| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Adding Decimals |
| Focus: | Decimals |

## Materials:

White boards
Crayolas
Deck of cards

Activities at end of lesson plan
Vocabulary Notebooks
Socks (use as erasers)

Opening
State the objective
Today we are going to practice using our math vocabulary and skills with decimals.

## Gain prior knowledge by asking students the following questions

What do you know about decimals? When do we use decimals? The word decimal refers to 10. The place value of the spaces to the right of the decimal point begins with tenths. What comes next? How many places over would you find millionths? How do we use decimals to indicate money?

## Content (the "Meat")

## Problem of the Day

Look at the problem below. Solve the problem and then create a story to match the problem.

## $\$ 85.00-\$ 42.50=$

## Fact Practice

## Multiplication War

- Divide students into pairs. Give each pair a deck of cards without face cards and jokers.
- Shuffle the deck and divide the cards evenly between the two players
- On go, the players turn over the cards at the same time
- Students multiply the 2 numbers that have been turned up
- 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
- At the end of round, students may reshuffle the pile of cards that they have
- Play can continue until one player has all cards or time has called


## *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 "teaching to learn".

| Word for Today: decimal Vocabulary <br> Description: The term decimal refers to 10. We have a number system based on ten. Ten <br> stands for 10 single units, 100 is for 10 tens, or 100 units, and so on. The decimal point <br> followed by numbers indicates that those numbers are not representing a whole, but a <br> portion of the whole. They represent tenths (10 pieces), hundredths (100 pieces), <br> thousandths (1,000 pieces), and so on. Unlike fractions, decimals can only be divided into <br> ten and multiples of tens. <br> Enter the word decimal in your Vocabulary Notebook. Share your entry with a peer. <br> Vocabulary Notebook Sample: <br> New Word <br> decimal <br> Personal Connection is five-hundred sixty-seven <br> thousandths |
| :--- |

## Activity

## Addition of Decimals

In order to add decimals you only have to remember one step beyond normal addition.
That step is to align the decimal points. This means that you will be more successful if you write the problems vertically. For example if the problem is $34.25+1.234+5.4=$, we would begin by writing the problem vertically and line up the decimals. The problem would look like this:
34.250
1.234
5.400

You will notice that in order to line up the decimals you add zeros at the end so that all of the decimals have the same number of digits after the decimal point. The total of the problem above would be 39.884 and would be read 39 and eight hundred eighty-four thousandths. The AND represents the decimal point and the thousandths is used because the last digit is in the thousandths place.
Do several of these problems on the board with the students, bringing them up and having them work through the problem, focusing on getting the decimal points lined up before adding.

## Adding Decimals <br> Directions:

1. Divide students into pairs.
2. Give each pair a set of Adding Decimals cards and a game board.
3. Shuffle the cards and put them between the students.

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.
4. Player 1 draws a card, completes the problem, locates the answer on the game board and marks it with a token.
5. Player 2 continues in the same way.
6. Play is over when all answers are covered.

## 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!)

1. Ask students to think about what they did today in math.
2. Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
3. 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)
4. Ask them to comment on something (if anything) they have learned today that was brand new to them.
$4^{\text {th }}-5^{\text {th }}$ Grade Addition of Decimals

| $\begin{array}{r} 14.2 \\ +12.1 \\ \hline \end{array}$ | $\begin{array}{r} 18.7 \\ +10.5 \\ \hline \end{array}$ | $\begin{array}{r} 1.47 \\ +6.54 \\ \hline \end{array}$ | $\begin{array}{r} 12.3 \\ +15.2 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: |
| $\begin{array}{r} 4.15 \\ 6.20 \\ +8.63 \\ \hline \end{array}$ | $\begin{array}{r} 8.461 \\ .003 \\ +.212 \\ \hline \end{array}$ |  | $\begin{array}{r} 2.26 \\ 3.43 \\ +8.15 \\ \hline \end{array}$ |
| $\begin{array}{r} 16.6 \\ +13.8 \\ \hline \end{array}$ | $\begin{array}{r} 18.2 \\ +16.5 \\ \hline \end{array}$ | $\begin{array}{r} 15.2 \\ +13.0 \\ \hline \end{array}$ | $\begin{array}{r} 22.2 \\ +13.1 \\ \hline \end{array}$ |
| $12.95+5.06=$ | $13.8+6.9=$ | $46.02+75.67=$ | $16.3+35.7$ + |
| $8.16+15.204=$ | . $007+1.12=$ | $5.98+35.8=$ | . $491+.32=$ |
| $.491+.56=$ | $22.44+1.908=$ | $32.15+64.23=$ | $14.501+62.03=$ |

$4^{\text {th }}-5^{\text {th }}$ Grade Addition of Decimals Answers

| 26.3 | 29.2 | 8.01 | 27.5 |
| :---: | :---: | :---: | :---: |
| 18.98 | 8.676 | 83.371 | 13.84 |
| 30.4 | 34.7 | 28.2 | 35.3 |
| 18.01 | 20.7 | 121.69 | 52.0 |
| 23.364 | 1.127 | 41.78 | .811 |
| 1.051 | 24.348 | 96.38 | 76.531 |


| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Adding Decimals 2 |
| Focus: | Decimals |

## Materials:

White boards
Crayolas
Socks (for erasers)

Decks of cards
Vocabulary Notebooks
Activity at end of lesson plan

| Opening |
| :---: |
| State the objective |
| Today we are going to practice using our math vocabulary and skills with decimals. |

## Gain prior knowledge by asking students the following questions

What do you know about decimals? When do we use decimals? The word decimal refers to 10. The place value of the spaces to the right of the decimal point begins with tenths. What comes next? How many places over would you find millionths? How do we use decimals to indicate money?

## Content (the "Meat")

## Problem of the Day

You want to have your birthday party at Uncle Joe's Pizza Parlor. You are going to have 12 friends at your party. The birthday guest is free. If the cost is $\$ 5.25$ per person, what is the cost of this party? How do you know?

## Fact Practice

## Fore-header

1. Divide students into trios. Give each trio a deck of cards without face cards and jokers.
2. Shuffle the deck and give all of the cards to the referee who will be "judging" the contest
3. On go, players are each handed a card by the referee and WITHOUT looking, put the card face out on his/her forehead
4. The referee multiplies the two numbers together and states the answer
5. Each player looks at the other person's exposed number and names his/her own number
6. Person who wins (accuracy and time), collects both cards
7. Play continues until all cards are gone.
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

## Math Vocabulary

Word for Today: decimal

## *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 "teaching to learn".
It is important to review academic math vocabulary

Description: The term decimal refers to 10 . We have a number system based on ten. Ten stands for 10 single units, 100 is for 10 tens, or 100 units, and so on. The decimal point followed by numbers indicates that those numbers are not representing a whole, but a portion of the whole. They represent tenths (10 pieces), hundredths ( 100 pieces), thousandths (1,000 pieces), and so on. Unlike fractions, decimals can only be divided into ten and multiples of tens.
Review the word decimal and share it with a peer.

Vocabulary Notebook Sample:

| New Word | My Description |
| :--- | :--- |
| decimal |  |
| related to ten |  |
| Personal Connection <br> .567 is five-hundred sixty-seven <br> thousandths | Drawing |

## Activity

## Decimals

## Addition of Decimals

In order to add decimals you only have to remember one step beyond normal addition. That step is to align the decimal points. This means that you will be more successful if you write the problems vertically. For example if the problem is $34.25+1.234+5.4=$, we would begin by writing the problem vertically and line up the decimals. The problem would look like this:
34.250
1.234
5.400

You will notice that in order to line up the decimals you add zeros at the end so that all of the decimals have the same number of digits after the decimal point. The total of the problem above would be 39.884 and would be read 39 and eight hundred eighty-four thousandths. The AND represents the decimal point and the thousandths is used because the last digit is in the thousandths place.
Do several of these problems on the board with the students, bringing them up and having them work through the problem, focusing on getting the decimal points lined up before adding.

## Adding Decimals

## Directions:

1. Divide students into pairs.
2. Give each pair a set of Adding Decimals cards and a game board.
3. Shuffle the cards and put them between the students.
4. Player 1 draws a card, completes the problem, locates the answer on the game
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.
board and marks it with a token.
5. Player 2 continues in the same way.
6. Play is over when all answers are covered.

## Closing <br> 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!)

1. Ask students to think about what they did today in math.
2. Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
3. 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)
4. Ask them to comment on something (if anything) they have learned today that was brand new to them.
$4^{\text {th }}-5^{\text {th }}$ Grade Addition of Decimals

| $\begin{array}{r} 14.2 \\ +12.1 \\ \hline \end{array}$ | $\begin{array}{r} 18.7 \\ +10.5 \\ \hline \end{array}$ | $\begin{array}{r} 1.47 \\ +6.54 \\ \hline \end{array}$ | $\begin{array}{r} 12.3 \\ +15.2 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: |
| $\begin{array}{r} 4.15 \\ 6.20 \\ +8.63 \\ \hline \end{array}$ | $\begin{array}{r} 8.461 \\ .003 \\ +.212 \\ \hline \end{array}$ |  | $\begin{array}{r} 2.26 \\ 3.43 \\ +8.15 \\ \hline \end{array}$ |
| $\begin{array}{r} 16.6 \\ +13.8 \\ \hline \end{array}$ | $\begin{array}{r} 18.2 \\ +16.5 \\ \hline \end{array}$ | $\begin{array}{r} 15.2 \\ +13.0 \\ \hline \end{array}$ | $\begin{array}{r} 22.2 \\ +13.1 \\ \hline \end{array}$ |
| $12.95+5.06=$ | $13.8+6.9=$ | $46.02+75.67=$ | $16.3+35.7$ + |
| $8.16+15.204=$ | . $007+1.12=$ | $5.98+35.8=$ | . $491+.32=$ |
| $.491+.56=$ | $22.44+1.908=$ | $32.15+64.23=$ | $14.501+62.03=$ |

$4^{\text {th }}-5^{\text {th }}$ Grade Addition of Decimals Answers

| 26.3 | 29.2 | 8.01 | 27.5 |
| :---: | :---: | :---: | :---: |
| 18.98 | 8.676 | 83.371 | 13.84 |
| 30.4 | 34.7 | 28.2 | 35.3 |
| 18.01 | 20.7 | 121.69 | 52.0 |
| 23.364 | 1.127 | 41.78 | .811 |
| 1.051 | 24.348 | 96.38 | 76.531 |


| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Subtracting Decimals |
| Focus: | Decimals |

## Materials:

White boards
Crayolas
Dice

Vocabulary Notebooks
Socks (for erasers)
Activity at the end of the lesson plan

| 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 decimals? When do we use decimals? The word decimal refers to 10. The place value of the spaces to the right of the decimal point begins with tenths. What comes next? How many places over would you find tenthousandths? How do we use decimals to indicate money?

## Content (the "Meat")

## Problem of the Day

The Doggie Beauty Parlor bathes and grooms dogs every day. The chart below shows how many dogs were bathed each day. On average, how many dogs were bathed each day?

| Day | \# |
| :--- | :--- |
| Monday | 9 |
| Tuesday | 15 |
| Wednesday | 14 |
| Thursday | 8 |
| Friday | 12 |

## 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.
6. Process continues until all spokes have an equation

## Math Vocabulary

## Word for Today: align decimals

Description: The term "align decimals" refers to the process of lining up decimals if you are going to add or subtract. This means that the decimals must be right under one another in a vertical set-up of the problem. Aligned decimals look this way:
12.320
$-.546$
To align the decimals you can add zeros to the right of the last digit. Students should enter the term in Vocabulary Notebook.
Vocabulary Notebook Sample:

| New Word <br> align decimals | My Description <br> vertical alignment of the decimal point |
| :--- | :--- |
| Personal Connection <br> I will write the numbers .54 and .34 with <br> the decimals aligned so I can add. | Drawing |

## Activity <br> Decimals

## Subtraction of Decimals

In order to subtract decimals you only have to remember one step beyond normal subtraction. That step is to align the decimal points. This means that you will be more successful if you write the problems vertically. For example if the problem is $34.25-1.234$ =, we would begin by writing the problem vertically and lining up the decimals. The problem would look like this:
34.250
-1.234
You will notice that in order to line up the decimals you add zeros at the end so that all of the decimals have the same number of digits after the decimal point. The difference of the problem above would be 33.016 and would be read 33 and sixteen thousandths. The AND represents the decimal point and the thousandths is used because the last digit is in the thousandths place.
Do several of these problems on the board with the students, bringing them up and having them work through the problem, focusing on getting the decimal points lined up before subtracting.

## Subtracting Decimals

## Directions:

1. Divide students into pairs.
2. Give each pair a set of Subtracting Decimals cards and a game board.
3. Shuffle the cards and put them between the students.

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.
4. Player 1 draws a card, completes the problem, locates the answer on the game board and marks it with a token.
5. Player 2 continues in the same way.
6. Play is over when all answers are covered.

## 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!)

1. Ask students to think about what they did today in math.
2. Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
3. 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)
4. Ask them to comment on something (if anything) they have learned today that was brand new to them.
$4^{\text {th }}-5^{\text {th }}$ Grade Subtraction of Decimals

| $\begin{array}{r} 5.6 \\ -3.2 \\ \hline \end{array}$ | $\begin{array}{r} 10.4 \\ -8.2 \\ \hline \end{array}$ | $\begin{array}{r} 8.5 \\ -3.5 \\ \hline \end{array}$ | $\begin{array}{r} 7.8 \\ -4.5 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: |
| $\begin{array}{r} 9.3 \\ -7.5 \\ \hline \end{array}$ | $\begin{array}{r} 86.5 \\ -2.3 \\ \hline \end{array}$ | $\begin{array}{r} 6.3 \\ -4.1 \\ \hline \end{array}$ | $\begin{array}{r} 8.7 \\ -5.2 \\ \hline \end{array}$ |
| $\begin{array}{r} 326.7 \\ -42.8 \\ \hline \end{array}$ | $\begin{array}{r} 14.021 \\ -5.600 \\ \hline \end{array}$ | $\begin{aligned} & 1.589 \\ & -.756 \\ & \hline \end{aligned}$ | $\begin{array}{r} 16.882 \\ -9.300 \\ \hline \end{array}$ |
| 16.4-8.2 = | $75.4-3.1=$ | $7.6-3.2=$ | $26.7-2.5=$ |
| 19.5-. $001=$ | . $501-.332=$ | $42.642-10.35=$ | 28.4-4.62 |
| $33.45-15.4=$ | $18.5-9.5=$ | $14.9-3.2=$ | $1.978-1.682=$ |

$4^{\text {th }}-5^{\text {th }}$ Grade Subtraction of Decimals


| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Subtracting Decimals |
| Focus: | Decimals |


| Materials: |  |  |
| :--- | :--- | :--- |
| White boards | Vocabulary Notebooks | Dominoes |
| Crayolas | Dice |  |
| Activity at the end of the lesson plan | Socks (use for erasers) |  |


| 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 decimals? When do we use decimals? The word decimal refers to 10. The place value of the |
| spaces to the right of the decimal point begins with tenths. What comes next? How many places over would you find ten- |
| thousandths? How do we use decimals to indicate money? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> If apples are for sale at 6 for $\$ 1.08$. If Lily wants 15 apples, how much will had pay at this price? How did you get your answer? | *Activity $\rightarrow$ Teachable Moment(s) throughout During the lesson check in |
| Fact Practice <br> Multiplication Ladder <br> 1. Give each student a white board (include marker or crayola) <br> 2. Student should draw a ladder like the one below <br> 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 | 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. |


| Math Vocabulary |
| :--- |
| Word for Today: align decimals |
| Description: The term "align decimals" refers to the process of lining up decimals if you |
| are going to add or subtract. This means that the decimals must be right under one another |
| in a vertical set-up of the problem. Aligned decimals look this way: |

### 12.320

-. 546
To align the decimals you can add zeros to the right of the last digit. Students should enter the term in Vocabulary Notebook.
Vocabulary Notebook Sample:

| New Word | My Description |
| :--- | :--- |
| vertical alignment of the decimal point |  |

Activity
Decimals

## Subtraction of Decimals

In order to subtract decimals you only have to remember one step beyond normal subtraction. That step is to align the decimal points. This means that you will be more successful if you write the problems vertically. For example if the problem is 34.25-1.234 =, we would begin by writing the problem vertically and lining up the decimals. The problem would look like this:

### 34.250

-1.234
You will notice that in order to line up the decimals you add zeros at the end so that all of the decimals have the same number of digits after the decimal point. The difference of the problem above would be 33.016 and would be read 33 and sixteen thousandths. The AND represents the decimal point and the thousandths is used because the last digit is in the thousandths place.
Do several of these problems on the board with the students, bringing them up and having them work through the problem, focusing on getting the decimal points lined up before subtracting.

## Subtracting Decimals

## Directions:

1. Divide students into pairs.
2. Give each pair a set of Subtracting Decimals cards and a game board.
3. Shuffle the cards and put them between the students.
4. Player 1 draws a card, completes the problem, locates the answer on the game board and marks it with a token.

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.
5. Player 2 continues in the same way.
6. Play is over when all answers are covered.

| Closing |
| :---: |
| Review <br> Say: <br> - Please recap what we did today. <br> - Did we achieve our objectives? |
| Debrief <br> 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!)

1. Ask students to think about what they did today in math.
2. Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
3. 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)
4. Ask them to comment on something (if anything) they have learned today that was brand new to them.
$4^{\text {th }}-5^{\text {th }}$ Grade Subtraction of Decimals

| $\begin{array}{r} 5.6 \\ -3.2 \\ \hline \end{array}$ | $\begin{array}{r} 10.4 \\ -8.2 \\ \hline \end{array}$ | $\begin{array}{r} 8.5 \\ -3.5 \\ \hline \end{array}$ | $\begin{array}{r} 7.8 \\ -4.5 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: |
| $\begin{array}{r} 9.3 \\ -7.5 \\ \hline \end{array}$ | $\begin{array}{r} 86.5 \\ -2.3 \\ \hline \end{array}$ | $\begin{array}{r} 6.3 \\ -4.1 \\ \hline \end{array}$ | $\begin{array}{r} 8.7 \\ -5.2 \\ \hline \end{array}$ |
| $\begin{array}{r} 326.7 \\ -42.8 \\ \hline \end{array}$ | $\begin{array}{r} 14.021 \\ -5.600 \\ \hline \end{array}$ | $\begin{aligned} & 1.589 \\ & -.756 \\ & \hline \end{aligned}$ | $\begin{array}{r} 16.882 \\ -9.300 \\ \hline \end{array}$ |
| 16.4-8.2 = | $75.4-3.1=$ | $7.6-3.2=$ | $26.7-2.5=$ |
| 19.5-. $001=$ | . $501-.332=$ | $42.642-10.35=$ | 28.4-4.62 |
| $33.45-15.4=$ | $18.5-9.5=$ | $14.9-3.2=$ | $1.978-1.682=$ |

$4^{\text {th }}-5^{\text {th }}$ Grade Subtraction of Decimals


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

## Materials:

White boards
Crayolas
Activities at the end of this lesson plan

## Cards

Vocabulary Notebooks

Activities at the end of this lesson plan Socks (use as erasers)

| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills with decimals. |
| Gain prior knowledge by asking students the following questions |
| What do you know about multiplying decimals? What are the steps you would take to complete this task? After you have |
| finished multiplying, what is the final step you will take to correctly place the decimal point? What is the strategy you will |
| use? |

## Content (the "Meat")

## Problem of the Day

Ben needs to buy balloons for the dance. He can get them at the Party Store and pay $\$ 4.00$ for 10 balloons. At the Balloons Galore Store he can buy 3 for a $\$ 1.50$. At which store can he get the best deal? How do you know?

## Fact Practice

## Target

1. Divide students into trios
2. Each trio needs a deck of cards without face cards and jokers
3. Place the cards face up in a TicTac Toe Grid
4. Turn up a $10^{\text {th }}$ card which will be to the side and becomes the target number (aces count as 1 )
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
6. Each card may be used only one time in the equation
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 .
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

## *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 <br> Word for Today: to the right of decimal point |
| :--- |
| Description: The digits to the right of the decimal point represent tenths, hundredths, |
| thousandths, ten-thousandths, hundred-thousandths, millionths and so on. In a multiplication |
| problem, count the digits to the right of the decimal point in both factors and then in the |
| product, begin on the right and count that many places to the left and then place the decimal |
| point. Understanding the steps of multiplying decimals is important. |
| Students should review their Vocabulary Notebook and have an accurate and informative |
| entry for the term "mixed number". |
| Vocabulary Notebook Sample: |
| New Word <br> right of decimal point |
| Mersonal Connection |
| He will give her $\$ .75$. |

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.

Once you have multiplied by each of the digits and found the total, you then count the number of digits to the right. In the first factor: 3.24 there are two digits to the right. In the second factor there are 3 numbers to the right. This is a total of 4 numbers. Beginning with the 0 on the right, count five spaces to the left and drop in the decimal point.
Do several of these problems on the board with the students, bringing them up and having them work through the problem, focusing on the process of multiplication and then determining where the decimal point belongs when the product has been determined.

## Multiplying Decimals

## Directions:

1. Divide students into pairs.
2. Give each pair a set of Multiplying Decimals cards and a game board.
3. Shuffle the cards and put them between the students.
4. Player 1 draws a card, completes the problem, locates the answer on the game board and marks it with a token.
5. Player 2 continues in the same way.
6. Play is over when all answers are covered.


## Reflection (Confirm, Tweak, Aha!)

1. Ask students to think about what they did today in math.
2. Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
3. 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)
4. Ask them to comment on something (if anything) they have learned today that was brand new to them.

## Consult 4 Kids Lesson Plans

$4^{\text {th }}-5^{\text {th }}$ Grade Multiplication of Decimals

| $\begin{array}{r} 5.2 \\ \times 1.8 \\ \hline \end{array}$ | $\begin{array}{r} 10.5 \\ \times 6.6 \\ \hline \end{array}$ | $\begin{array}{r} 2.8 \\ \times 9.9 \\ \hline \end{array}$ | $\begin{array}{r} 2.2 \\ \times 4.4 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: |
| $\begin{array}{r} .12 \\ \times 3.7 \\ \hline \end{array}$ | $\begin{array}{r} 5.2 \\ \times .21 \\ \hline \end{array}$ | $\begin{array}{r} 1.3 \\ \times 1 \\ \hline \end{array}$ | $\begin{array}{r} 7.1 \\ \times .25 \\ \hline \end{array}$ |
| $\begin{array}{r} 7.54 \\ \times 2.77 \\ \hline \end{array}$ | $\begin{array}{r} 6.4 \\ \times 2.5 \\ \hline \end{array}$ | $\begin{array}{r} 16.2 \\ \times 1.1 \\ \hline \end{array}$ | $\begin{array}{r} 2 \\ \times 2.1 \\ \hline \end{array}$ |
| $5.4 \times 1.3=$ | $6.6 \times 1.5=$ | $4.44 \times .01=$ | . $34 \times .12=$ |
| $45.5 \times 4.6=$ | $6.1 \times 2.5=$ | $5.6 \times 7.4=$ | $33.1 \times .8=$ |
| $3.7 \times 9.4=$ | $62.5 \times .74=$ | . $089 \times 4.03=$ | $3.5 \times 87=$ |

$4^{\text {th }}-5^{\text {th }}$ Grade Multiplication of Decimals Answer Key

| 9.36 | 69.3 | 27.72 | 9.68 |
| ---: | ---: | ---: | ---: |
| .444 | 1.092 | 1.3 | 1.775 |
| 20.8858 | 16 | 17.82 | 4.2 |
| 7.02 | 9.9 | .0444 | .0408 |
| 209.3 | 15.25 | 40.88 | 26.48 |
| 34.78 | 46.250 | .35867 | 304.5 |
|  |  |  |  |


| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Multiplying Decimals 2 |
| Focus: | Decimals |

## Materials:

White boards
Crayolas
Product Hunt Work Sheet

Vocabulary Notebooks two, 12-sided dice for each pair Sock (for erasers)

| Opening |
| :---: |
| State the objective |
| Today we are going to practice using our math vocabulary and skills with decimals. |

## Gain prior knowledge by asking students the following questions

What do you know about multiplying decimals? What are the steps you would take to complete this task? After you have finished multiplying, what is the final step you will take to correctly place the decimal point? What is the strategy you will use?

## Content (the "Meat")

## Problem of the Day

If you cut a pan of brownies into 12 pieces and 8 of the pieces were eaten, what fraction of the brownies was not eaten? How do you know?

## 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.

| Math Vocabulary |
| :--- |
| Word for Today: to the right of decimal point |
| Description: The digits to the right of the decimal point represent tenths, hundredths, |
| thousandths, ten-thousandths, hundred-thousandths, millionths and so on. In a multiplication |
| problem, count the digits to the right of the decimal point in both factors and then in the |
| product, begin on the right and count that many places to the left and then place the decimal |
| point. Understanding the steps of multiplying decimals is important. |
| Students should review their Vocabulary Notebook and have an accurate and informative |
| entry for the term "right of decimal point". |
| Vocabulary Notebook Sample: |
| New Word  <br> right of decimal point My Description <br> He will give her $\$ .75$. digits to the right of the decimal are less than a |
| Personal Connection |

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.

Once you have multiplied by each of the digits and found the total, you then count the number of digits to the right. In the first factor: 3.24 there are two digits to the right. In the second factor there are 3 numbers to the right. This is a total of 4 numbers. Beginning with the 0 on the right, count five spaces to the left and drop in the decimal point.
Do several of these problems on the board with the students, bringing them up and having them work through the problem, focusing on the process of multiplication and then determining where the decimal point belongs when the product has been determined.

## Multiplying Decimals

## Directions:

x .245
1620
12960
64800
.79380

## Multiplication of Decimals

Multiplying decimals is exactly like multiplying in other numbers. You write the problems vertically and multiply beginning with the bottom right factor and continuing. You do not need to align the decimal points. When you have a product, you return to the two factors and count the number of digits to the right of the decimal in both factors. When you have that number, you begin counting right to left in the product and when you have counted the correct number of spaces, you place the decimal point in the product. For example, in the problem:

### 3.24

1. Divide students into pairs.
2. Give each pair a set of Multiplying Decimals cards and a game board.
3. Shuffle the cards and put them between the students.
4. Player 1 draws a card, completes the problem, locates the answer on the game board and marks it with a token.
5. Player 2 continues in the same way.
6. Play is over when all answers are covered.


## Reflection (Confirm, Tweak, Aha!)

1. Ask students to think about what they did today in math.
2. Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
3. 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)
4. Ask them to comment on something (if anything) they have learned today that was brand new to them.

## 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 |

$4^{\text {th }}-5^{\text {th }}$ Grade Multiplication of Decimals

| $\begin{array}{r} 5.2 \\ \times 1.8 \\ \hline \end{array}$ | $\begin{array}{r} 10.5 \\ \times 6.6 \\ \hline \end{array}$ | $\begin{array}{r} 2.8 \\ \times 9.9 \\ \hline \end{array}$ | $\begin{array}{r} 2.2 \\ \times 4.4 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: |
| $\begin{array}{r} .12 \\ \times 3.7 \\ \hline \end{array}$ | $\begin{array}{r} 5.2 \\ \times .21 \\ \hline \end{array}$ | $\begin{array}{r} 1.3 \\ \times 1 \\ \hline \end{array}$ | $\begin{array}{r} 7.1 \\ \times .25 \\ \hline \end{array}$ |
| $\begin{array}{r} 7.54 \\ \times 2.77 \\ \hline \end{array}$ | $\begin{array}{r} 6.4 \\ \times 2.5 \\ \hline \end{array}$ | $\begin{array}{r} 16.2 \\ \times 1.1 \\ \hline \end{array}$ | $\begin{array}{r} 2 \\ \times 2.1 \\ \hline \end{array}$ |
| $5.4 \times 1.3=$ | $6.6 \times 1.5=$ | $4.44 \times .01=$ | . $34 \times .12=$ |
| $45.5 \times 4.6=$ | $6.1 \times 2.5=$ | $5.6 \times 7.4=$ | $33.1 \times .8=$ |
| $3.7 \times 9.4=$ | $62.5 \times .74=$ | . $089 \times 4.03=$ | $3.5 \times 87=$ |

$4^{\text {th }}-5^{\text {th }}$ Grade Multiplication of Decimals Answer Key

| 9.36 | 69.3 | 27.72 | 9.68 |
| ---: | ---: | ---: | ---: |
| .444 | 1.092 | 1.3 | 1.775 |
| 20.8858 | 16 | 17.82 | 4.2 |
| 7.02 | 9.9 | .0444 | .0408 |
| 209.3 | 15.25 | 40.88 | 26.48 |
| 34.78 | 46.250 | .35867 | 304.5 |
|  |  |  |  |


| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Division of Decimals |
| Focus: | Decimals |

## Materials:

White boards Vocabulary Notebooks

Crayolas
Decks of cards
Activity at the end of the lesson plan
Socks (use as erasers)

| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills in working with decimals. |
| Gain prior knowledge by asking students the following questions |
| What do you know about decimals? What does a decimal indicate about the numbers to the right of it? What about those <br> to the left? When do you commonly use decimals? If you are reading a number with a decimal point aloud, what do you <br> say when you get to the decimal point? |

## Content (the "Meat")

Problem of the Day
Look at the word below. Write a fraction that shows the number of vowels in the word. Write a fraction that shows the number of consonants. How do you know that the answer is correct?

## superficial

## 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.

## Math Vocabulary

## Word of the day: decimal in the divisor

When you are dividing with decimals you must be sure that there is NO decimal in the divisor.
$* A c t i v i t y ~$
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. It is important to review academic math vocabulary often throughout the day.

In the problem $40 \div 5$, the 5 is the divisor. If there is a decimal in the divisor, you must move it to the right by however many places you have to the right. For example, if the divisor is .25, you would need to move the decimal two points to the right so it becomes 25 . When you move a decimal point in the divisor, you MUST move the same number of places to the right in the dividend. If the dividend is 4.25 , then it would become 425 . If the dividend was 42 without any decimal you would add two zeros so you could then move the decimal two places to the right. This is permissible.
Students should enter the term in Vocabulary Notebook.
Vocabulary Notebook Sample:
\(\left.\begin{array}{|l|l|}\hline New Word \& My Description <br>
decimal in the divisor <br>
move the decimal out of the divisor, <br>

matching the move in the dividend\end{array}\right]\)|  | Drawing |
| :--- | :--- |
| I will move the decimal two places in both <br> the divisor and the dividend. | 42. becomes 4200. In the dividend |

## Activity

## Division of Decimals

Dividing decimals requires that you write the problems in traditional form:

$$
5 \longdiv { 4 0 . 5 }
$$

Since there is no decimal point in the divisor, you simply divide normally (you would find that the quotient is 81). You then move the decimal straight up, in this case the answer becomes 8.1. If there was a decimal point in the divisor, it would be important for you to remove it by moving it to the right, and then doing the exact same number of moves inside of the dividend.

$$
. 5 \longdiv { 4 0 . 5 }
$$

becomes

$$
5 \longdiv { 4 0 5 . }
$$

and the answer would become 81. What this answer is telling you is that there are $811 / 2$ in 40.5.

Do several of these problems on the board with the students, bringing them up and having them work through the problem, focusing on the process of division and then determining if they should move any decimal in the divisor. If there is a decimal in the dividend, move it straight up.

## Division With Decimals

## Directions:

1. Divide students into pairs.
2. Give each pair a set of Division with Decimals cards and a game board.
3. Shuffle the cards and put them between the students.
4. Player 1 draws a card, completes the problem, locates the answer on the game board

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.
and marks it with a token.
5. Player 2 continues in the same way.
6. Play is over when all answers are covered.

## 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!)

1. Ask students to think about what they did today in math.
2. Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
3. 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)
4. Ask them to comment on something (if anything) they have learned today that was brand new to them.
$4^{\text {th }}-5^{\text {th }}$ Grade Division of Decimals

| $5.481 \div 6=$ | $30.24 \div 36=$ | $57.96 \div 63=$ | $166.88 \div 56$ |
| :---: | :---: | :---: | :---: |
| $73.84 \div 8=$ | $579.6 \div 92=$ | $48.24 \div 72=$ | $5,577.6 \div 83=$ |
| $3.402 \div 7=$ | $15.75 \div 45=$ | $266.8 \div 58=$ | $32.496 \div 48=$ |
| $212.4 \div 6=$ | $407.4 \div 97=$ | $23.04 \div 64=$ | $64 \div .8=$ |
| $100 \div .25=$ | $7.93 \div 6.1=$ | $35 \div .5=$ | $48 \div 1.2=$ |
| $42.4 \div 5.3=$ | $64 \div .4=$ | $4.9 \div 7=$ | $15.2 \div .19=$ |

$4^{\text {th }}-5^{\text {th }}$ Grade Division of Decimals Answers


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Division of Decimals 2 |
| Focus: | Decimals |

## Materials:

White boards
Crayolas
Activity at the end of the lesson plan
ablary Notebooks
Double 9 Dominoes
Socks (use for erasers)

## Opening

State the objective
Today we are going to practice using our math vocabulary and skills with decimals.

## Gain prior knowledge by asking students the following questions

What do you know about decimals? What does a decimal indicate about the numbers to the right of it? What about those to the left? When do you commonly use decimals? If you are reading a number with a decimal point aloud, what do you say when you get to the decimal point?

## Content (the "Meat")

## Problem of the Day

Lori will use 20 beads to make a bracelet. If 8 of the beads are gold, 3 are purple, and 5 are orange, how many of the beads are blue? Write a fraction to show each color of bead.

## 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


Multiplication: $2 \times 3=6$

## *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 of the day: decimal in the divisor
When you are dividing with decimals you must be sure that there is NO decimal in the divisor.
In the problem $40 \div 5$, the 5 is the divisor. If there is a decimal in the divisor, you must move it
to the right by however many places you have to the right. For example, if the divisor is .25,
you would need to move the decimal two points to the right so it becomes 25 . When you
move a decimal point in the divisor, you MUST move the same number of places to the right in
the dividend. If the dividend is 4.25, then it would become 425. If the dividend was 42 without
any decimal you would add two zeros so you could then move the decimal two places to the
right. This is permissible.
Students should enter the term in Vocabulary Notebook.

Vocabulary Notebook Sample: \begin{tabular}{|l|l|}

\hline | New Word |
| :--- | <br>


| My Description |
| :--- | <br>


| decimal in the divisor |
| :--- |
| I will move the decimal out of the divisor, |
| matching the move in the dividend |
| the divisor and the dividend. | \& | Drawing |
| ---: |
| 42. becomes 4200. In the dividend | <br>

\hline
\end{tabular}

## Activity

## Decimals

## Division of Decimals

Dividing decimals requires that you write the problems in traditional form:

$$
5 \longdiv { 4 0 . 5 }
$$

Since there is no decimal point in the divisor, you simply divide normally (you would find that the quotient is 81 ). You then move the decimal straight up, in this case the answer becomes 8.1. If there was a decimal point in the divisor, it would be important for you to remove it by moving it to the right, and then doing the exact same number of moves inside of the dividend.

$$
. 5 \longdiv { 4 0 . 5 }
$$

becomes

$$
5 \longdiv { 4 0 5 . }
$$

and the answer would become 81. What this answer is telling you is that there are $811 / 2$ in 40.5.

Do several of these problems on the board with the students, bringing them up and having them work through the problem, focusing on the process of division and then determining if they should move any decimal in the divisor. If there is a decimal in the dividend, move it straight up.

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.

## Division With Decimals

## Directions:

1. Divide students into pairs.
2. Give each pair a set of Division with Decimals cards and a game board.
3. Shuffle the cards and put them between the students.
4. Player 1 draws a card, completes the problem, locates the answer on the game board and marks it with a token.
5. Player 2 continues in the same way.
6. Play is over when all answers are covered.

## 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!)

1. Ask students to think about what they did today in math.
2. Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
3. 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)
4. Ask them to comment on something (if anything) they have learned today that was brand new to them.

## Double 9 Dominoes



|  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |


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




| $\bullet \bullet \bullet$ | $\begin{aligned} & 000 \\ & 000 \end{aligned}$ |  | $\bullet$ | - - |
| :---: | :---: | :---: | :---: | :---: |
| -0 ${ }^{\circ}$ | -00 | -00 | -0* | $\bullet 0$ |
| - ${ }^{\circ}$ | -0 0 | -00 | -0 | -0 |
| -0 ${ }^{\circ}$ | - 0 | -00 | -00 | -00 |


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

$4^{\text {th }}-5^{\text {th }}$ Grade Division of Decimals

| $5.481 \div 6=$ | $30.24 \div 36=$ | $57.96 \div 63=$ | $166.88 \div 56$ |
| :---: | :---: | :---: | :---: |
| $73.84 \div 8=$ | $579.6 \div 92=$ | $48.24 \div 72=$ | $5,577.6 \div 83=$ |
| $3.402 \div 7=$ | $15.75 \div 45=$ | $266.8 \div 58=$ | $32.496 \div 48=$ |
| $212.4 \div 6=$ | $407.4 \div 97=$ | $23.04 \div 64=$ | $64 \div .8=$ |
| $100 \div .25=$ | $7.93 \div 6.1=$ | $35 \div .5=$ | $48 \div 1.2=$ |
| $42.4 \div 5.3=$ | $64 \div .4=$ | $4.9 \div 7=$ | $15.2 \div .19=$ |

$4^{\text {th }}-5^{\text {th }}$ Grade Division of Decimals Answers


| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Fractions, Decimals, and Percentages |
| Focus: | Number |

## Materials:

White boards
Crayolas
Decks of cards

Vocabulary Notebooks
6 -sided dice; 12 -sided dice
Socks (use as erasers)

Activity at end of the lesson plan

| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills in working with decimals. |
| Gain prior knowledge by asking students the following questions |
| It is important that students can learn to translate fractions, decimals, and percentages into one another. These types of |
| entities have a relationship. How would you change a fraction into a decimal? How would you change a decimal into a |
| fraction? How would you change a decimal into a percentage? How would you change a percentage into a decimal? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> Write 3 more fractions that are an equivalent for $3 / 4$. Tell how you know your answer is correct. | *Activity $\rightarrow$ Teachable Moment(s) throughout |
| 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 | During the lesson check in 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. |
| Math Vocabulary <br> Word for Today: equivalent decimals, fractions, percentages <br> Description: Decimals, fractions, and percentages can be equivalent. $1 / 4, .25$, and $25 \%$ are | It is important to review academic math vocabulary often throughout the day. |

all equivalent. This makes $1 / 8, .125$, and $12.5 \%$ equivalent as well. To find the decimal equivalent of a fraction divide the numerator by the denominator. To change a decimal into a percentage remember that the $\%$ sign relates everything to $100 \%$. To change the decimal, you move 2 spaces to the right and add the percent sign. There are so basic equivalencies that you should memorize. They are commonly used interchangeably.
In the vocabulary notebook, students should crate the normal entry and also the common equivalencies should be listed:
$1 / 4, .25,25 \%$
1/2.5, 50\%
$3 / 4, .75,75 \%$
1/8.125, 12.5\%
3/8, .375, 37.5\%
5/8, .625, 62.5\%
7/8, . $875,87.5 \%$
1/3, .33, 33.3\%
2/3, .67, 66.7\%
1/5.2, 20\%
2/5,. 4 40\%
3/5.6, 60\%
4/5.8, 80\%
Vocabulary Notebook Sample:

| New Word | My Description <br> $1 / 2.550 \%$ |
| :--- | :--- |
| equaling the same fractional part |  |

## Activity

Decimals

## Decimals, Fractions, and Percentages

Decimals, fractions and percentages can all represent the same amount. For example, $1 / 4, .25$ and $25 \%$ are of equal value, just like $1 / 2, .5$ and $50 \%$. While all of these equivalents can be easily calculated (to translate a fraction into a decimal divide the numerator by the denominator, to translate the decimal into a percent, move the decimal two places to the right and follow by a $\%$ sign).
Today, students are going to play Tic Tac Toe by using equivalents to score or block the opponents play. On the Tic Tac Toe board, player can only play the equivalent that labels the column:

| Fraction | Decimal | Percent |
| :--- | :--- | :--- |

Be sure to duplicate the Equivalents cards on two different colors of paper to determine which player has laid down which card.
Play several games on the chalk board with students, until they are comfortable playing the game.

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.

## Tic Tac Equivalents

## Directions:

1. Divide students into pairs.
2. Give each pair a Tic Tac Equivalent board and two sets of Equivalent cards (duplicated on different colors of paper)
3. Players each take one color of Equivalent Cards.
4. Players each arrange their cards to be in equivalent trios.
5. Play begins like Tic Tac Toe, following the description above.
6. Player who gets three color cards in a row (vertically, horizontally, or diagonally) wins.


## Reflection (Confirm, Tweak, Aha!)

1. Ask students to think about what they did today in math.
2. Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
3. 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)
4. Ask them to comment on something (if anything) they have learned today that was brand new to them.

Consult 4 Kids Lesson Plans

## $4^{\text {th }}-5^{\text {th }}$ Grade Tic Tac Equivalent

| Fraction | Decimal | Percent |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |
|  |  |  |




Consult 4 Kids Lesson Plans


| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grades |
| Lesson Title: | Fractions, Decimals, Percentages 2 |
| Focus: | Number |

## Materials:

White boards Vocabulary Notebooks

Crayolas Decks of cards
Activity at the end of the lesson plan Socks (use as erasers)

| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills in working with decimals. |
| Gain prior knowledge by asking students the following questions |
| It is important that students can learn to translate fractions, decimals, and percentages into one another. These types of <br> entities have a relationship. How would you change a fraction into a decimal? How would you change a decimal into a <br> fraction? How would you change a decimal into a percentage? How would you change a percentage into a decimal? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> John bought a dozen donuts for $\$ 5.40$. He sold the donuts at school for a total of $\$ 7.80$. How much money did he make on each donut? How do you know? | *Activity $\rightarrow$ Teachable Moment(s) throughout During the lesson check in with students repeatedly. |
| Fact Practice Multiples <br> 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). <br> 1. Roll one or two dice (if you roll two add the numbers together to determine the factor in the fact practice) <br> 2. Mark all multiples of the number and then pass off to the next person. <br> 3. Player may mark the same number. | 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. |
| Math Vocabulary <br> Word for Today: equivalent decimals, fractions, percentages <br> Description: Decimals, fractions, and percentages can be equivalent. $1 / 4, .25$, and $25 \%$ are | It is important to review academic math vocabulary often throughout the day. |

all equivalent. This makes $1 / 8, .125$, and $12.5 \%$ equivalent as well. To find the decimal equivalent of a fraction divide the numerator by the denominator. To change a decimal into a percentage remember that the $\%$ sign relates everything to $100 \%$. To change the decimal, you move 2 spaces to the right and add the percent sign. There are so basic equivalencies that you should memorize. They are commonly used interchangeably.
In the vocabulary notebook, students should crate the normal entry and also the common equivalencies should be listed:
$1 / 4, .25,25 \%$
1/2.5, 50\%
3/4, .75, 75\%
1/8.125, 12.5\%
3/8, .375, 37.5\%
5/8, .625, 62.5\%
7/8, . $875,87.5 \%$
1/3, .33, 33.3\%
2/3, .67, 66.7\%
1/5.2, 20\%
2/5,. 4 40\%
3/5.6, 60\%
4/5.8, 80\%
Vocabulary Notebook Sample:

| New Word <br> $1 / 2.550 \%$ | My Description <br> equaling the same fractional part |
| :--- | :--- |
| Personal Connection | Drawing |
| He got $80 \%$ on his spelling test. | 2 |

Activity
Decimals

## Decimals, Fractions, and Percentages

Decimals, fractions and percentages can all represent the same amount. For example, $1 / 4, .25$ and $25 \%$ are of equal value, just like $1 / 2, .5$ and $50 \%$. While all of these equivalents can be easily calculated (to translate a fraction into a decimal divide the numerator by the denominator, to translate the decimal into a percent, move the decimal two places to the right and follow by a \% sign).
Today, students are going to play Tic Tac Toe by using equivalents to score or block the opponents play. On the Tic Tac Toe board, player can only play the equivalent that labels the column:

| Fraction | Decimal | Percent |
| :--- | :--- | :--- |

Be sure to duplicate the Equivalents cards on two different colors of paper to determine which player has laid down which card.
Play several games on the chalk board with students, until they are comfortable playing the game.

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.

## Tic Tac Equivalents

## Directions:

1. Divide students into pairs.
2. Give each pair a Tic Tac Equivalent board and two sets of Equivalent cards (duplicated on different colors of paper)
3. Players each take one color of Equivalent Cards.
4. Players each arrange their cards to be in equivalent trios.
5. Play begins like Tic Tac Toe, following the description above.
6. Player who gets three color cards in a row (vertically, horizontally, or diagonally) wins.


## Reflection (Confirm, Tweak, Aha!)

1. Ask students to think about what they did today in math.
2. Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
3. 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)
4. 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 |

$4^{\text {th }}-5^{\text {th }}$ Grade Tic Tac Equivalent

| Fraction | Decimal | Percent |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |
|  |  |  |





| 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 is a review lesson. Students should choose from the following activities:
Addition With Decimals
Subtraction With Decimals
Multiplication With Decimals
Division With Decimals
Tic Tac Equivalents

## Closing

## Review

Say:

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


## Reflection (Confirm, Tweak, Aha!)

1. Ask students to think about what they did today in math.
2. Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
3. 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)
4. Ask them to comment on something (if anything) they have learned today that was brand new to them.
