

Grade Level: 4 <sup>th</sup> & 5 <sup>th</sup> Grades	
Lesson Title: Mixed and Improper Fractions Made Easy	
Focus: Improper to Mixed Fractions	

Materials:		
White boards	Vocabulary Notebooks	Improper Fraction Cards in another pdf.
Crayolas	6-sided dice; 12-sided dice	
Socks	decks of cards	

### Opening

State the objective

Today we are going to practice using our math vocabulary and skills in working with fractions.

Gain prior knowledge by asking students the following questions

What do you know about fractions? How is a fraction related to a whole? What is the top number in a fraction called? What is the bottom number of a fraction called? How do those words make sense—can you think about similar words and how they apply?

What are some strategies that you use when you are trying to figure out how to solve a mathematics problem?

How can you tell that you are on the right track for solving the problem?

Content (the "Meat")	
Problem of the Day	*Activity → Teachable Moment(s) <i>throughout</i>
You are rolling one die and you are going to roll it 10 times. Each time you roll you record the number that you rolled. This is what you rolled: 3, 5, 2, 5, 1, 1, 6, 4, 4, and 1. You need to	During the lesson check in with students repeatedly.
make a frequency table. What will it look like?	Check in about what is happening and what they are
Fact Practice	umiking. Talia advantana af awa
Fact Family	teachable moments.
A Fact Family is 3 numbers which have a relationship in multiplication and division. For example, the number 9, 4, and 36 have a particular relationship in math. This family has four members: 9 X 4 = 36 4 X 9 = 36 $36 \div 4 = 9$	Stop the class and focus on a student's key learning or understanding. Ask open- ended questions to determine what the rest of the group is thinking.
$36 \div 9 = 4$ Students should roll 2 dice and create a Fact Family by writing the members of the family on the white board. Student should roll a total of 5 times, creating 5 Fact Families.	when possible, engage students in a "teach to learn" opportunity and have the student become the teacher.



Math V	It is important to review	
Word for Today: improper fraction Description: Improper fraction is a term that larger or equal to the denominator. For exam $\frac{9}{7}$ are all examples of improper fractions. The fir represents 2 whole and ¼ left over, and the fir third. To change an improper fraction into a "proper denominator and express the remainder as a Create and entry in your Vocabulary Noteboo Vocabulary Notebook Sample: New Word	academic math vocabulary often throughout the day. Complete the Vocabulary notebook for each word. When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation). Vocabulary Notebooks can be made from ½ of a composition book.	
improper fraction	A fraction that has a numerator larger than the denominator	
We had $\frac{14}{8}$ of the pie left over.	Drawing	
Ac Improper Materials: Improper Fraction Cards, Improper Answer Key Directions:	Focus on having young people "compete" in pairs or small groups. Once a game is mastered you can utilize it in the "When Homework Is Complete" center.	
<ol> <li>Give each pair a set of materials.</li> <li>Give each pair a set of materials.</li> <li>Place Improper Fraction Answer Cards face dow</li> <li>Player 1 draws a card that is an imprope</li> <li>Player 1 selects the Improper Fraction A</li> <li>If the answer is correct, Player 1 keeps b</li> <li>Player 2 then takes his/her turn.</li> <li>Game is over when all cards are off the b</li> </ol>		



# Closing Review Say: • • Debase recap what we did today. • Did we achieve our objectives? Debrief Three Whats Ask the following three what questions: What was your key learning for the day? What opportunities might you have to do this same thing in the "real world"? What advice would you give to a "new" student getting ready to do this activity? Reflection (Confirm, Tweak, Aha!)

- Ask students to think about what they did today in math.
- Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
- Ask them to comment on what they did today that was like something they had done before except in one particular way which was new to them. (Tweak)
- Ask them to comment on something (if anything) they have learned today that was brand new to them.



Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Improper to Mixed
Focus:	Improper to Mixed Fractions

### Materials:White boardsVocabulary NotebooksCrayolasDecks of cardsSocksVocabulary Notebooks

### Opening

State the objective

Today we are going to practice using our math vocabulary and skills in working with fractions.

Gain prior knowledge by asking students the following questions

What do you know about fractions? How is a fraction related to a whole? What is the top number in a fraction called? What is the bottom number of a fraction called? How do those words make sense—can you think about similar words and how they apply?

What are some strategies that you use when you are trying to figure out how to solve a mathematics problem?

How can you tell that you are on the right track for solving the problem?

Content (the "Meat")	
Problem of the Day	*Activity → Teachable Moment(s) <i>throughout</i>
Look at the number written in expanded notation. Write a 7 digit number with these numbers.	During the lesson check in with students repeatedly.
50 3,000 7,000,000 80,000 6 200 900,000	Check in about what is
Fact Practice Multiples	happening and what they are thinking.
Multiplication facts are learned by recognizing the multiples of any given number. In this	Take advantage of any teachable moments.
<ul> <li>practice you will be determining the multiples of randomly generated numbers. You will need a chart and crayolas (150 chart).</li> <li>1. Roll one or two dice (if you roll two add the numbers together to determine the factor in the fact practice)</li> <li>2. Mark all multiples of the number and then pass off to the next person.</li> <li>3. Player may mark the same number.</li> </ul>	Stop the class and focus on a student's key learning or understanding. Ask open- ended questions to determine what the rest of the group is thinking. When possible, engage
	students in a "teach to learn" opportunity and have the student become the teacher.



Math Vo	It is important to review	
Word for Today: improper fraction Description: Improper fraction is a term that is larger or equal to the denominator. For example $\frac{9}{7}$ , $\frac{9}{2}$ are all examples of improper fractions. The first represents 2 whole and ¼ left over, and the find third. To change an improper fraction into a "proper" denominator and express the remainder as a find Review the entry in your Vocabulary Notebook Edit as necessary. Vocabulary Notebook Sample:	academic math vocabulary often throughout the day. Complete the Vocabulary notebook for each word. When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation). Vocabulary Notebooks can be made from ½ of a composition book.	
New Word Improper fraction	My Description A fraction that has a larger numerator than denominator	
Personal Connection We bought 5 pizzas for the group. Each pizza had 10 pieces. When lunch was over we had $\frac{13}{10}$ left over after lunch.	Drawing	



Activity Improper to Mixed This is the same game as students played yesterday. 1. Review the game that students played yesterday. 2. Have students share how to play the game. 3. Have students play the game with new partners today.	Focus on having young people "compete" in pairs or small groups. Once a game is mastered you can utilize it in the "When Homework Is Complete" center.
Materials: Improper Fraction Cards, Improper Fraction Answer Cards, Improper Fraction Answer Key	
<ol> <li>Directions:         <ol> <li>Group students in pairs.</li> <li>Give each pair a set of materials.</li> <li>Place Improper Fraction Answer Cards face up between the players.</li> <li>Place Improper Fraction Cards face down in between students.</li> <li>Player 1 draws a card that is an improper fraction.</li> <li>Player 1 selects the Improper Fraction Answer Card that represents an equivalent.</li> <li>If the answer is correct, Player 1 keeps both cards, if not, he/she returns card to the pile.</li> <li>Player 2 then takes his/her turn.</li> <li>Game is over when all cards are off the board.</li> </ol> </li> </ol>	

### Closing Review Say: • Please recap what we did today. • Did we achieve our objectives? Debrief Three Whats Ask the following three what questions: What was your key learning for the day? What opportunities might you have to do this same thing in the "real world"? What advice would you give to a "new" student getting ready to do this activity.

### Reflection (Confirm, Tweak, Aha!)

- Ask students to think about what they did today in math.
- Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
- Ask them to comment on what they did today that was like something they had done before except in one particular way which was new to them. (Tweak)
- Ask them to comment on something (if anything) they have learned today that was brand new to them.



### Fact Practice—Multiples

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150



Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Simplest Form Concentration
Focus:	Fractions

Materials:	
White boards	Vocabulary Notebooks
Crayolas	Double 9 Dominoes
Socks	Simplest Form Cards and Answer Cards—own pdf file

### Opening

State the objective

Today we are going to practice using our math vocabulary and skills with fractions.

Gain prior knowledge by asking students the following questions

What do you know about fractions? How is a fraction related to a whole? What is the top number in a fraction called? What is the bottom number of a fraction called? How do those words make sense—can you think about similar words and how they apply?

What are some strategies that you use when you are trying to figure out how to solve a mathematics problem?

How can you tell that you are on the right track for solving the problem?

.Content (the "Meat")					
Problem of the Day	*Activity → Teachable Moment(s) <i>throughout</i>				
Is this statement true? All squares are rectangles but all rectangles are not square. Tell why you think what you think.	During the lesson check in with students repeatedly.				
	Check in about what is happening and what they are thinking.				
	Take advantage of any				
Fact Practice - Spots and Dots There is a master of Double 9 Dominos attached to this lesson plan. You will need 1 full set for each pair of students in your class. It is recommended that you duplicate on card stock and if possible, laminate for use again in the future. Players sit across from each other. Dominoes are between them, face (or spots) down. Each student draws a domino and writes the multiplication problem on their white board, multiplying the numbers represented by the spots Example: Domino drawn is	Stop the class and focus on a student's key learning or understanding. Ask open- ended questions to determine what the rest of the group is thinking. When possible, engage students in a "teach to learn" opportunity and have the student become the teacher.				



It is important to review

academic math vocabulary

often throughout the day.

Complete the Vocabulary

(Ex. 4 students creating a

students experience the word

right angle, multiple students acting out an equation).

Vocabulary Notebooks can be made from ½ of a composition book.

notebook for each word.

When possible, have

Multiplication:  $2 \times 3 = 6$ 

### Math Vocabulary

### Word for Today: simplest form

**Description:** Remind students that the term simplest form refers to the process of reducing a fraction into the simplest way of saying it. For example, why would you say that you ate 5/10 of a pizza when it would be clearer to say that you ate ½ of the pizza? It makes it easier to simplify a fraction when you understand common factors. To simplify a fraction you can divide both the numerator and the denominator by the same number. Simplifying a fraction also requires that you understand equivalent fractions, two that are equal. Ultimately when you find the simplest form you are identifying at least 2 equivalent fractions.

Review the entry in your Vocabulary Notebook for the term "simplest form" with a peer. Edit if necessary.

### Vocabulary Notebook Sample:

simplest form	
the easiest for you to understand, $\frac{26}{52}$	
Personal Connection Drawing	
I have ½ of the money that is on the table. It is worth \$3.50.	
Activity Simplest Form Concentration       Focus on having people "competer small groups. Or is mastered you of in the "When Hor Set of cards will be an improper fraction and the second set of cards will be the simplest form.       Focus on having people "competer small groups. Or is mastered you of in the "When Hor Complete" center         Directions:       1. Review the game that students played yesterday.       2. Have students played yesterday.         3. Have students play the game with new partners today.       3. Have students play the game with new partners today.	young " in pairs or nce a game can utilize it mework Is r.



# Closing Review Say: • • Please recap what we did today. • Did we achieve our objectives? Debrief Three Whats Ask the following three what questions: What was your key learning for the day? What opportunities might you have to do this same thing in the "real world"? What advice would you give to a "new" student getting ready to do this activity? Reflection (Confirm, Tweak, Aha!)

- Ask students to think about what they did today in math.
- Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
- Ask them to comment on what they did today that was like something they had done before except in one particular way which was new to them. (Tweak)
- Ask them to comment on something (if anything) they have learned today that was brand new to them. (Aha!)



### **Double 9 Dominoes**

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Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Factors In Common
Focus:	FractionsFactors

Materials:		
White boards	Vocabulary Notebooks	Materials from yesterday (included in plan)
Crayolas	two, 12-sided dice for each pair	
Socks	Product Hunt Work Sheet	

### Opening

### State the objective

Today we are going to practice using our math vocabulary and skills with fractions.

### Gain prior knowledge by asking students the following questions

What do you know about fractions? How is a fraction related to a whole? What is the top number in a fraction called? What is the bottom number of a fraction called? How do those words make sense—can you think about similar words and how they apply?

What are some strategies that you use when you are trying to figure out how to solve a mathematics problem? How can you tell that you are on the right track for solving the problem?

### Content (the "Meat")

### Problem of the Day

To make chocolate chip cookies you need to have 1 ½ cups of white sugar and ¾ cup of brown sugar. How much sugar do you need to have in all? How do you know your answer is correct?

### Fact Practice

### Product Hunt

- 1. Divide students into pairs
- 2. Each pair needs a Product Hunt sheet (attached to this lesson plans)
- 3. Player rolls two, 12-sided dice.
- 4. Player multiplies the two numbers.
- 5. If the product is not yet covered, then player may cover the product.
- 6. Next player repeats steps 1-3.

7. Winner is determined by who has the most numbers covered.

### \*Activity → Teachable Moment(s) *throughout*

is	with students repeatedly.	
	Check in about what is	
	happening and what they are	
	thinking.	
	Take advantage of any	
	teachable moments	
	Stop the class and focus on a	
	student's key learning or	
	understanding. Ask open-	
	ended questions to	
	determine what the rest of	
	the group is thinking	
	When possible, engage	
	students in a "teach to learn"	
	opportunity and have the	
	student become the teacher	

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Math Vo Word for Today: greatest common factor Description: Review the term greatest common identify the "factors" in each of the following pais factors and ultimately the largest common factor 8 and 12 21 and 35 16 and 64 9 and 54 17 and 51 Have students share the Vocabulary Notebooks	It is important to review academic math vocabulary often throughout the day Complete the Vocabulary notebook for each word. When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation) Vocabulary Notebooks can be made from ½ of a composition book	
Vocabulary Notebook Sample: New Word		
greatest common factor		
Personal Connection The greatest common factor for 12 and 15 is 3.		
Activity Factors in Common Materials: Factor Cards, Common Factor Game board, game tokens for each player Directions: 1. Review the game that students played yesterday. 2. Have students share how to play the game. 3. Have students play the game with new partners today.		Focus on having young people "compete" in pairs or small groups. Once a game is mastered you can utilize it in the "When Homework Is Complete" center



Closing
Review
Say:
Please recap what we did today.
<ul> <li>Did we achieve our objectives?</li> </ul>
Debrief
Three Whats
Ask the following three what questions:
What was your key learning for the day?
What opportunities might you have to do this same thing in the "real world"?
What advice would you give to a "new" student getting ready to do this activity?
Reflection (Confirm, Tweak, Aha!)

- Ask students to think about what they did today in math.
- Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
- Ask them to comment on what they did today that was like something they had done before except in one particular way which was new to them. (Tweak)
- Ask them to comment on something (if anything) they have learned today that was brand new to them (Aha!)



### Product Hunt

48	20	81	3	45	27
1	24	108	77	7	40
120	72	96	8	18	60
14	144	70	22	15	11
33	35	66	132	63	16
12	30	28	110	100	49
6	36	21	121	90	2
84	5	44	25	99	10
32	9	56	88	4	11
24	50	55	54	42	80



### Factors in Common

17 and 34	12 and 32	2 and 28	3 and 6
20 and 80	3 and 18	5 and 10	4 and 8
4 and 32	7 and 64	18 and 27	10 and 20
15 and 36	25 and 65	28 and 35	16 and 32
8 and 28	6 and 14	4 and 14	6 and 12



### **Factors in Common**





Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Factors In Common 2
Focus:	MultiplicationFactors

Materials:	
White boards	Vocabulary Notebooks
Crayolas	Cards
Socks	Factors in Common Game Board and Cards (included in lesson plan)

### Opening

State the objective

Today we are going to practice using our math vocabulary and skills with fractions.

### Gain prior knowledge by asking students the following questions

What do you know about fractions? How is a fraction related to a whole? What is the top number in a fraction called? What is the bottom number of a fraction called? How do those words make sense—can you think about similar words and how they apply?

What are some strategies that you use when you are trying to figure out how to solve a mathematics problem? How can you tell that you are on the right track for solving the problem?

### Content (the "Meat")

	Problem of the Day	*Activity → Teachable Moment(s) <i>throughout</i>
Joey has a total of \$.90. If Joey only has quarters, dimes and nickels, list the different combinations of coins that Joey could have. Explain how you know.		During the lesson check in with students repeatedly.
		Check in about what is
Tarnot	Fact Practice	happening and what they are thinking.
1 arget	Divide students into trios.	Take advantage of any
2.	Each trio needs a deck of cards without face cards and jokers.	teachable moments
3.	Place the cards face up in a TicTac Toe Grid.	Stop the class and focus on a
4.	Turn up a 10 <sup>th</sup> card which will be to the side and becomes the target number (aces count as 1)	student's key learning or understanding. Ask open- ended questions to
5.	Each player makes an equation with some or all of the numbers in the grid to equal the target number. Students may add, subtract, multiply or divide.	determine what the rest of the group is thinking
6.	Each card may be used only one time in the equation.	When possible, engage
7.	As the cards are being picked up, the player must say the equation aloud—for example if the target card is 10, then I could say $5 \times 2 = 10$ , and pick up the 5 and the 2.	students in a "teach to learn" opportunity and have the student become the teacher



8. After one player finishes his/her turn, then the cards taken are replaced by cards from			
the remaining deck. 9 Player with the most cards at the end of the game win			
Math Vo	cabulary	It is important to review	
Word for Today: greatest common factor		academic math vocabulary	
<b>Description:</b> Greatest common factor is a term that discusses the largest number that 2 or more numbers share as a factor. Factors of a number are the two numbers you multiply together to get a particular number as the product. In the number 12 you can reach 12 with the following problems: $1 \times 12$ , $2 \times 6$ , $3 \times 4$ . All of those numbers are then factors of 12.		Complete the Vocabulary notebook for each word. When possible, have	
If you have the number 12, the factors of 12 and	re 1, 2, 3, 4, 6, and 12	students experience the word	
In the number 15 you can reach 15 with the following the second sec	owing problems: 1 x 15 and 3 x 5.	(EX. 4 Students creating a right angle multiple students	
If you have the number 15 the factors of 15 ar	e 1, 3, 5, and 15	acting out an equation)	
If you look at the factors of 12 and 15 you can s these is 3 so the largest common factor is 3. Students should complete the Vocabulary Note	see that hey share 1 and 3. The largest of book	Vocabulary Notebooks can be made from ½ of a composition book	
Vocabulary Notebook Sample:			
New Word	My Description		
greatest common factor	a factor is a number you multiply to get a product, a common factor is one that is shared by 2 numbers		
Personal Connection	Drawing		
The factors of 8 are 1, 2, 4, and 8. The factors of 12 are 1, 2, 3, 4, 6, and 12. The greatest common factor is 4.			
Acti	ivity	Focus on having young	
Factors In	Common	people "compete" in pairs or	
Materials: Factor Cards, Factors in Common Game Board, game token Directions: 1. Group students in pairs.		small groups. Once a game is mastered you can utilize it in the "When Homework Is Complete" center	
2. Place Common Factor Game Board between students face up and all Factor Cards face			
<ul><li>down.</li><li>3. Player 1 draws a Factor Card, looks at the two factors on the card and then selects the number on the game board that represents the greatest common factor for those two</li></ul>			
numbers. 4. Player 1 covers his/her answer with a token.			
<ol> <li>Player 2 takes a turn.</li> <li>Play continues until all answers are covered.</li> </ol>			



Closing
Review
Say:
Please recap what we did today.
Did we achieve our objectives?
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Ask the following three what questions:
What was your key learning for the day?
What opportunities might you have to do this same thing in the "real world"?
What advice would you give to a "new" student getting ready to do this activity?
Reflection (Confirm, Tweak, Aha!)

- Ask students to think about what they did today in math.
- Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
- Ask them to comment on what they did today that was like something they had done before except in one particular way which was new to them. (Tweak)
- Ask them to comment on something (if anything) they have learned today that was brand new to them (Aha!)



### Factors in Common

17 and 34	12 and 32	2 and 28	3 and 6
20 and 80	3 and 18	5 and 10	4 and 8
4 and 32	7 and 64	18 and 27	10 and 20
15 and 36	25 and 65	28 and 35	16 and 32
8 and 28	6 and 14	4 and 14	6 and 12



### **Factors in Common**





Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Simplest Form Concentration 2
Focus:	Fractions—Simplest Form

Materials:	
White boards	Vocabulary Notebooks
Crayolas	decks of cards
Socks	Simplest Form Cards and Answers in separate pdf file

### Opening

State the objective

Today we are going to practice using our math vocabulary and skills in working with fractions.

### Gain prior knowledge by asking students the following questions

What do you know about fractions? How is a fraction related to a whole? What is the top number in a fraction called? What is the bottom number of a fraction called? How do those words make sense—can you think about similar words and how they apply?

What are some strategies that you use when you are trying to figure out how to solve a mathematics problem? How can you tell that you are on the right track for solving the problem?

Content (the "Meat")	
Problem of the Day	*Activity → Teachable Moment(s) <i>throughout</i>
reddie is planting flowers. He is going to plant 19 rows of flowers. Each row will have 13 plants in it. How many plants does Freddie need to purchase? How do you know?	During the lesson check in with students repeatedly.
Fact Practice Draw!	Check in about what is happening and what they are thinking.
<ol> <li>Divide students into pairs and give each pair a deck of cards</li> <li>Remove the face cards and jokers from the deck of cards.</li> </ol>	Take advantage of any teachable moments.
<ol> <li>Shuffle the deck.</li> <li>Decide who will go first.</li> <li>First player draws two cards.</li> <li>Student multiplies the cards.</li> <li>Student writes his/her problem on the white board, writing a complete number sentence.</li> <li>Students take turns drawing and creating problems.</li> </ol>	Stop the class and focus on a student's key learning or understanding. Ask open- ended questions to determine what the rest of the group is thinking.
	Engage students in a "teach to learn", have the student become the teacher.



Math Vocabulary		It is important to review
Word for Today: simplest form Description: The term simplest form refers to the process of reducing a fraction into the simplest way of saying it. For example, why would you say that you ate 5/10 of a pizza when it would be clearer to say that you ate ½ of the pizza. It makes it easier to simplify a fraction when you understand common factors. To simplify a fraction you can divide both the numerator and the denominator by the same number. Simplifying a fraction also requires that you understand equivalent fractions, two that are equal. Ultimately when you find the simplest form you are identifying at least 2 equivalent fractions. Have students complete his/her Vocabulary Notebook.		academic math vocabulary often throughout the day. Complete the Vocabulary notebook for each word. When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation). Vocabulary Notebooks can be made from ½ of a
New Word	My Description	composition book.
simplest form	simplest form is the easiest way to understand a fraction	
Personal Connection	Drawing	
The simplest form of $\frac{17}{51}$ is $\frac{1}{3}$ .	$\frac{17}{51} = \frac{1}{3}$	
Acti	vity	Focus on having young
Simplest Form Concentrations Materials: Simplest Form Cards, Simplest Form Answer Cards, Answer Sheet Directions: 1. Group students in pairs		people "compete" in pairs or small groups. Once a game is mastered you can utilize it in the "When Homework Is Complete" center.
<ol> <li>Students in pairs.</li> <li>Students place the Simplest Form Cards in a 3 x 5 grid, face down.</li> <li>Place the Simplest Form Answer Cards in a 3 x 5 grid, face down next to the first grid you made.</li> </ol>		
4. Player 1 flips 2 cards, one from each grid. If the cards are a match, an improper fraction and a simplest form fraction that are equivalent, player keeps both cards and draws again		
<ol> <li>If player does not find a match, he/she flips the cards back over and Player 2 takes his/her turn.</li> </ol>		



# Closing Review Say: • • Please recap what we did today. • Did we achieve our objectives? Debrief Three Whats Ask the following three what questions: What was your key learning for the day? What opportunities might you have to do this same thing in the "real world"? What advice would you give to a "new" student getting ready to do this activity? Reflection (Confirm, Tweak, Aha!)

- Ask students to think about what they did today in math.
- Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
- Ask them to comment on what they did today that was like something they had done before except in one particular way which was new to them. (Tweak)
- Ask them to comment on something (if anything) they have learned today that was brand new to them. (Aha!)



Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Equivalent Fractions
Focus:	Equivalent Fractions

Materials:		
White boards	Vocabulary Notebooks	
Crayolas	dice	Fraction Cards and Fraction Answer Cards are in a separate file
Socks	decks of cards (jokers ar	nd face cards removed)

### Opening

State the objective

Today we are going to practice using our math vocabulary and skills working with fractions.

### Gain prior knowledge by asking students the following questions

What do you know about fractions? How is a fraction related to a whole? What is the top number in a fraction called? What is the bottom number of a fraction called? How do those words make sense—can you think about similar words and how they apply?

What are some strategies that you use when you are trying to figure out how to solve a mathematics problem? How can you tell that you are on the right track for solving the problem?

### Content (the "Meat")

Problem of the Day		*Activity → Teachable Moment(s) <i>throughout</i>		
Mesa Verde School had a fundraiser for the library. All of the 4 <sup>th</sup> and 5 <sup>th</sup> grade classrooms participated. The table shows how much money each classroom raised. Which class		During the lesson check in with students repeatedly.		
raised the least? Which class raised the most? Explain your answer.		Check in about what is		
Mr. Si	nith	\$1,683		happening and what they are thinking.
Ms. Jo Mr. Fr	iend	\$1,597	-	Take advantage of any
Mrs. L	anier	\$1,639		teachable moments.
Fact Practice		Stop the class and focus on a student's key learning or		
Spokes on a Wheel		understanding. Ask open-		
1. Divide students into pairs.		ended questions to		
2. On a white board, student draws a small circle with 9 spokes coming out of it (should look		determine what the rest of		
like a bicycle tire).		the group is thinking.		
3. Have students choose to put a 6, 7 or 8 in the center circle.		When possible, engage		
4. Student rolls two dice and adds the pips (dots).		students in a "teach to learn"		
5. Taking this total, student writes a math problem on one of the spokes (eg. 7 is in the circle		opportunity and have the		
	and students rolls a 3 and 5 which totals 8. The spoke equation would look like $7 \times 8 = 56$ . student become the teacher			student become the teacher.



6. Process continues until all spokes have a	an equation.	
Math VocabularyWord for Today: equivalent fractionsDescription: Equivalent fractions is a term which refers to 2 or more fractions that represent the same portion of the whole. For example, there are 4 quarters in a dollar, so each quarter represents 1 of the 4 or ¼ of a dollar. If you have 2 quarters, you have ½ of the quarters you need to equal a dollar. You could also have 1 50¢ piece. If you did, whether you have 2 quarters or 1 half dollar, you have the same amount. Two quarters and 1 50¢ piece are equivalent and they would be written: $\frac{2}{4} = \frac{1}{2}$ Students complete the Vocabulary Notebook Vocabulary Notebook Sample:		It is important to review academic math vocabulary often throughout the day. Complete the Vocabulary notebook for each word. When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation).
New Word	My Description	be made from ½ of a
equivalent fractions	fractions that represent the same amount, like $\frac{1}{3}$ and $\frac{2}{6}$	composition book.
Personal Connection	Drawing	
I will eat 1/3 of the candy.	$\frac{1}{3} = \frac{2}{6}$	
Activity Equivalent FractionsWhen determining whether or not fractions are equivalent you need to remember that what you do to the numerator must be done to the denominator. For example the following three fractions are equivalent. You can see that each time both the numerator and the denominator were multiplied by 2. $\frac{1}{2} = \frac{2}{4} = \frac{4}{8}$		Focus on having young people "compete" in pairs or small groups. Once a game is mastered you can utilize it in the "When Homework Is Complete" center.
If you were to reduce the order of the fractions because each could be divided by 2. For exa	s, you could tell that they were equivalent mple:	
$\frac{4}{8} = \frac{2}{2}$	$\frac{2}{4} = \frac{1}{2}$	
<ul> <li>Materials: Fraction cards, Fraction Answer Cards</li> <li>Directions: <ol> <li>Group students in pairs.</li> <li>Give each pair a set of materials.</li> <li>Turn all fraction cards face down.</li> <li>Arrange the Fraction Answer Cards face up in rows or a grid.</li> </ol> </li> <li>Player 1 draws a Fraction Card and locates an equivalent fraction in the Fraction Answer Cards</li> </ul>		

- 6. Player covers the correct answer with his/her card.
- 7. Player 2 repeats the action.
- 8. Game is over when all equivalents are covered.

	Closing
	Review
Say:	
• Please recap what we did today.	
<ul> <li>Did we achieve our objectives?</li> </ul>	
	Debrief
Three Whats	
Ask the following three what questions:	
What was your key learning for the day?	
What opportunities might you have to do this sa	me thing in the "real world"?
What advice would you give to a "new" student	getting ready to do this activity?

### Reflection (Confirm, Tweak, Aha!)

- Ask students to think about what they did today in math.
- Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
- Ask them to comment on what they did today that was like something they had done before except in one particular way which was new to them. (Tweak)
- Ask them to comment on something (if anything) they have learned today that was brand new to them.





Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Fraction Rewrite
Focus:	Fractions
FOCUS:	Fractions

White boards         Fraction cards (included in the plan)	
Crayolas Vocabulary Notebooks	
Socks Deck of cards	

### Opening

### State the objective

Today we are going to practice using our math vocabulary and skills with fractions.

### Gain prior knowledge by asking students the following questions

What do you know about fractions? How is a fraction related to a whole? What is the top number in a fraction called? What is the bottom number of a fraction called? How do those words make sense—can you think about similar words and how they apply?

What are some strategies that you use when you are trying to figure out how to solve a mathematics problem? How can you tell that you are on the right track for solving the problem?

### Content (the "Meat")

Problem of the Day	*Activity → Teachable Moment(s) <i>throughout</i>
Judy has 143 kiwis and peaches in total. If Judy has 67 kiwis how many more peaches than kiwis does she have? Explain your answer.	During the lesson check in with students repeatedly.
<ul> <li>Fact Practice</li> <li>Multiplication War <ul> <li>Divide students into pairs. Give each pair a deck of cards without face cards and jokers.</li> <li>Shuffle the deck and divide the cards evenly between the two players.</li> <li>On go, the players turn over the cards at the same time.</li> <li>Students multiply the 2 numbers that have been turned up.</li> <li>First person to give the answer either wins the cards because the answer is correct, or has to turn over 2 cards because he/she gave the wrong answer.</li> <li>At the end of round, students may reshuffle the pile of cards that they have.</li> </ul> </li> <li>Play can continue until one player has all cards or time has called.</li> </ul>	Check in about what is happening and what they are thinking. Take advantage of any teachable moments. Stop the class and focus on a student's key learning or understanding. Ask open- ended questions to determine what the rest of the group is thinking. Engage students in a "teach to learn", have the student become the teacher.



Math VocabularyWord for Today: fractionDescription: Fraction is a word that means part or portion of the whole. We might say that a person only knows "a fraction of the whole story", or that they are "eating only a fraction of the pizza". We would know by these words that the person does not know everything or is not eating pizza for one. In math, it is important to identify what part or portion or fraction is known. For example if there are 5 facts to know the whole truth and you know 2 of those facts, then you know 2/5 of the truth, 2 of the 5 facts you would need to know if you knew it all. Similarly if the pizza is cut into 8 pieces and you are eating 3 of those pieces, then you are eating 3/8 of the pizza, or 3 of the 8 possible pieces.Create an entry in your Vocabulary Notebook for the word probable. Vocabulary Notebook Sample:New Word		It is important to review academic math vocabulary often throughout the day. Complete the Vocabulary notebook for each word. When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation). Vocabulary Notebooks can be made from ½ of a composition book.
fraction	part of a whole thing, less than all	
Personal Connection	Drawing	
I am eating ½ of the pizza.		
Activity Fraction Rewrite If you went to the bakery and they had your favorite cake and you bought it and took it home, obviously if you got to eat the whole cake yourself, you would have more cake than if you had to share it with someone. If your best friend came over there would now be 2 of you to eat the cake. If you decided to share, you would cut the whole cake into 2 pieces and you would each get to eat 1 of those 2 pieces, or ½ of the cake. The top number, the numerator lets you know how many portions of the whole cake you are getting, while the bottom number, the denominator lets you know how many portions of the whole cake there are now. When you were eating the cake alone you had 1 portion of 1 whole cake or 1/1. If you had 3 more friends come over, you would now need to divide the whole cake into 5 pieces, one each for you, your best friend, and the 3 other friends. Each of you would get 1 of the 5 pieces or 1/5 of the cake. In the activity below, you are trying to decide which fraction represents the largest amount. To do that your first clue would be the denominator which answers the question, "how many portions did the whole get divided into"? If the numerator is 1 in both fractions, the smaller the denominator, the larger the portion for you. In other words, you have to share with fewer people so you each get more. However, it can get tricky when the numerator is NOT 1. For example, would you rather have ½ of a dollar or ¾ of a dollar? If you just look at the denominator, you might think that you would like to have the ½ dollar since you are sharing the dollar or ¾ of a dollar? Obviously ¾. In this case the dollar may have been divided or portioned into smaller pieces, but you got more of		Focus on having young people "compete" in pairs or small groups. Once a game is mastered you can utilize it in the "When Homework Is" center.



fraction, you have to look first at the denominator and then at the numerator before you make a decision. **Hint:** The closer the denominator and the numerator are to one another in value, the more of the whole thing you have.

**Materials:** Fraction cards, white board, crayolas (Cards are included in this lesson plan) **Directions:** 

- 1. Draw a card with three fractions on it.
- 2. Rearrange the fractions so they are in order from the least to the greatest by writing the order on the white board.
- 3. If answer is correct, player keeps the card. If not, card gets turned back and player two takes turn.
- 4. Game is over when all cards are completed.

Closing
Review
Say:
Please recap what we did today.
Did we achieve our objectives?
Debrief
Three Whats
Ask the following three what questions:
What was your key learning for the day?
What opportunities might you have to do this same thing in the "real world"?
What advice would you give to a "new" player getting ready to play this game so he/she could get all the blocks are completed.

### Reflection (Confirm, Tweak, Aha!)

- Ask students to think about what they did today in math.
- Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
- Ask them to comment on what they did today that was like something they had done before except in one particular way which was new to them. (Tweak)
- Ask them to comment on something (if anything) they have learned today that was brand new to them (Aha!)



### Fraction Rewrite

$\frac{1}{4}$ $\frac{1}{2}$ $\frac{5}{6}$	$\frac{9}{14}$ $\frac{4}{7}$ $\frac{3}{4}$	$\frac{3}{4}$ $\frac{2}{5}$ $\frac{11}{16}$	$\frac{1}{6}  \frac{1}{5}  \frac{2}{9}$
$\frac{3}{8}  \frac{3}{5}  \frac{7}{10}$	$\frac{1}{3}$ $\frac{2}{5}$ $\frac{1}{2}$	$\frac{6}{7}$ $\frac{2}{3}$ $\frac{5}{6}$	$\frac{1}{3}$ $\frac{7}{18}$ $\frac{5}{9}$
$     \frac{5}{8}  \frac{3}{4}  \frac{7}{16} $	$\frac{3}{4}$ $\frac{11}{16}$ $\frac{1}{2}$	$\frac{3}{8}  \frac{9}{10}  \frac{1}{4}$	$\frac{1}{5}$ $\frac{7}{12}$ $\frac{3}{10}$
$\frac{2}{3}$ $\frac{5}{7}$ $\frac{7}{9}$	$\frac{1}{8}$ $\frac{1}{7}$ $\frac{1}{2}$	$\frac{4}{5}$ $\frac{11}{12}$ $\frac{9}{10}$	$\frac{3}{7}$ $\frac{1}{2}$ $\frac{3}{4}$
$\frac{2}{3}  \frac{4}{5}  \frac{3}{10}$	$\frac{1}{3}$ $\frac{2}{9}$ $\frac{1}{6}$	$\frac{7}{8}$ $\frac{2}{9}$ $\frac{1}{3}$	$\frac{2}{3}$ $\frac{1}{8}$ $\frac{1}{6}$



Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Fraction Rewrite 2
Focus:	Fractions

Materials:	
White boards	Decks of cards
Crayolas	Vocabulary Notebooks
Socks	Fraction Rewrite cards (from yesterday or included in today's plan

### Opening

State the objective

Today we are going to practice using our math vocabulary and skills with fractions.

### Gain prior knowledge by asking students the following questions

What do you know about fractions? How is a fraction related to a whole? What is the top number in a fraction called? What is the bottom number of a fraction called? How do those words make sense—can you think about similar words and how they apply?

What are some strategies that you use when you are trying to figure out how to solve a mathematics problem? How can you tell that you are on the right track for solving the problem?

### Content (the "Meat")

Problem of the Day	*Activity → Teachable Moment(s) <i>throughout</i>
Frank divides 537 by 7 and got 77. Is his answer correct? Explain your answer.	During the lesson check in
Fact Practice	with students repeatedly.
<ol> <li>Foreheader         <ol> <li>Divide students into trios. Give each trio a deck of cards without face cards and jokers.</li> <li>Shuffle the deck and give all of the cards to the referee who will be "judging" the contest.</li> <li>On go, players are each handed a card by the referee and WITHOUT looking, put the card face out on his/her forehead.</li> <li>The referee multiplies the two numbers together and states the answer.</li> <li>Each player looks at the other person's exposed number and names his/her own number</li> <li>Person who wins (accuracy and time), collects both cards.</li> <li>Play continues until all cards are gone.</li> <li>Players can repeat play (if there is another time) with each other so each has an opportunity to be both a player and referee.</li> </ol> </li> </ol>	Check in about what is happening and what they are thinking. Take advantage of any teachable moments. Stop the class and focus on a student's key learning or understanding. Ask open- ended questions to determine what the rest of the group is thinking. When possible, engage students in a "teach to learn" opportunity and have the
	opportunity and have student become the

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Math Vocabulary Word for today: fraction Description: Fraction is a word that means part or portion of the whole. We might say that a person only knows "a fraction of the whole story", or that they are "eating only a fraction of the pizza". We would know by these words that the person does not know everything or is not eating pizza for one. Ask students to give real word examples of the word "fraction". Review the entry in your Vocabulary Notebook for the word: "fraction". Do you need to edit or add to this entry?		It is important to review academic math vocabulary often throughout the day. Complete the Vocabulary notebook for each word. When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation)
New Word	My Description	Vocabulary Notebooks can
	My Description	be made from ½ of a
fraction	part of a whole thing, a piece	composition book.
Personal Connection	Drawing	
	g	
I ate ½ of the pizza. I ate 4 of the 8 pizzas.		
Acti	vitv	Focus on having young
Fraction	Rewrite	people "compete" in pairs or
<b>Review</b> with students the information from yesterday. Have them play the same game as yesterday after reviewing the purpose of the game. Have students partner with someone they did not play the game with yesterday.		small groups. Once a game is mastered you can utilize it in the "When Homework Is Complete" center
Materials: Fraction cards, white board, crayo Directions:	las (Cards are included in this lesson plan)	
1. Draw a card with three fractions on it		
<ol> <li>Rearrange the fractions so they are in order from the least to the greatest by writing the order on the white board.</li> </ol>		
3. If answer is correct, player keeps the car	d. If not, card gets turned back and player	
two takes turn.	ad .	
1. Game is over when all cards are complet	eu.	



# Closing Review Say: • • Please recap what we did today. • Did we achieve our objectives? Debrief Three Whats Ask the following three what questions: What was your key learning for the day? What opportunities might you have to do this same thing in the "real world"? What advice would you give to a "new" student getting ready to do this activity? Reflection (Confirm, Tweak, Aha!)

- Ask students to think about what they did today in math.
- Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
- Ask them to comment on what they did today that was like something they had done before except in one particular way which was new to them. (Tweak)
- Ask them to comment on something (if anything) they have learned today that was brand new to them (Aha!)



### Fraction Rewrite

$\frac{1}{4}$ $\frac{1}{2}$ $\frac{5}{6}$	$\frac{9}{14}$ $\frac{4}{7}$ $\frac{3}{4}$	$\frac{3}{4}$ $\frac{2}{5}$ $\frac{11}{16}$	$\frac{1}{6}$ $\frac{1}{5}$ $\frac{2}{9}$
$\frac{3}{8}  \frac{3}{5}  \frac{7}{10}$	$\frac{1}{3}$ $\frac{2}{5}$ $\frac{1}{2}$	$\frac{6}{7}$ $\frac{2}{3}$ $\frac{5}{6}$	$\frac{1}{3}$ $\frac{7}{18}$ $\frac{5}{9}$
$     \frac{5}{8}  \frac{3}{4}  \frac{7}{16} $	$\frac{3}{4}$ $\frac{11}{16}$ $\frac{1}{2}$	$\frac{3}{8}  \frac{9}{10}  \frac{1}{4}$	$\frac{1}{5}$ $\frac{7}{12}$ $\frac{3}{10}$
$\frac{2}{3}$ $\frac{5}{7}$ $\frac{7}{9}$	$ \frac{1}{8}  \frac{1}{7}  \frac{1}{2} $	$\frac{4}{5}$ $\frac{11}{12}$ $\frac{9}{10}$	$\frac{3}{7}$ $\frac{1}{2}$ $\frac{3}{4}$
$\frac{2}{3}  \frac{4}{5}  \frac{3}{10}$	$\frac{1}{3}$ $\frac{2}{9}$ $\frac{1}{6}$	$ \frac{7}{8} $ $ \frac{2}{9} $ $ \frac{1}{3} $	$\frac{2}{3}$ $\frac{1}{8}$ $\frac{1}{6}$



Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Equivalent Fractions 2
Focus:	Equivalent Fractions

### Materials:

White boards Cravolas

Socks

Vocabulary Notebooks Dice

### Opening

### State the objective

Today we are going to practice using our math vocabulary and skills with fractions.

### Gain prior knowledge by asking students the following questions

What do you know about fractions? How is a fraction related to a whole? What is the top number in a fraction called? What is the bottom number of a fraction called? How do those words make sense-can you think about similar words and how they apply?

What are some strategies that you use when you are trying to figure out how to solve a mathematics problem? How can you tell that you are on the right track for solving the problem?

### Content (the "Meat")

### Problem of the Day

If the weight of a marble is measured in ounces and the weight of a textbook is measured in pounds, how would you measure a baseball? Explain your answer.

### Fact Practice

### Multiplication Ladder

- 1. Give each student a white board (include marker or crayola)
- 2. Student should draw a ladder like the one below



During the lesson check in with students repeatedly. Check in about what is happening and what they are thinking. Take advantage of any teachable moments Stop the class and focus on a student's key learning or understanding. Ask openended questions to determine what the rest of the group is thinking When possible, engage students in a "teach to learn" opportunity and have the student become the teacher

\*Activity  $\rightarrow$  Teachable Moment(s) throughout

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3. Have student roll 2 dice, total the pips and then multiply that number times each of the numbers in the ladder, writing the total to the right of the number		
Math VocabularyWord for today: equivalent fractionsDescription: Ask students which they would rather have:• $\frac{3}{4}$ of a pizza or 5/8 of the pizza?• $5/10$ of a dollar or $50$ ¢?• $2/3$ of a box of candy or 7/9 if the same boxHelp students work through these and come up with other questions.Review entry in your Vocabulary Notebook for the term "equivalent fraction". Edit ifnecessary.Vocabulary Notebook Sample:New Wordequivalent fractions2 or more fractions that represent the same amount, equal fractionsPersonal ConnectionThe sandwich is cut into 4 pieces. If I eat $\frac{1}{2}$ . $\frac{1}{2}$ .		It is important to review academic math vocabulary often throughout the day Complete the Vocabulary notebook for each word. When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation) Vocabulary Notebooks can be made from ½ of a composition book
Act Equivalen Materials: Fraction Cards, Fraction Answer ( Directions: 1. Review the game that students played you 2. Have students share how to play the gar 3. Have students play the game with new p	ivity t Fractions Cards esterday. me. vartners today.	Focus on having young people "compete" in pairs or small groups. Once a game is mastered you can utilize it in the "When Homework Is Complete" center



Closing	
Review	
Say:	
Please recap what we did today.	
Did we achieve our objectives?	
Debrief	
Three Whats	
Ask the following three what questions:	
What was your key learning for the day?	
What opportunities might you have to do this same thing in the "real world"?	
What advice would you give to a "new" student getting ready to do this activity?	
Reflection (Confirm, Tweak, Aha!)	

- Ask students to think about what they did today in math.
- Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
- Ask them to comment on what they did today that was like something they had done before except in one particular way which was new to them. (Tweak)
- Ask them to comment on something (if anything) they have learned today that was brand new to them (Aha!)



Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Student Activity Choice
Focus:	Review

### Materials:

Game Boards for games below.

Opening

State the objective

Today we are going to have fun playing games that we learned this week.

Content (the "Meat")

### Activity

Today students will select the game from the week that they most want to play. Pairs can select different games. Game choices are:

- Improper to Mixed
- Simplest Form Concentration
- Factors in Common
- Equivalent Fractions
- Fraction Rewrite

### Closing

### Review

Say:

- Please recap what we did today.
- Did we achieve our objectives?

### Reflection (Confirm, Tweak, Aha!)

- Ask students to think about what they did today in math.
- Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
- Ask them to comment on what they did today that was like something they had done before except in one particular way which was new to them. (Tweak)
- Ask them to comment on something (if anything) they have learned today that was brand new to them.