction.

<p>5.</p> $\frac{15}{4} =$	<p>6.</p> $3 \frac{5}{8} =$
<p>7.</p> $1 \frac{7}{9} =$	<p>8.</p> $\frac{8}{2} =$



Session 6: Self-Reflection

Learning Target: I will convert between improper fractions and mixed numbers

Briefly discuss student responses:

- What did I learn today about converting between improper fractions and mixed numbers?

- How confident do I feel about converting between improper fractions and mixed numbers on my own?
(Thumbs up, down, or sideways)



Quick Check - Form F

Name _____ Date _____

Learning Target: I will convert between improper fractions and mixed numbers.

Directions: Write each equivalent mixed number or improper fraction. (Work time: 5 minutes)

1.

$$4 \frac{2}{3} = \underline{\hspace{2cm}}$$

2.

$$3 \frac{1}{4} = \underline{\hspace{2cm}}$$

3.

$$2 \frac{3}{5} = \underline{\hspace{2cm}}$$

4.

$$\frac{10}{3} = \underline{\hspace{2cm}}$$

5.

$$\frac{7}{2} = \underline{\hspace{2cm}}$$

6.

$$\frac{17}{4} = \underline{\hspace{2cm}}$$

Learning Target: I will convert between improper fractions and mixed numbers

Session 7: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Use your understanding of whole numbers and fractional parts to find each equivalent mixed number or improper fraction.

<p>1.</p> $\frac{15}{6} =$	<p>2.</p> $2 \frac{5}{9} =$
<p>3.</p> $3 \frac{1}{7} =$	<p>4.</p> $\frac{16}{4} =$

You Do Together: (As a class, or in small groups)

- Students take turns leading to find each equivalent mixed number or improper fraction.

<p>5.</p> $\frac{16}{5} =$	<p>6.</p> $2 \frac{7}{8} =$
<p>7.</p> $1 \frac{7}{10} =$	<p>8.</p> $\frac{10}{2} =$



Session 7: Self-Reflection

Learning Target: I will convert between improper fractions and mixed numbers

Briefly discuss student responses:

- What did I learn today about converting between improper fractions and mixed numbers?

- How confident do I feel about converting between improper fractions and mixed numbers on my own?
(Thumbs up, down, or sideways)



Quick Check - Form G

Name _____ Date _____

Learning Target: I will convert between improper fractions and mixed numbers.

Directions: Write each equivalent mixed number or improper fraction. (Work time: 5 minutes)

1.

$$3 \frac{4}{5} = \underline{\hspace{2cm}}$$

2.

$$4 \frac{1}{5} = \underline{\hspace{2cm}}$$

3.

$$3 \frac{2}{3} = \underline{\hspace{2cm}}$$

4.

$$\frac{17}{5} = \underline{\hspace{2cm}}$$

5.

$$\frac{11}{4} = \underline{\hspace{2cm}}$$

6.

$$\frac{9}{2} = \underline{\hspace{2cm}}$$

Learning Target: I will convert between improper fractions and mixed numbers

Session 8: Guided Practice (We Do)

We Do Together: (Teacher Actions)

- Use your understanding of whole numbers and fractional parts to find each equivalent mixed number or improper fraction.

<p>1.</p> $\frac{11}{5} =$	<p>2.</p> $1 \frac{5}{8} =$
<p>3.</p> $3 \frac{2}{7} =$	<p>4.</p> $\frac{15}{3} =$

You Do Together: (As a class, or in small groups)

- Students take turns leading using strips and cards to find each equivalent mixed number or improper fraction.

<p>5.</p> $\frac{17}{4} =$	<p>6.</p> $3 \frac{5}{6} =$
<p>7.</p> $2 \frac{7}{9} =$	<p>8.</p> $\frac{12}{4} =$



Session 8: Self-Reflection

Learning Target: I will convert between improper fractions and mixed numbers

Briefly discuss student responses:

- What did I learn today about converting between improper fractions and mixed numbers?

- How confident do I feel about converting between improper fractions and mixed numbers on my own?
(Thumbs up, down, or sideways)



Quick Check - Form H

Name _____ Date _____

Learning Target: I will convert between improper fractions and mixed numbers.

Directions: Write each equivalent mixed number or improper fraction. (Work time: 5 minutes)

1.

$$5 \frac{2}{3} = \underline{\hspace{2cm}}$$

2.

$$2 \frac{1}{4} = \underline{\hspace{2cm}}$$

3.

$$2 \frac{1}{5} = \underline{\hspace{2cm}}$$

4.

$$\frac{11}{3} = \underline{\hspace{2cm}}$$

5.

$$\frac{12}{5} = \underline{\hspace{2cm}}$$

6.

$$\frac{17}{4} = \underline{\hspace{2cm}}$$



Independent Practice (You Do – Version 1)

Learning Target: I will convert improper fractions into mixed numbers

Readiness for adding and subtracting mixed numbers with like denominators

Title of Game: Play “Improper Fraction Match-up!”

Number of Players: 2

Objective: To match your Improper Fraction cards to unknown Mixed Number cards.

Materials:

- 1 set of “Mixed Number” and “Improper Fractions” cards per group
- 1 recording sheet per player

Set-up:

- Deal all 12 **Mixed Number** cards face down in a row.
- Deal 5 **Improper Fraction** cards face up to each player.
 - There will be 2 cards left over...they will not be used in this game...but don't peek!

Directions:

- **Player 1** goes first
 - Take a card from the row of face down **Mixed Number** cards and turn it face up
 - Each player writes the mixed number on the recording sheet and determines the equivalent improper fraction
- If **Player 1** has the equivalent **Improper Fraction** card, place it face up on top of the **Mixed Number** card, take both cards and say:

“My Improper Fraction card ___ is equal to ___, because ____.”
- If **Player 1** does not have the equivalent **Improper Fraction** card, turn the **Mixed Number** card back over.
- **Players 1 and 2** alternate turns. The **winner** is the first player to match all 4 cards.



Independent Practice (You Do – Version 2)

Learning Target: I will convert improper fractions into mixed numbers

Readiness for adding and subtracting mixed numbers with like denominators

Title of Game: Play “Mixed Number Match-up!”

Number of Players: 2

Objective: To match your Mixed Number cards to unknown Improper Fraction cards.

Materials:

- 1 set of “Mixed Number” and “Improper Fractions” cards per group
 - For easy of sorting, copied each type of card on different colored paper.
- 1 recording sheet per player

Set-up:

- Deal all 12 **Improper Fraction** cards face down in a row.
- Deal 5 **Mixed Number** cards face up to each player.
 - There will be 2 cards left over...they will not be used in this game...but don't peek!

Directions:

- **Player 1** goes first
 - Take a card from the row of face down **Improper Fractions** cards and turn it face up
 - Each player writes the improper fraction on the recording sheet and determines the equivalent mixed number
- If **Player 1** has the equivalent **Mixed Number** card, place it face up on top of the **Improper Fraction** card, take both cards and say:

*“My **Mixed Number** card ___ is equal to ___, because ____.”*

- If **Player 1** does not have the equivalent **Mixed Number** card, turn the **Improper Fraction** card back over.
- **Players 1 and 2** alternate turns. The **winner** is the first player to match all 4 cards.



Names _____

Date _____

Learning Target: I will convert improper fractions to mixed numbers

Independent Practice: Improper Fraction Match-up!

(Recording Sheet)

Improper Fraction	Mixed Number	Improper Fraction	Mixed Number
Improper Fraction	Mixed Number	Improper Fraction	Mixed Number
Improper Fraction	Mixed Number	Improper Fraction	Mixed Number
Improper Fraction	Mixed Number	Improper Fraction	Mixed Number
Improper Fraction	Mixed Number	Improper Fraction	Mixed Number
Improper Fraction	Mixed Number	Improper Fraction	Mixed Number
Improper Fraction	Mixed Number	Improper Fraction	Mixed Number



Names _____

Date _____

Learning Target: I will convert mixed numbers to improper fractions

Independent Practice: Mixed Number Match-up!

(Recording Sheet)

Mixed Number	Improper Fraction	Mixed Number	Improper Fraction
Mixed Number	Improper Fraction	Mixed Number	Improper Fraction
Mixed Number	Improper Fraction	Mixed Number	Improper Fraction
Mixed Number	Improper Fraction	Mixed Number	Improper Fraction
Mixed Number	Improper Fraction	Mixed Number	Improper Fraction
Mixed Number	Improper Fraction	Mixed Number	Improper Fraction
Mixed Number	Improper Fraction	Mixed Number	Improper Fraction



Improper Fraction Cards (Set A)

Directions: Place 1 set of **Improper Fractions (Set A)** cards with 1 set of **Mixed Number (Set A)** cards in a bag.

Set A₁

Set A₂

$\frac{7}{3}$ Set A	$\frac{13}{5}$ Set A	$\frac{7}{3}$ Set A	$\frac{13}{5}$ Set A
$\frac{5}{3}$ Set A	$\frac{9}{5}$ Set A	$\frac{5}{3}$ Set A	$\frac{9}{5}$ Set A
$\frac{8}{3}$ Set A	$\frac{14}{5}$ Set A	$\frac{8}{3}$ Set A	$\frac{14}{5}$ Set A
$\frac{5}{4}$ Set A	$\frac{15}{4}$ Set A	$\frac{5}{4}$ Set A	$\frac{15}{4}$ Set A
$\frac{11}{4}$ Set A	$\frac{7}{2}$ Set A	$\frac{11}{4}$ Set A	$\frac{7}{2}$ Set A
$\frac{7}{4}$ Set A	$\frac{5}{2}$ Set A	$\frac{7}{4}$ Set A	$\frac{5}{2}$ Set A



Mixed Number Cards (Set A)

Directions: Place 1 set of **Improper Fractions (Set A)** cards with 1 set of **Mixed Number (Set A)** cards in a bag.

Set A₁

Set A₂

$2\frac{1}{3}$ Set A	$2\frac{3}{5}$ Set A	$2\frac{1}{3}$ Set A	$2\frac{3}{5}$ Set A
$1\frac{2}{3}$ Set A	$1\frac{4}{5}$ Set A	$1\frac{2}{3}$ Set A	$1\frac{4}{5}$ Set A
$2\frac{2}{3}$ Set A	$2\frac{4}{5}$ Set A	$2\frac{2}{3}$ Set A	$2\frac{4}{5}$ Set A
$1\frac{1}{4}$ Set A	$3\frac{3}{4}$ Set A	$1\frac{1}{4}$ Set A	$3\frac{3}{4}$ Set A
$2\frac{3}{4}$ Set A	$3\frac{1}{2}$ Set A	$2\frac{3}{4}$ Set A	$3\frac{1}{2}$ Set A
$1\frac{3}{4}$ Set A	$2\frac{1}{2}$ Set A	$1\frac{3}{4}$ Set A	$2\frac{1}{2}$ Set A



Improper Fraction Cards (Set B)

Directions: Place 1 set of **Improper Fractions (Set B)** cards with 1 set of **Mixed Number (Set B)** cards in a bag.

Set B₁

Set B₂

$\frac{17}{6}$ Set B	$\frac{19}{8}$ Set B	$\frac{17}{6}$ Set B	$\frac{19}{8}$ Set B
$\frac{11}{6}$ Set B	$\frac{13}{8}$ Set B	$\frac{11}{6}$ Set B	$\frac{13}{8}$ Set B
$\frac{13}{6}$ Set B	$\frac{23}{8}$ Set B	$\frac{13}{6}$ Set B	$\frac{23}{8}$ Set B
$\frac{10}{7}$ Set B	$\frac{25}{7}$ Set B	$\frac{10}{7}$ Set B	$\frac{25}{7}$ Set B
$\frac{18}{7}$ Set B	$\frac{13}{5}$ Set B	$\frac{18}{7}$ Set B	$\frac{13}{5}$ Set B
$\frac{12}{4}$ Set B	$\frac{17}{5}$ Set B	$\frac{12}{4}$ Set B	$\frac{17}{5}$ Set B



Mixed Number Cards (Set B)

Directions: Place 1 set of **Improper Fractions (Set B)** cards with 1 set of **Mixed Number (Set B)** cards in a bag.

Set B₁

Set B₂

$2\frac{5}{6}$ Set B	$2\frac{3}{8}$ Set B	$2\frac{5}{6}$ Set B	$2\frac{3}{8}$ Set B
$1\frac{5}{6}$ Set B	$1\frac{5}{8}$ Set B	$1\frac{5}{6}$ Set B	$1\frac{5}{8}$ Set B
$2\frac{1}{6}$ Set B	$2\frac{7}{8}$ Set B	$2\frac{1}{6}$ Set B	$2\frac{7}{8}$ Set B
$1\frac{3}{7}$ Set B	$3\frac{4}{7}$ Set B	$1\frac{3}{7}$ Set B	$3\frac{4}{7}$ Set B
$2\frac{4}{7}$ Set B	$2\frac{3}{5}$ Set B	$2\frac{4}{7}$ Set B	$2\frac{3}{5}$ Set B
$1\frac{5}{7}$ Set B	$3\frac{2}{5}$ Set B	$1\frac{5}{7}$ Set B	$3\frac{2}{5}$ Set B



Improper Fraction Cards (Set C)

Directions: Place 1 set of **Improper Fractions (Set C)** cards with 1 set of **Mixed Number (Set C)** cards in a bag.

Set C₁

Set C₂

$\frac{21}{8}$ Set C	$\frac{23}{10}$ Set C	$\frac{21}{8}$ Set C	$\frac{23}{10}$ Set C
$\frac{15}{8}$ Set C	$\frac{17}{10}$ Set C	$\frac{15}{8}$ Set C	$\frac{17}{10}$ Set C
$\frac{17}{8}$ Set C	$\frac{21}{10}$ Set C	$\frac{17}{8}$ Set C	$\frac{21}{10}$ Set C
$\frac{13}{9}$ Set C	$\frac{32}{9}$ Set C	$\frac{13}{9}$ Set C	$\frac{32}{9}$ Set C
$\frac{23}{9}$ Set C	$\frac{17}{7}$ Set C	$\frac{23}{9}$ Set C	$\frac{17}{7}$ Set C
$\frac{16}{9}$ Set C	$\frac{13}{7}$ Set C	$\frac{16}{9}$ Set C	$\frac{13}{7}$ Set C



Mixed Number Cards (Set C - 2 Sets)

Directions: Place 1 set of **Improper Fractions (Set C)** cards with 1 set of **Mixed Number (Set C)** cards in a bag.

Set C₁

Set C₂

$2 \frac{5}{8}$ Set C	$2 \frac{3}{10}$ Set C	$2 \frac{5}{8}$ Set C	$2 \frac{3}{10}$ Set C
$1 \frac{7}{8}$ Set C	$1 \frac{7}{10}$ Set C	$1 \frac{7}{8}$ Set C	$1 \frac{7}{10}$ Set C
$2 \frac{1}{8}$ Set C	$2 \frac{1}{10}$ Set C	$2 \frac{1}{8}$ Set C	$2 \frac{1}{10}$ Set C
$1 \frac{4}{9}$ Set C	$3 \frac{5}{9}$ Set C	$1 \frac{4}{9}$ Set C	$3 \frac{5}{9}$ Set C
$2 \frac{5}{9}$ Set C	$2 \frac{3}{7}$ Set C	$2 \frac{5}{9}$ Set C	$2 \frac{3}{7}$ Set C
$1 \frac{7}{9}$ Set C	$1 \frac{6}{7}$ Set C	$1 \frac{7}{9}$ Set C	$1 \frac{6}{7}$ Set C



Questions for Solving Word Problems

Q₁

What is the problem about?

Q₂

What do I need to find?

Q₃

What do I know?

Q₄

What can I try?

Q₅

Does my answer make sense?



Steps for Solving Word Problems

Q₁. What is the problem about?

Q₂. What do I need to find?

Q₃. What do I know?

Q₄. What can I try?

Q₅. Does my answer make sense?