| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ 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 <br> 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 make a frequency table. What will it look like? | *Activity $\rightarrow$ Teachable Moment(s) throughout <br> During the lesson check in with students repeatedly. <br> Check in about what is happening and what they are thinking. |
| Fact Practice <br> Fact Family <br> 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: $\begin{aligned} & 9 \times 4=36 \\ & 4 \times 9=36 \\ & 36 \div 4=9 \\ & 36 \div 9=4 \end{aligned}$ <br> 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. | Take advantage of any teachable moments. <br> 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. <br> When possible, engage students in a "teach to learn" opportunity and have the student become the teacher. |


| Math Vocabulary |
| :--- |
| Word for Today: improper fraction |
| Description: Improper fraction is a term that refers to a fraction that has a numerator that is |
| larger or equal to the denominator. For example: |
| $\qquad \frac{9}{7}$ |$\frac{9}{4} \quad \frac{13}{6}$.

are all examples of improper fractions. The first represent 1 whole and $2 / 7$ of a second; 9/4 represents 2 whole and $1 / 4$ left over, and the final fraction $13 / 6$ represent 2 whole and $1 / 6$ of a third.
To change an improper fraction into a "proper" fraction you divide the numerator by the denominator and express the remainder as a fraction.

Create and entry in your Vocabulary Notebook for the term "improper fraction".
Vocabulary Notebook Sample:

| New Word <br> improper fraction | My Description <br> A fraction that has a numerator larger than the <br> denominator |
| :--- | :--- |
| Personal Connection <br> We had $\frac{14}{8}$ of the pie left over. | Drawing |

## Activity <br> Improper to Mixed

Materials: Improper Fraction Cards, Improper Fraction Answer Cards, Improper Fraction Answer Key

## Directions:

1. Group students in pairs.
2. Give each pair a set of materials.
3. Place Improper Fraction Answer Cards face up between the players.
4. Place Improper Fraction Cards face down in between students.
5. Player 1 draws a card that is an improper fraction.
6. Player 1 selects the Improper Fraction Answer Card that represents an equivalent.
7. If the answer is correct, Player 1 keeps both cards, if not, he/she returns card to the pile.
8. Player 2 then takes his/her turn.
9. Game is over when all cards are off the board.

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 $1 / 2$ of a composition book.

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.


## 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Improper to Mixed |
| Focus: | Improper to Mixed Fractions |

## Materials:

White boards Vocabulary Notebooks
Crayolas Decks of cards
Socks

| Opening |
| :--- |
| $\quad$ 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

Look at the number written in expanded notation. Write a 7 digit number with these numbers.
$\begin{array}{lllllll}50 & 3,000 & 7,000,000 & 80,000 & 6 & 200 & 900,000\end{array}$
Fact Practice
Multiples
Multiplication facts are learned by recognizing the multiples of any given number. In this practice you will be determining the multiples of randomly generated numbers. You will need a chart and crayolas (150 chart).

1. Roll one or two dice (if you roll two add the numbers together to determine the factor in the fact practice)
2. Mark all multiples of the number and then pass off to the next person.
3. Player may mark the same number.

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

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.

## Math Vocabulary

## Word for Today: improper fraction

Description: Improper fraction is a term that refers to a fraction that has a numerator that is larger or equal to the denominator. For example:

$$
\begin{array}{lll}
\frac{9}{7} & \frac{9}{4} & \frac{13}{6}
\end{array}
$$

are all examples of improper fractions. The first represent 1 whole and $2 / 7$ of a second; 9/4 represents 2 whole and $1 / 4$ left over, and the final fraction $13 / 6$ represent 2 whole and $1 / 6$ of a third.
To change an improper fraction into a "proper" fraction you divide the numerator by the denominator and express the remainder as a fraction.
Review the entry in your Vocabulary Notebook for the term "improper fraction" with a peer. Edit as necessary.
Vocabulary Notebook Sample:

| New Word |  |
| :--- | :--- |
| Improper fraction | My Description <br> A fraction that has a larger numerator than <br> denominator |
| Personal Connection | Drawing |
| We bought 5 pizzas for the group. Each <br> pizza had 10 pieces. When lunch was over <br> we had $\frac{13}{10}$ left over after lunch. |  |

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 $1 / 2$ of a composition book.

## Activity <br> 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.

Materials: Improper Fraction Cards, Improper Fraction Answer Cards, Improper Fraction Answer Key

## Directions:

1. Group students in pairs.
2. Give each pair a set of materials.
3. Place Improper Fraction Answer Cards face up between the players.
4. Place Improper Fraction Cards face down in between students.
5. Player 1 draws a card that is an improper fraction.
6. Player 1 selects the Improper Fraction Answer Card that represents an equivalent.
7. If the answer is correct, Player 1 keeps both cards, if not, he/she returns card to the pile.
8. Player 2 then takes his/her turn.
9. Game is over when all cards are off the board.

## 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Simplest Form Concentration |
| Focus: | Fractions |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
Double 9 Dominoes
Simplest Form Cards and Answer Cards—own pdf file

| Opening |
| :--- |
| $\quad$ 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

Is this statement true? All squares are rectangles but all rectangles are not square. Tell why you think what you think.


## 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


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

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.

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 $1 / 2$ 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:

| New Word | My Description <br> simplest form <br> when you have a part of a whole that will be <br> the easiest for you to understand, $1 / 2$ instead of <br> $\frac{26}{52}$ |
| :--- | :--- |
| Personal Connection <br> I have $1 / 2$ of the money that is on the <br> table. It is worth $\$ 3.50$. | Drawing |

## Activity <br> Simplest Form Concentration

Materials: Fraction Cards—each page a different color (ex. blue and yellow cardstock). One set of cards will be an improper fraction and the second set of cards will be the simplest form.
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.

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 $1 / 2$ of a composition book.

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.


## 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!)

Consult 4 Kids Lesson Plans

## Double 9 Dominoes




|  | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |  |  |
| $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
| $\bullet$ | $\bullet$ |  |  |  |  |  |
| $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
| $\bullet$ | $\bullet$ |  |  |  |  |  |





| $\bigcirc$ | $\begin{array}{ll} 0 & 0 \\ 0 & 0 \end{array}$ | $0^{0}{ }^{0}$ | $\bullet$ | $\bullet \bullet$ |
| :---: | :---: | :---: | :---: | :---: |
| $\bigcirc$ | - | -00 | -00 | -00 |
| - 0 | -0 | -00 | -00 | -00 |
| - - 0 | -0 0 | 000 | -0. | -0 |


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Factors In Common |
| Focus: | Fractions--Factors |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks two, 12-sided dice for each pair Product Hunt Work Sheet

Materials from yesterday (included in 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 <br> To make chocolate chip cookies you need to have $1 \frac{1}{2}$ cups of white sugar and $3 / 4$ cup of brown sugar. How much sugar do you need to have in all? How do you know your answer is correct? | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in with students repeatedly. <br> Check in about what is happening and what they are |
| Fact Practice <br> Product Hunt <br> 1. Divide students into pairs <br> 2. Each pair needs a Product Hunt sheet (attached to this lesson plans ) <br> 3. Player rolls two, 12 -sided dice. <br> 4. Player multiplies the two numbers. <br> 5. If the product is not yet covered, then player may cover the product. <br> 6. Next player repeats steps 1-3. <br> 7. Winner is determined by who has the most numbers covered. | thinking. <br> Take advantage of any teachable moments <br> 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 <br> When possible, engage students in a "teach to learn" opportunity and have the student become the teacher |


| $\quad$ Math Vocabulary |
| :--- |
| Word for Today: greatest common factor |
| Description: Review the term greatest common factor from yesterday. Ask students to |
| identify the "factors" in each of the following pairs of numbers and then identifying the common |
| 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 in pairs, discussing the word, making any additions or changes.

Vocabulary Notebook Sample:

| New Word |  |
| :--- | :--- |
| greatest common factor | My Description <br> $12=1,2,3,4,6$, and 12 <br> $15=1,3,5,15$ <br> greatest common factor is 3 |
| Personal Connection <br> The greatest common factor for 12 and 15 is <br> 3. | Drawing |

## Activity <br> 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.

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 $1 / 2$ of a composition book

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


## 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!)

Consult 4 Kids Lesson Plans
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 |

Consult 4 Kids Lesson Plans
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 |

Consult 4 Kids Lesson Plans

Factors in Common


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Factors In Common 2 |
| Focus: | Multiplication--Factors |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
Cards
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 <br> 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. | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in with students repeatedly. <br> Check in about what is |
| Fact Practice <br> Target <br> 1. Divide students into trios. <br> 2. Each trio needs a deck of cards without face cards and jokers. <br> 3. Place the cards face up in a TicTac Toe Grid. <br> 4. Turn up a $10^{\text {th }}$ card which will be to the side and becomes the target number (aces count as 1) <br> 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. <br> 6. Each card may be used only one time in the equation. <br> 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. | happening and what they are thinking. <br> Take advantage of any teachable moments <br> 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 |




## 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!)

Consult 4 Kids Lesson Plans
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 |

Consult 4 Kids Lesson Plans

Factors in Common


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Simplest Form Concentration 2 |
| Focus: | Fractions-Simplest Form |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
decks of cards
Simplest Form Cards and Answers in separate pdf file

| Opening |
| :--- |
| $\quad$ 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") <br> Problem of the Day

Freddie 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?

## Fact Practice <br> Draw!

1. Divide students into pairs and give each pair a deck of cards
2. Remove the face cards and jokers from the deck of cards.
3. Shuffle the deck.
4. Decide who will go first.
5. First player draws two cards.
6. Student multiplies the cards.
7. Student writes his/her problem on the white board, writing a complete number sentence.
8. Students take turns drawing and creating problems.

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

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.
Engage students in a "teach to learn", have the student become the teacher.

| Math Vocabulary |  | It is important to review academic math vocabulary often throughout the day. |
| :---: | :---: | :---: |
| Word for Today: simplest form |  |  |
| Description: The term simplest form refers to the process of reducing a fraction into the |  |  |
| it would be clearer to say that you ate $1 / 2$ of the pizza. It makes it easier to simplify a fraction |  | 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). |
| 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. |  |  |
| Vocabulary Notebook Sample: |  | be made from $1 / 2$ of a composition book. |
| New Word  <br>  simplest form | My Description |  |
|  | simplest form is the easiest way to understand a fraction |  |
| Personal Connection | Drawing |  |
| The simplest form of $\frac{17}{51}$ is $\frac{1}{3}$. | $\frac{17}{51}=\frac{1}{3}$ |  |
| Activity |  | 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. |
| Simplest Form Concentrations |  |  |
| Materials: Simplest Form Cards, Simplest Form Answer Cards, Answer Sheet |  |  |
| Directions: |  |  |
| 1. Group students in pairs. |  |  |
| 2. Students place the Simplest Form Cards in a $3 \times 5$ grid, face down. |  |  |
| 3. Place the Simplest Form Answer Cards in a $3 \times 5$ grid, face down next to the first grid you made. |  |  |
| 4. Player 1 flips 2 cards, one from and a simplest form fraction that a again. | If the cards are a match, an improper fraction alent, player keeps both cards and draws |  |
| 5. If player does not find a match, he his/her turn. | the cards back over and Player 2 takes |  |



## 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Equivalent Fractions |
| Focus: | Equivalent Fractions |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
dice
Fraction Cards and Fraction Answer Cards are in a separate file decks of cards (jokers and face cards removed)

| Opening |
| :--- |
| $\quad$ 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") <br> Problem of the Day

Mesa Verde School had a fundraiser for the library. All of the $4^{\text {th }}$ and $5^{\text {th }}$ grade classrooms participated. The table shows how much money each classroom raised. Which class raised the least? Which class raised the most? Explain your answer.

| Mr. Smith | $\$ 1,683$ |
| :--- | :--- |
| Ms. Jones | $\$ 1,597$ |
| Mr. Friend | $\$ 1,694$ |
| Mrs. Lanier | $\$ 1,639$ |

## Fact Practice

## Spokes on a Wheel

1. Divide students into pairs.
2. On a white board, student draws a small circle with 9 spokes coming out of it (should look like a bicycle tire).
3. Have students choose to put a 6, 7 or 8 in the center circle.
4. Student rolls two dice and adds the pips (dots).
5. Taking this total, student writes a math problem on one of the spokes (eg. 7 is in the circle and students rolls a 3 and 5 which totals 8 . The spoke equation would look like $7 \times 8=56$.

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

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.


$$
\frac{1}{2}=\frac{2}{4}=\frac{4}{8}
$$

If you were to reduce the order of the fractions, you could tell that they were equivalent because each could be divided by 2 . For example:

$$
\frac{4}{8}=\frac{2}{4}=\frac{1}{2}
$$

## Materials: Fraction cards, Fraction Answer Cards <br> Directions:

1. Group students in pairs.
2. Give each pair a set of materials.
3. Turn all fraction cards face down.
4. Arrange the Fraction Answer Cards face up in rows or a grid.
5. Player 1 draws a Fraction Card and locates an equivalent fraction in the Fraction Answer Cards.
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.


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: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Fraction Rewrite |
| Focus: | Fractions |

## Materials:

White boards
Crayolas
Socks

Fraction cards (included in the plan)
Vocabulary Notebooks
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 <br> 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. | *Activity $\rightarrow$ Teachable Moment(s) throughout During the lesson check in with students repeatedly. |
| Fact Practice <br> Multiplication War <br> - Divide students into pairs. Give each pair a deck of cards without face cards and jokers. <br> - Shuffle the deck and divide the cards evenly between the two players. <br> - On go, the players turn over the cards at the same time. <br> - Students multiply the 2 numbers that have been turned up. <br> - 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. <br> - At the end of round, students may reshuffle the pile of cards that they have. <br> - Play can continue until one player has all cards or time has called. | Check in about what is happening and what they are thinking. <br> Take advantage of any teachable moments. <br> 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. <br> Engage students in a "teach to learn", have the student become the teacher. |


| 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. 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 My Description <br> fraction part of a whole thing, less than all <br> Personal Connection I am eating $1 / 2$ of the pizza. <br> $\because \because \%$  |

$\longrightarrow$

## Activity <br> 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 $1 / 2$ 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 $1 / 2$ of a dollar or $3 / 4$ of a dollar? If you just look at the denominator, you might think that you would like to have the $1 / 2$ dollar since you are sharing the dollar with only one other person. Half of a dollar is two quarters. $3 / 4$ of a dollar is 3 quarters ( 3 of the 4 it takes to make a whole dollar). The question is would you rather have $1 / 2$ of a dollar or $3 / 4$ of a dollar? Obviously $3 / 4$. In this case the dollar may have been divided or portioned into smaller pieces, but you got more of the pieces. When deciding whether or not the fraction is greater, less, or equal to another

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 $1 / 2$ of a composition book.

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.


## 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Fraction Rewrite 2 |
| Focus: | Fractions |

## Materials:

White boards
Crayolas
Socks

Decks of cards
Vocabulary Notebooks
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 <br> Frank divides 537 by 7 and got 77 . Is his answer correct? Explain your answer. | *Activity $\rightarrow$ Teachable Moment(s) throughout During the lesson check in |
| Fact Practice <br> Foreheader <br> 1. Divide students into trios. Give each trio a deck of cards without face cards and jokers. <br> 2. Shuffle the deck and give all of the cards to the referee who will be "judging" the contest. <br> 3. On go, players are each handed a card by the referee and WITHOUT looking, put the card face out on his/her forehead. <br> 4. The referee multiplies the two numbers together and states the answer. <br> 5. Each player looks at the other person's exposed number and names his/her own number <br> 6. Person who wins (accuracy and time), collects both cards. <br> 7. Play continues until all cards are gone. <br> 8. Players can repeat play (if there is another time) with each other so each has an opportunity to be both a player and referee. | with students repeatedly. <br> Check in about what is happening and what they are thinking. <br> Take advantage of any teachable moments. <br> 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. <br> When possible, engage students in a "teach to learn" opportunity and have the student become the teacher. |



Vocabulary Notebook Sample:

| New Word <br> fraction | My Description part of a whole thing, a piece |
| :---: | :---: |
| Personal Connection <br> I ate $1 / 2$ of the pizza. I ate 4 of the 8 pizzas. | Drawing |

## Activity <br> Fraction Rewrite

Review 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.

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.

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 $1 / 2$ of a composition book.

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


## 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Equivalent Fractions 2 |
| Focus: | Equivalent Fractions |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
Dice
$\qquad$

## 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") <br> 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


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

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

| 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 Vocabulary <br> Word for today: equivalent fractions <br> Description: Ask students which they would rather have: <br> - $3 / 4$ of a pizza or $5 / 8$ of the pizza? <br> - $5 / 10$ of a dollar or $50 \$$ ? <br> - $2 / 3$ of a box of candy or $7 / 9$ if the same box <br> Help students work through these and come up with other questions. <br> Review entry in your Vocabulary Notebook for the term "equivalent fraction". Edit if necessary. <br> Vocabulary Notebook Sample: | It is important to review academic math vocabulary often throughout the day Complete the Vocabulary notebook for each word. <br> 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 $1 / 2$ of a composition book |
| Activity Equivalent Fractions <br> Materials: Fraction Cards, Fraction Answer Cards Directions: <br> 1. Review the game that students played yesterday. <br> 2. Have students share how to play the game. <br> 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: <br> - Please recap what we did today. <br> - Did we achieve our objectives? |
| Debrief |
| Three Whats <br> Ask the following three what questions: <br> What was your key learning for the day? <br> What opportunities might you have to do this same thing in the "real world"? <br> 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: | $4^{\text {th }} \& 5^{\text {th }}$ 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 |
| Say: | Review |
| - 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.

