## Math Overview

These math lessons have been designed to support the development of math vocabulary, practice math facts, and work through operations with games and other activities. Children in Kindergarten focus on counting, patterns, and understanding basic math concepts. The subsequent grades build upon these activities and engage children in practicing the operations: addition subtraction, multiplication, and division, as well as concepts such as mean, mode, average, great than, less than, expanded notation word problems, geometry, fractions, decimals, and percentages, and other grade level appropriate math concepts.

The games rely on die, dominoes, and decks of cards to be random number generators, and still provide a great deal of practice with the operations. These games, once taught, can be used during math practice but also as engaging activities for youth to do when homework is completed.

Each lesson begins with an objective and ends with a debrief to ensure the learning is "sticky". For the vocabulary section you are encouraged to create Vocabulary Journals or cut a composition book in half. The vocabulary work implements well-researched methods for making vocabulary real to youth

| Component | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}-5^{\text {th }}$ Grade |
| Lesson Title: | Fact Family |
| Focus: | Learning Each Math Lesson Segment |

## Materials:

Dice
White boards, paper and pencil

| Opening |
| :--- |
| $\quad$ State the objective |
| Today we are going to practice the different aspects of the math lesson plan. |
| Gain prior knowledge by asking students the following questions |
| What are some of the games that you know how to play? |
| What are some of the math vocabulary words that you know? |
| What do you think is meant by "Problem of the Day"? |

## Content (the "Meat")

## Problem of the Day

In this segment you will have a problem for students to complete. The problems will vary and will be both review and in line with the lesson. Write the problem on chart paper. Let youth work the problem on a white board either alone or with a partner. Following is a sample problem:

## If a pattern looks like this: $\vee \vee \vee$ © ४ヤ૪ © ४, what is next?

## Math Facts

The Fact Practice activity will be different each day. You may use dice, dominoes, cards, white board, or other items to practice the math facts that are appropriate for the grade level students are in. In order for youth to practice effectively, you will need to teach each game following the protocol below.

## Step 1: Basic Information

Tell the students the name of the game.

- Tell them the skill that they will be practicing.
- Tell them the materials they will need to play the game.
- Tell them how many people may play the game at one time.
- Tell them if the game is cooperative (all students working together to defeat the game) or competitive (each student hopes to defeat the other players).
- Tell them how they will know that the game is over.
- Remind them of how to choose who will be first.
- Remind them at the end of the game that they will need to do to clean-up.


## Step 2: Demonstration

Talk the students through the game.

## *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.

- Give the rules (it is best if they can see these).
- Give a demonstration or a "for example"
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.


## Step 3: Model

Ask for 2-3 student volunteers to play a "teaching game" so the remainder of the class can see the game played from beginning to end.

- Ask other students to make a circle around the volunteers so they can see how the game is played.
- Go through the game step by step having the volunteers actually make the plays.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- After playing the game for several minutes, praise the first volunteers and ask for 2-3 more.
- Replay the game with the new volunteers, providing less direction but being very responsive if the players are stuck or playing the game incorrectly.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.


## Fact Practice

## Fact Family

A Fact Family is 3 numbers which have a relationship in multiplication and division. For example, the numbers 9, 4, and 36 have a particular relationship in multiplication and division. This family has four members:
$9 \times 4=36$
$4 \times 9=36$
$36 \div 4=9$
$36 \div 9=4$
The numbers 9,4 and 13 have a particular relationship in addition and subtraction.
$9+4=13$
$4+9=13$
$13-4=-$
$13-9=4$
Students should roll 2 dice and create a Fact Family by writing the members of the family on the white board. Student should roll a total of 5 times, creating 5 Fact Families

## Student Practice

General guidelines for students playing games follow

## Step 4: Open Play

- Divide students into small groups (you might want to put a "volunteer" who played the game in each of these small groups)
- Have the students play a practice game (no winners or losers) Note: If you are playing with cards you might want to have the students display their hand of cards during Open Play.

Check for understanding by asking students to tell another student "how" to play the game from what they experienced.

Note: This is the last "practice" for the game. The majority of students will have a full understanding of the game by this point. There will be only minor tweaks and adjustments that need to be made.

## Step 5: Play

- Have students play the game.'
- Circulate and answer questions as needed.
- Debrief the game at the end asking students:
o What skill did you practice?
o What did you learn?
o What about the game was enjoyable? What makes you say that?
o How would you have taught the game differently?


## Math Vocabulary

Each lesson will also have a vocabulary word that is appropriate for the grade level. The word may be reviewed more than one time. Youth need to complete the vocabulary entry in an Academic Vocabulary Notebook. The Vocabulary section will follow this pattern. We will practice working on this for the next 11 days.
Word for Today: odd
Description: Numbers that cannot be divided evenly by 2. Examples: 3, 5, 7, 9, 31, 33, 35 Complete the journal entry in your Vocabulary Notebook. In space 1, write the word. In space 2, explain the word in your own words. In space 3 use the word in a sentence. In space 4 demonstrate your understanding of the word by drawing a picture of the word.

Vocabulary Notebook Sample:

| New Word odd | My Description <br> Numbers that are not even |
| :--- | :--- |
| Personal Connection | Drawing |
| Are these numbers odd or even? | $3,5,7$, and 9 are odd numbers |

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.
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.

|  | Closing |
| :---: | :--- |
| Say: | Review |
| - 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.

| Component | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}-5^{\text {th }}$ Grade |
| Lesson Title: | Addition or Multiplication Was |
| Focus: | Learning Each Math Lesson Segment |

## Materials:

Cards, one deck for every 2 students
White boards, paper and pencil

| Opening |
| :--- |
| State the objective |
| Today we are going to practice the different aspects of the math lesson plan. |
| Gain prior knowledge by asking students the following questions |
| What are some of the games that you know how to play? |
| What are some of the math vocabulary words that you know? |
| What do you think is meant by "Problem of the Day"? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> In this segment you will have a problem for students to complete. The problems will vary and will be both review and in line with the lesson. Write the problem on chart paper. Let youth work the problem on a white board either alone or with a partner. Following is a sample problem: <br> If you have 19 chocolate chip cookies and 13 Oreos, how many cookies do you have altogether? | *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 |
| Math Facts <br> The Fact Practice activity will be different each day. You may use dice, dominoes, cards, white board, or other items to practice the math facts that are appropriate for the grade level students are in. In order for youth to practice effectively, you will need to teach each game following the protocol below. <br> Step 1: Basic Information <br> - Tell the students the name of the game. <br> - Tell them the skill that they will be practicing. <br> - Tell them the materials they will need to play the game. <br> - Tell them how many people may play the game at one time. <br> - Tell them if the game is cooperative (all students working together to defeat the game) or competitive (each student hopes to defeat the other players). <br> - Tell them how they will know that the game is over. <br> - Remind them of how to choose who will be first. <br> - Remind them at the end of the game that they will need to do to clean-up. <br> Step 2: Demonstration | 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. <br> When possible, engage students in a "teach to learn" opportunity and have the student become the teacher. |

Talk the students through the game.

- Give the rules (it is best if they can see these).
- Give a demonstration or a "for example"
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.

Step 3: Model

- Ask for 2-3 student volunteers to play a "teaching game" so the remainder of the class can see the game played from beginning to end.
- Ask other students to make a circle around the volunteers so they can see how the game is played.
- Go through the game step by step having the volunteers actually make the plays.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- After playing the game for several minutes, praise the first volunteers and ask for 2-3 more.
- Replay the game with the new volunteers, providing less direction but being very responsive if the players are stuck or playing the game incorrectly.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.


## Fact Practice

## Addition War or 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 add (or 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.


## Student Practice

General guidelines for students playing games follow
Step 4: Open Play

- Divide students into small groups (you might want to put a "volunteer" who played the game in each of these small groups)
- Have the students play a practice game (no winners or losers) Note: If you are playing with cards you might want to have the students display their hand of cards during Open Play.
- Check for understanding by asking students to tell another student "how" to play the game from what they experienced.

Note: This is the last "practice" for the game. The majority of students will have a full understanding of
the game by this point. There will be only minor tweaks and adjustments that need to be made.

## Step 5: Play

Have students play the game.'

- Circulate and answer questions as needed.
- Debrief the game at the end asking students:
o What skill did you practice?
o What did you learn?
o What about the game was enjoyable? What makes you say that?
o How would you have taught the game differently?


## Math Vocabulary

Each lesson will also have a vocabulary word that is appropriate for the grade level. The word may be reviewed more than one time. Youth need to complete the vocabulary entry in an Academic Vocabulary Notebook. The Vocabulary section will follow this pattern. We will practice working on this for the next 11 days.

## Word for Today: math

Description: Math is the word we use that is short for mathematics. Math is the study of numbers, patterns, space, and change. In math we learn about operations, geometry, data and statistics, algebra, and mathematical reasoning.
Complete the journal entry in your Vocabulary Notebook. In space 1, write the word. In space 2, explain the word in your own words. In space 3 use the word in a sentence. In space 4 demonstrate your understanding of the word by drawing a picture of the word.

Vocabulary Notebook Sample:

| New Word | My Description <br> A term that is short for mathematics and is about numbers and patterns |
| :---: | :---: |
| Personal Connection <br> Math is one of my favorite subjects in school. | Drawing Moth $2+2$ irations Geometition $3 x+4 y=z$ |

## Activity

Each day there will also be a mathematics activity that will occur in this space. This week we will not do an activity here since you are learning how to play each of the Math Fact Games. This activity can be added to the Homework Center.

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. 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.

|  |  |
| :---: | :---: |
|  | Closing |
| Say: | Review |
| • Please recap what we did today. |  |
| $\bullet$ |  |

## 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.

| Component | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}-5^{\text {th }}$ Grade |
| Lesson Title: | Fore-Header |
| Focus: | Learning Each Math Lesson Segment |

## Materials:

Cards, one deck for every 3 students
White boards, paper and pencil

| Opening |
| :--- |
| $\quad$ State the objective |
| Today we are going to practice the different aspects of the math lesson plan. |
| Gain prior knowledge by asking students the following questions |
| What are some of the games that you know how to play? |
| What are some of the math vocabulary words that you know? |
| What do you think is meant by "Problem of the Day"? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> In this segment you will have a problem for students to complete. The problems will vary and will be both review and in line with the lesson. Write the problem on chart paper. Let youth work the problem on a white board either alone or with a partner. Following is a sample problem: <br> If you have 32 marbles and you lose 12, how many marbles do you have left? | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in with students repeatedly. <br> Check in about what is |
| Math Facts <br> The Fact Practice activity will be different each day. You may use dice, dominoes, cards, white board, or other items to practice the math facts that are appropriate for the grade level students are in. In order for youth to practice effectively, you will need to teach each game following the protocol below. <br> Step 1: Basic Information <br> Tell the students the name of the game. <br> - Tell them the skill that they will be practicing. <br> - Tell them the materials they will need to play the game. <br> - Tell them how many people may play the game at one time. <br> - Tell them if the game is cooperative (all students working together to defeat the game) or competitive (each student hopes to defeat the other players). <br> - Tell them how they will know that the game is over. <br> - Remind them of how to choose who will be first. <br> - Remind them at the end of the game that they will need to do to clean-up. <br> Step 2: Demonstration <br> Talk the students through the game. | 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. |

- Give the rules (it is best if they can see these).
- Give a demonstration or a "for example"
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.


## Step 3: Model

- Ask for 2-3 student volunteers to play a "teaching game" so the remainder of the class can see the game played from beginning to end.
- Ask other students to make a circle around the volunteers so they can see how the game is played.
- Go through the game step by step having the volunteers actually make the plays.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- After playing the game for several minutes, praise the first volunteers and ask for 2-3 more.
- Replay the game with the new volunteers, providing less direction but being very responsive if the players are stuck or playing the game incorrectly.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.


## 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 (or adds) 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.

- Players can repeat play (if there is another time) with each other so each has an opportunity to be both a player and referee.


## Student Practice

General guidelines for students playing games follow
Step 4: Open Play

- Divide students into small groups (you might want to put a "volunteer" who played the game in each of these small groups)
- Have the students play a practice game (no winners or losers) Note: If you are playing with cards you might want to have the students display their hand of cards during Open Play.
- Check for understanding by asking students to tell another student "how" to play the game from what they experienced.

Note: This is the last "practice" for the game. The majority of students will have a full understanding of the game by this point. There will be only minor tweaks and adjustments that need to be made.


|  |  |
| :---: | :---: |
|  | Closing |
| Say: | Review |
| • Please recap what we did today. |  |
| $\bullet$ |  |

## 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.

| Component | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}-5^{\text {th }}$ Grade |
| Lesson Title: | Multiplication or Addition Ladder |
| Focus: | Learning Each Math Lesson Segment |

## Materials:

Dice
White boards, paper and pencil

| Opening |
| :--- |
| State the objective |
| Today we are going to practice the different aspects of the math lesson plan. |
| Gain prior knowledge by asking students the following questions |
| What are some of the games that you know how to play? |
| What are some of the math vocabulary words that you know? |
| What do you think is meant by "Problem of the Day"? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> In this segment you will have a problem for students to complete. The problems will vary and will be both review and in line with the lesson. Write the problem on chart paper. Let youth work the problem on a white board either alone or with a partner. Following is a sample problem: <br> What do these symbols mean: < and >. Give an example. | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in with students repeatedly. <br> Check in about what is |
| Math Facts <br> The Fact Practice activity will be different each day. You may use dice, dominoes, cards, white board, or other items to practice the math facts that are appropriate for the grade level students are in. In order for youth to practice effectively, you will need to teach each game following the protocol below. <br> Step 1: Basic Information <br> Tell the students the name of the game. <br> - Tell them the skill that they will be practicing. <br> - Tell them the materials they will need to play the game. <br> - Tell them how many people may play the game at one time. <br> - Tell them if the game is cooperative (all students working together to defeat the game) or competitive (each student hopes to defeat the other players). <br> - Tell them how they will know that the game is over. <br> - Remind them of how to choose who will be first. <br> - Remind them at the end of the game that they will need to do to clean-up. <br> Step 2: Demonstration <br> - Talk the students through the game. | 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. |

- Give the rules (it is best if they can see these).
- Give a demonstration or a "for example"
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.

Step 3: Model

- Ask for 2-3 student volunteers to play a "teaching game" so the remainder of the class can see the game played from beginning to end.
- Ask other students to make a circle around the volunteers so they can see how the game is played.
- Go through the game step by step having the volunteers actually make the plays.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- After playing the game for several minutes, praise the first volunteers and ask for 2-3 more.
- Replay the game with the new volunteers, providing less direction but being very responsive if the players are stuck or playing the game incorrectly.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.


## Fact Practice

## Multiplication (or Addition) Ladder

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

3. 3. Have student roll 2 dice, total the pips and then multiply (or add) that number times each of the numbers in the ladder, writing the total to the right of the number

## Student Practice

General guidelines for students playing games follow

## Step 4: Open Play

- Divide students into small groups (you might want to put a "volunteer" who played the game in each of these small groups)
- Have the students play a practice game (no winners or losers) Note: If you are playing with cards you might want to have the students display their hand of cards during Open Play.
- Check for understanding by asking students to tell another student "how" to play the game
from what they experienced.
Note: This is the last "practice" for the game. The majority of students will have a full understanding of the game by this point. There will be only minor tweaks and adjustments that need to be made.


## Step 5: Play

Have students play the game.'

- Circulate and answer questions as needed.
- Debrief the game at the end asking students:
o What skill did you practice?
o What did you learn?
o What about the game was enjoyable? What makes you say that?
o How would you have taught the game differently?


## Math Vocabulary

Each lesson will also have a vocabulary word that is appropriate for the grade level. The word may be reviewed more than one time. Youth need to complete the vocabulary entry in an Academic Vocabulary Notebook. The Vocabulary section will follow this pattern. We will practice working on this for the next 11 days.

## Word for Today: subtraction

Description: Reducing a total by a specific amount and then finding the difference between what you started with and what you have after removing some items.
Complete the journal entry in your Vocabulary Notebook. In space 1, write the word. In space 2, explain the word in your own words. In space 3 use the word in a sentence. In space 4 demonstrate your understanding of the word by drawing a picture of the word.

Vocabulary Notebook Sample:

| New Wordsubtraction | My Description <br> Reducing a total number and finding the <br> difference |
| :--- | :--- |
| Personal Connection <br> Do you know how to do subtraction <br> problems? | Drawing |

## Activity

Each day there will also be a mathematics activity that will occur in this space. This week we will not do an activity here since you are learning how to play each of the Math Fact Games. This activity can be added to the Homework Center.

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.
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.

|  | Closing |
| :---: | :--- |
| Say: | Review |
| - 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.

| Component | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}-5^{\text {th }}$ Grade |
| Lesson Title: | Spokes on a Wheel |
| Focus: | Learning Each Math Lesson Segment |

## Materials:

Dice
White boards, paper and pencil

| Opening |
| :--- |
| $\quad$ State the objective |
| Today we are going to practice the different aspects of the math lesson plan. |
| Gain prior knowledge by asking students the following questions |
| What are some of the games that you know how to play? |
| What are some of the math vocabulary words that you know? |
| What do you think is meant by "Problem of the Day"? |

## Content (the "Meat")

## Problem of the Day

In this segment you will have a problem for students to complete. The problems will vary and will be both review and in line with the lesson. Write the problem on chart paper. Let youth work the problem on a white board either alone or with a partner. Following is a sample problem:

## If there are 5 rows and each row has 5 chairs in it, how many chairs are there?

## Math Facts

The Fact Practice activity will be different each day. You may use dice, dominoes, cards, white board, or other items to practice the math facts that are appropriate for the grade level students are in. In order for youth to practice effectively, you will need to teach each game following the protocol below.

## Step 1: Basic Information

Tell the students the name of the game.

- Tell them the skill that they will be practicing.
- Tell them the materials they will need to play the game.
- Tell them how many people may play the game at one time.
- Tell them if the game is cooperative (all students working together to defeat the game) or competitive (each student hopes to defeat the other players).
- Tell them how they will know that the game is over.
- Remind them of how to choose who will be first.
- Remind them at the end of the game that they will need to do to clean-up.


## Step 2: Demonstration

Talk the students through the game.

## *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.

- Give the rules (it is best if they can see these).
- Give a demonstration or a "for example"
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.


## Step 3: Model

Ask for 2-3 student volunteers to play a "teaching game" so the remainder of the class can see the game played from beginning to end.

- Ask other students to make a circle around the volunteers so they can see how the game is played.
- Go through the game step by step having the volunteers actually make the plays.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- After playing the game for several minutes, praise the first volunteers and ask for 2-3 more.
- Replay the game with the new volunteers, providing less direction but being very responsive if the players are stuck or playing the game incorrectly.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.


## 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 $7 \times 8=56$ or $6+8=14$ )
6. Process continues until all spokes have an equation

## Student Practice

General guidelines for students playing games follow

## Step 4: Open Play

Divide students into small groups (you might want to put a "volunteer" who played the game in each of these small groups)

- Have the students play a practice game (no winners or losers) Note: If you are playing with cards you might want to have the students display their hand of cards during Open Play.
- Check for understanding by asking students to tell another student "how" to play the game from what they experienced.

Note: This is the last "practice" for the game. The majority of students will have a full understanding of the game by this point. There will be only minor tweaks and adjustments that need to be made.

## Step 5: Play

- Have students play the game.'
- Circulate and answer questions as needed.
- Debrief the game at the end asking students:
o What skill did you practice?
o What did you learn?
o What about the game was enjoyable? What makes you say that?
o How would you have taught the game differently?


## Math Vocabulary

Each lesson will also have a vocabulary word that is appropriate for the grade level. The word may be reviewed more than one time. Youth need to complete the vocabulary entry in an Academic Vocabulary Notebook. The Vocabulary section will follow this pattern. We will practice working on this for the next 11 days.

## Word for Today: addition

Description: Combining two or more groups of things (usually representing by numerals) and finding a total.
Complete the journal entry in your Vocabulary Notebook. In space 1, write the word. In space 2, explain the word in your own words. In space 3 use the word in a sentence. In space 4 demonstrate your understanding of the word by drawing a picture of the word.

Vocabulary Notebook Sample:

| New WordMy Description | Combining the values of two or more things into <br> a whole |
| :--- | :--- |
| Personal Connection <br> Do you know how to do addition <br> problems? | Drawing |

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.
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.

|  |  |
| :---: | :---: |
|  | Closing |
| Say: | Review |
| • Please recap what we did today. |  |
| $\bullet$ |  |

## 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.

| Component | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}-5^{\text {th }}$ Grade |
|  | Spot and Dots |
| Focus: | Learning Each Math Lesson Segment |

## Materials:

Cards, one deck for every 2 students
White boards, paper and pencil

| Opening |
| :--- |
| $\quad$ State the objective |
| Today we are going to practice the different aspects of the math lesson plan. |
| Gain prior knowledge by asking students the following questions |
| What are some of the games that you know how to play? |
| What are some of the math vocabulary words that you know? |
| What do you think is meant by "Problem of the Day"? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> In this segment you will have a problem for students to complete. The problems will vary and will be both review and in line with the lesson. Write the problem on chart paper. Let youth work the problem on a white board either alone or with a partner. Following is a sample problem: <br> If you have 11 rows and each row has 6 chairs in it, how many chairs do you have in all? | *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 |
| Math Facts <br> The Fact Practice activity will be different each day. You may use dice, dominoes, cards, white board, or other items to practice the math facts that are appropriate for the grade level students are in. In order for youth to practice effectively, you will need to teach each game following the protocol below. <br> Step 1: Basic Information <br> - Tell the students the name of the game. <br> - Tell them the skill that they will be practicing. <br> - Tell them the materials they will need to play the game. <br> - Tell them how many people may play the game at one time. <br> - Tell them if the game is cooperative (all students working together to defeat the game) or competitive (each student hopes to defeat the other players). <br> - Tell them how they will know that the game is over. <br> - Remind them of how to choose who will be first. <br> - Remind them at the end of the game that they will need to do to clean-up. <br> Step 2: Demonstration | 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. |

- Talk the students through the game.
- Give the rules (it is best if they can see these).
- Give a demonstration or a "for example"
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.

Step 3: Model

- Ask for 2-3 student volunteers to play a "teaching game" so the remainder of the class can see the game played from beginning to end.
- Ask other students to make a circle around the volunteers so they can see how the game is played.
- Go through the game step by step having the volunteers actually make the plays.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- After playing the game for several minutes, praise the first volunteers and ask for 2-3 more.
- Replay the game with the new volunteers, providing less direction but being very responsive if the players are stuck or playing the game incorrectly.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.


## Fact Practice

## 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 (or addition) problem on their white board, multiplying (or adding) the numbers represented by the spots Example: Domino drawn is


Multiplication: $2 \times 3=6$
Addition: $2+3=5$

## Student Practice

General guidelines for students playing games follow
Step 4: Open Play
Divide students into small groups (you might want to put a "volunteer" who played the game in each of these small groups)

- Have the students play a practice game (no winners or losers) Note: If you are playing with cards you might want to have the students display their hand of cards during Open Play.
- Check for understanding by asking students to tell another student "how" to play the game from what they experienced.

Note: This is the last "practice" for the game. The majority of students will have a full understanding of the game by this point. There will be only minor tweaks and adjustments that need to be made.

## Step 5: Play

Have students play the game.'

- Circulate and answer questions as needed.
- Debrief the game at the end asking students:
o What skill did you practice?
o What did you learn?
o What about the game was enjoyable? What makes you say that?
o How would you have taught the game differently?


## Math Vocabulary

Each lesson will also have a vocabulary word that is appropriate for the grade level. The word may be reviewed more than one time. Youth need to complete the vocabulary entry in an Academic Vocabulary Notebook. The Vocabulary section will follow this pattern. We will practice working on this for the next 11 days.

## Word for Today: pentagon

Description: A flat-5 side figure. It looks a little like a house.
Complete the journal entry in your Vocabulary Notebook. In space 1, write the word. In space 2, explain the word in your own words. In space 3 use the word in a sentence. In space 4 demonstrate your understanding of the word by drawing a picture of the word.

Vocabulary Notebook Sample:

| New Word <br> pentagon | My Description <br> A 5 sided figure that is flat |
| :--- | :--- |
| Personal Connection <br> The Pentagon is a 5-sided building. | Drawing |

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. 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 | Focus on having young <br> people "compete" in pairs or <br> Each day there will also be a mathematics activity that will occur in this space. This week we will not <br> do an activity here since you are learning how to play each of the Math Fact Games. This activity can <br> be added to the Homework Center. |
| :--- | :--- |
| small groups. Once a game <br> is mastered you can utilize it |  |
| in the "When Homework Is |  |


|  |  |
| :---: | :---: |
|  | Closing |
| Say: | Review |
| - Please recap what we did today. |  |
| - |  |

## 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



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Consult 4 Kids Lesson Plans


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| Component | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}-5^{\text {th }}$ Grade |
| Lesson Title: | Draw |
| Focus: | Learning Each Math Lesson Segment |

## Materials:

Cards, one deck for every 2 students
White boards, paper and pencil

| Opening |
| :--- |
| $\quad$ State the objective |
| Today we are going to practice the different aspects of the math lesson plan. |
| Gain prior knowledge by asking students the following questions |
| What are some of the games that you know how to play? |
| What are some of the math vocabulary words that you know? |
| What do you think is meant by "Problem of the Day"? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> In this segment you will have a problem for students to complete. The problems will vary and will be both review and in line with the lesson. Write the problem on chart paper. Let youth work the problem on a white board either alone or with a partner. Following is a sample problem: <br> Joe has 8 coins. Judy has 9 coins. How many coins do they have together? | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in with students repeatedly. <br> Check in about what is |
| Math Facts <br> The Fact Practice activity will be different each day. You may use dice, dominoes, cards, white board, or other items to practice the math facts that are appropriate for the grade level students are in. In order for youth to practice effectively, you will need to teach each game following the protocol below. <br> Step 1: Basic Information <br> Tell the students the name of the game. <br> - Tell them the skill that they will be practicing. <br> - Tell them the materials they will need to play the game. <br> - Tell them how many people may play the game at one time. <br> - Tell them if the game is cooperative (all students working together to defeat the game) or competitive (each student hopes to defeat the other players). <br> - Tell them how they will know that the game is over. <br> - Remind them of how to choose who will be first. <br> - Remind them at the end of the game that they will need to do to clean-up. <br> Step 2: Demonstration <br> Talk the students through the game. | 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. |

- Give the rules (it is best if they can see these).
- Give a demonstration or a "for example"
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.

Step 3: Model
Ask for 2-3 student volunteers to play a "teaching game" so the remainder of the class can see the game played from beginning to end.

- Ask other students to make a circle around the volunteers so they can see how the game is played.
- Go through the game step by step having the volunteers actually make the plays.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- After playing the game for several minutes, praise the first volunteers and ask for 2-3 more.
- Replay the game with the new volunteers, providing less direction but being very responsive if the players are stuck or playing the game incorrectly.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.


## Fact Practice

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 (adds) 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.

## Student Practice

General guidelines for students playing games follow

## Step 4: Open Play

- Divide students into small groups (you might want to put a "volunteer" who played the game in each of these small groups)
- Have the students play a practice game (no winners or losers) Note: If you are playing with cards you might want to have the students display their hand of cards during Open Play.
- Check for understanding by asking students to tell another student "how" to play the game from what they experienced.

Note: This is the last "practice" for the game. The majority of students will have a full understanding of the game by this point. There will be only minor tweaks and adjustments that need to be made.

## Step 5: Play

- Have students play the game.'
- Circulate and answer questions as needed.
- Debrief the game at the end asking students:
o What skill did you practice?
o What did you learn?
o What about the game was enjoyable? What makes you say that?
o How would you have taught the game differently?


## Math Vocabulary

Each lesson will also have a vocabulary word that is appropriate for the grade level. The word may be reviewed more than one time. Youth need to complete the vocabulary entry in an Academic Vocabulary Notebook. The Vocabulary section will follow this pattern. We will practice working on this for the next 11 days.

## Word for Today: circle

Description: A circle is a 2-dimensional shape made by drawing a curve that is always the same distance from the center. A circle is round.
Complete the journal entry in your Vocabulary Notebook. In space 1, write the word. In space 2, explain the word in your own words. In space 3 use the word in a sentence. In space 4 demonstrate your understanding of the word by drawing a picture of the word.

Vocabulary Notebook Sample:

| New Word | My Description <br> A closed figure that is made with a single <br> arching line |
| :--- | :--- |
| Personal Connection <br> That clock is a circle. | Drawing |

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.
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.

|  |  |
| :---: | :---: |
|  | Closing |
| Say: | Review |
| • Please recap what we did today. |  |
| $\bullet$ |  |

## 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.

| Component | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}-5^{\text {th }}$ Grade |
| Lesson Title: | Target |
| Focus: | Learning Each Math Lesson Segment |

## Materials:

Cards, one deck for every 2 students
White boards, paper and pencil

| Opening |
| :--- |
| State the objective |
| Today we are going to practice the different aspects of the math lesson plan. |
| Gain prior knowledge by asking students the following questions |
| What are some of the games that you know how to play? |
| What are some of the math vocabulary words that you know? |
| What do you think is meant by "Problem of the Day"? |

## Content (the "Meat")

Problem of the Day
In this segment you will have a problem for students to complete. The problems will vary and will be both review and in line with the lesson. Write the problem on chart paper. Let youth work the problem on a white board either alone or with a partner. Following is a sample problem:
How much money do you have if you have 3 dimes, 4 nickels, 8 pennies, and one quarter?

## Math Facts

The Fact Practice activity will be different each day. You may use dice, dominoes, cards, white board, or other items to practice the math facts that are appropriate for the grade level students are in. In order for youth to practice effectively, you will need to teach each game following the protocol below.

## Step 1: Basic Information

- Tell the students the name of the game.
- Tell them the skill that they will be practicing.
- Tell them the materials they will need to play the game.
- Tell them how many people may play the game at one time.
- Tell them if the game is cooperative (all students working together to defeat the game) or competitive (each student hopes to defeat the other players).
- Tell them how they will know that the game is over.
- Remind them of how to choose who will be first.
- Remind them at the end of the game that they will need to do to clean-up.

Step 2: Demonstration

## *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.

- Talk the students through the game.
- Give the rules (it is best if they can see these).
- Give a demonstration or a "for example"
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.

Step 3: Model

- Ask for 2-3 student volunteers to play a "teaching game" so the remainder of the class can see the game played from beginning to end.
- Ask other students to make a circle around the volunteers so they can see how the game is played.
- Go through the game step by step having the volunteers actually make the plays.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- After playing the game for several minutes, praise the first volunteers and ask for 2-3 more.
- Replay the game with the new volunteers, providing less direction but being very responsive if the players are stuck or playing the game incorrectly.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.


## 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.

## Student Practice

General guidelines for students playing games follow

## Step 4: Open Play

- Divide students into small groups (you might want to put a "volunteer" who played the game in each of these small groups)
- Have the students play a practice game (no winners or losers) Note: If you are playing with cards you might want to have the students display their hand of cards during Open Play.
- Check for understanding by asking students to tell another student "how" to play the game from what they experienced.

Note: This is the last "practice" for the game. The majority of students will have a full understanding of the game by this point. There will be only minor tweaks and adjustments that need to be made.

## Step 5: Play

- Have students play the game.'
- Circulate and answer questions as needed.
- Debrief the game at the end asking students:
o What skill did you practice?
o What did you learn?
o What about the game was enjoyable? What makes you say that?
o How would you have taught the game differently?


## Math Vocabulary

Each lesson will also have a vocabulary word that is appropriate for the grade level. The word may be reviewed more than one time. Youth need to complete the vocabulary entry in an Academic Vocabulary Notebook. The Vocabulary section will follow this pattern. We will practice working on this for the next 11 days.

## Word for Today: triangle

Description: A shape that has three sides and three angles.
Complete the journal entry in your Vocabulary Notebook. In space 1, write the word. In space 2, explain the word in your own words. In space 3 use the word in a sentence. In space 4 demonstrate your understanding of the word by drawing a picture of the word.

Vocabulary Notebook Sample:

| New Word <br> triangle | My Description <br> A three-sided flat shape |
| :--- | :--- |
| Personal Connection <br> Have you seen a triangle? | Drawing |

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. 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.

|  |  |
| :---: | :---: |
|  | Closing |
| Say: | Review |
| • Please recap what we did today. |  |
| $\bullet$ |  |

## 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.

| Component | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}-5^{\text {th }}$ Grade |
| Lesson Title: | Number Hunt or Product Hunt |
| Focus: | Learning Each Math Lesson Segment |

## Materials:

12-sided dice (1 pair for every 2 students)
White boards, paper and pencil

| Opening |
| :--- |
| State the objective |
| Today we are going to practice the different aspects of the math lesson plan. |
| Gain prior knowledge by asking students the following questions |
| What are some of the games that you know how to play? |
| What are some of the math vocabulary words that you know? |
| What do you think is meant by "Problem of the Day"? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> In this segment you will have a problem for students to complete. The problems will vary and will be both review and in line with the lesson. Write the problem on chart paper. Let youth work the problem on a white board either alone or with a partner. Following is a sample problem: <br> Think of the following shapes: <br> Organize them in some way and then share that organization with a partner. | *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 |
| Math Facts <br> The Fact Practice activity will be different each day. You may use dice, dominoes, cards, white board, or other items to practice the math facts that are appropriate for the grade level students are in. In order for youth to practice effectively, you will need to teach each game following the protocol below. <br> Step 1: Basic Information <br> - Tell the students the name of the game. <br> - Tell them the skill that they will be practicing. <br> - Tell them the materials they will need to play the game. <br> - Tell them how many people may play the game at one time. <br> - Tell them if the game is cooperative (all students working together to defeat the game) or competitive (each student hopes to defeat the other players). <br> - Tell them how they will know that the game is over. <br> - Remind them of how to choose who will be first. <br> - Remind them at the end of the game that they will need to do to clean-up. <br> Step 2: Demonstration | 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. |

- Talk the students through the game.
- Give the rules (it is best if they can see these).
- Give a demonstration or a "for example"
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.

Step 3: Model

- Ask for 2-3 student volunteers to play a "teaching game" so the remainder of the class can see the game played from beginning to end.
- Ask other students to make a circle around the volunteers so they can see how the game is played.
- Go through the game step by step having the volunteers actually make the plays.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- After playing the game for several minutes, praise the first volunteers and ask for 2-3 more.
- Replay the game with the new volunteers, providing less direction but being very responsive if the players are stuck or playing the game incorrectly.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.


## Fact Practice

## Number Hunt (Grades 1-3-Game Board Attached)

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

Winner is determined by who has the most numbers covered.

## Product Hunt (Grades 3-5-Game Board Attached)

7. Divide students into pairs.
8. Each pair needs a Product Hunt sheet (attached to this lesson plans).
9. Player rolls two, 12 -sided dice.
10. Player multiplies the two numbers.
11. If the product is not yet covered, then player may cover the product.
12. Next player repeats steps 1-3.
13. Winner is determined by who has the most numbers covered.

## Student Practice

General guidelines for students playing games follow
Step 4: Open Play
Divide students into small groups (you might want to put a "volunteer" who played the game in
each of these small groups)

- Have the students play a practice game (no winners or losers) Note: If you are playing with cards you might want to have the students display their hand of cards during Open Play.
- Check for understanding by asking students to tell another student "how" to play the game from what they experienced.

Note: This is the last "practice" for the game. The majority of students will have a full understanding of the game by this point. There will be only minor tweaks and adjustments that need to be made.

## Step 5: Play

- Have students play the game.'
- Circulate and answer questions as needed.
- Debrief the game at the end asking students:
o What skill did you practice?
o What did you learn?
o What about the game was enjoyable? What makes you say that?
o How would you have taught the game differently?


## Math Vocabulary

Each lesson will also have a vocabulary word that is appropriate for the grade level. The word may be reviewed more than one time. Youth need to complete the vocabulary entry in an Academic Vocabulary Notebook. The Vocabulary section will follow this pattern. We will practice working on this for the next 11 days.
Word for Today: square
Description: A shape that has four sides that are all equal in length.
Complete the journal entry in your Vocabulary Notebook. In space 1, write the word. In space 2, explain the word in your own words. In space 3 use the word in a sentence. In space 4 demonstrate your understanding of the word by drawing a picture of the word.

## Vocabulary Notebook Sample:

| New Wordsquare | My Description <br> A four-sided shape with 4 equal sides and 4 <br> equal right angles |
| :--- | :--- |
| Personal Connection <br> That clock is in the shape of a square. | Drawing |

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.
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 | Focus on having young <br> people "compete" in pairs or <br> Each day there will also be a mathematics activity that will occur in this space. This week we will not <br> do an activity here since you are learning how to play each of the Math Fact Games. This activity can <br> be added to the Homework Center. |
| :--- | :--- |
| small groups. Once a game <br> is mastered you can utilize it |  |
| in the "When Homework Is |  |


|  |  |
| :---: | :---: |
|  | Closing |
| Say: | Review |
| - Please recap what we did today. |  |
| - |  |

## 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.

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 |

Number Hunt

| 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 |

Number Hunt

| 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 |


| Component | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}-5^{\text {th }}$ Grade |
| Lesson Title: | Bump I Up and Add A Zero |
| Focus: | Learning Each Math Lesson Segment |

## Materials:

Dice, cards, game boards
White boards, paper and pencil

| Opening |
| :--- |
| State the objective |
| Today we are going to practice the different aspects of the math lesson plan. |
| Gain prior knowledge by asking students the following questions |
| What are some of the games that you know how to play? |
| What are some of the math vocabulary words that you know? |
| What do you think is meant by "Problem of the Day"? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> In this segment you will have a problem for students to complete. The problems will vary and will be both review and in line with the lesson. Write the problem on chart paper. Let youth work the problem on a white board either alone or with a partner. Following is a sample problem: <br> I have \$1.00. I spend \$.68. How much do I have left? | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in with students repeatedly. <br> Check in about what is |
| Math Facts <br> The Fact Practice activity will be different each day. You may use dice, dominoes, cards, white board, or other items to practice the math facts that are appropriate for the grade level students are in. In order for youth to practice effectively, you will need to teach each game following the protocol below. <br> Step 1: Basic Information <br> Tell the students the name of the game. <br> - Tell them the skill that they will be practicing. <br> - Tell them the materials they will need to play the game. <br> - Tell them how many people may play the game at one time. <br> - Tell them if the game is cooperative (all students working together to defeat the game) or competitive (each student hopes to defeat the other players). <br> - Tell them how they will know that the game is over. <br> - Remind them of how to choose who will be first. <br> - Remind them at the end of the game that they will need to do to clean-up. <br> Step 2: Demonstration <br> Talk the students through the game. | 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. |

- Give the rules (it is best if they can see these).
- Give a demonstration or a "for example"
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.

Step 3: Model

- Ask for 2-3 student volunteers to play a "teaching game" so the remainder of the class can see the game played from beginning to end.
- Ask other students to make a circle around the volunteers so they can see how the game is played.
- Go through the game step by step having the volunteers actually make the plays.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- After playing the game for several minutes, praise the first volunteers and ask for 2-3 more.
- Replay the game with the new volunteers, providing less direction but being very responsive if the players are stuck or playing the game incorrectly.
- Ask players to explain what they were thinking when they made a particular move.
- Ask onlookers to make observations or ask questions.
- Check for understanding by asking students to tell another student "how" to play the game from what they observed.


## Fact Practice

## Bump It Up! Add A Zero

1. Divide students into pairs
2. Give each pair a white board and a deck of cards (without face cards, jokers, or 10s)
3. The object of this fact practice is to sum numbers until you reach 1,000 .
4. Student draws 2 cards, adds the value of the cards together, multiplies by ten and writes the total on the sheet.
5. It is not the other person's turn to do the same
6. When play returns to the first player, the process is repeated, although this time, the totals are added together.
7. First person to 1,000 wins.

Example: Player draws a 7 and a 4. Total is 11. Multiply by 10 (add the zero) equals 110.
Next turn, player draws a 3 and a 2 which totals 5 . Multiply by 10 and I now add 50 to 110 for a total of 160.

## 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.

Player may mark the same number.

## Student Practice

General guidelines for students playing games follow

## Step 4: Open Play

Divide students into small groups (you might want to put a "volunteer" who played the game in each of these small groups)

- Have the students play a practice game (no winners or losers) Note: If you are playing with cards you might want to have the students display their hand of cards during Open Play.
- Check for understanding by asking students to tell another student "how" to play the game from what they experienced.

Note: This is the last "practice" for the game. The majority of students will have a full understanding of the game by this point. There will be only minor tweaks and adjustments that need to be made.

Step 5: Play

- Have students play the game.'
- Circulate and answer questions as needed.
- Debrief the game at the end asking students:
o What skill did you practice?
o What did you learn?
o What about the game was enjoyable? What makes you say that?
o How would you have taught the game differently?


## Math Vocabulary

Each lesson will also have a vocabulary word that is appropriate for the grade level. The word may be reviewed more than one time. Youth need to complete the vocabulary entry in an Academic Vocabulary Notebook. The Vocabulary section will follow this pattern. We will practice working on this for the next 11 days.

## Word for Today: even

Description: Numbers that can be divided evenly by 2. Examples: 2, 8, 14, 22, 48, and 100. Complete the journal entry in your Vocabulary Notebook. In space 1, write the word. In space 2, explain the word in your own words. In space 3 use the word in a sentence. In space 4 demonstrate your understanding of the word by drawing a picture of the word.

Vocabulary Notebook Sample:

| New Wordeven | My Description <br> Numbers that are not odd |
| :--- | :--- |
| Personal Connection | Drawing |
| Are these numbers odd or even? | $322,46,52$, and 98 are even numbers |

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. 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). <br> Vocabulary Notebooks can <br> be made from $1 / 2$ of a <br> composition book. |
| :--- | :--- |
| Activity | Focus on having young <br> people "compete" in pairs or |
| Each day there will also be a mathematics activity that will occur in this space. This week we will not <br> do an activity here since you are learning how to play each of the Math Fact Games. This activity can <br> be added to the Homework Center. | Smaps. Once a game <br> is mastered you can utilize it <br> in the "When Homework Is <br> Complete" center. |


|  |  |
| :---: | :---: |
|  | Closing |
| Say: | Review |
| - Please recap what we did today. |  |
| $\bullet$ |  |

## 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.

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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | How Many Do We Have Game |
| Focus: | Review |

## Materials:

Post Its
Dice
Prizes (these can be time, a leadership role, opportunities to be the "teacher"

| Opening |  |
| :--- | :--- |
| Today we are going to have fun playing a game. | State the objective |


| Content (the "Meat") |
| :---: | :---: |
| Activity |
| How Many Do You Have? |

1. Divide students in groups of $3-4$.
2. On the Post-lt, each group writes a number between 5 and 70 .
3. Post the numbers in numeric order on the white board or a chart.
4. Roll 5 dice one time and one time only.
5. Teams are to use any math that they know ( $+,-, X, \div$, use of parenthesis, exponents) to make each of the numbers on the Post Its.
6. Give Teams 20-25 minutes to complete the task.
7. Team that has the most correct equations, wins the prize.

## Closing

## Review

Say:

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


## Consult 4 Kids Lesson Plans

## 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | 4 in a Row |
| Focus: | Math vocabulary, place value, multiples |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
Hundreds Chart (1 for each pair of students, at end of plan)

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

Gain prior knowledge by asking students the following questions
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?
What are the basic operations that you need to utilize during math?

| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> Use the numbers below to build a single 7-digit number. Write it in two ways: number form and word form. Explain how you got your answer. <br> $\begin{array}{lllll}7 & 3,000 & 70 & 70,000 & 100 \\ 6,000,000 & 400,000 & \text { (Answer: 6,473,177) }\end{array}$ | *Activity $\rightarrow$ Teachable Moment(s) throughout During the lesson check in with students repeatedly. |
| 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 | 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. |


| of the numbers in the ladder, writing the total to the right of the number |  |
| :---: | :---: |
| Word for Today: Review the word mu Description: A number that is a multipl base number times another number. Ex all multiples of 3 <br> Have students share the Vocabulary No additions or changes. <br> Vocabulary Notebook Sample: | cabulary <br> nother number would be the product of that e: $3,6,9,12,15,18,21,24,27$, and 30 are <br> ks in pairs, discussing the word, making any |
| New Word <br> multiple | My Description <br> Numbers that are in a pattern that you get when you multiply: $3,6,9,12,15$ |
| Personal Connection <br> I can list the multiples of 4 to 40 . | $\begin{gathered} \text { Drawing } \\ 4,8,12,16,20,2428, \\ 32,36,40 \end{gathered}$ |

## Activity

## 4 in a Row

Remind students about multiples and that multiples are a base number that is multiplied by various numbers. Example: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30
Demonstrate: Explain that students are going to play 4 in a Row, a game using a 100 s Chart. Students may select to use 1 or 2 dice. If they use 2 dice, then they will total the pips and use that as a single multiplier. The object of the game is to get 4 colored spaces in a row before the opponent. For each turn, the person may color in 2 multiples. For example:

| 6 | 7 | 8 | 9 |
| :---: | :---: | :---: | :---: |
| 16 | 17 | 18 | 19 |
| 26 | 27 | 28 | 29 |
| 36 | 37 | 38 | 40 |

To block the 36 , I would need to have the opportunity of multiples of $2,3,4,6,9$, or 12 . If I rolled a 4, I would say "Multiples of 4" and then say "4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44" I could color in both 36 and either 16 or 40 . I would pick the 16 because there are no multiples of 37 and I could block the four in a row diagonal.

1. Pair students and give the pair a 100 s Chart and two markers
2. Play is over when one player accomplishes 4 in a Row.

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.

## 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.

Hundreds Chart

| 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 |


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{4 \mathrm{~h}}$ \& $5^{\mathrm{h}}$ Grade |
| Lesson Title: | Target and Equation Writer |
| Focus: | Math vocabulary, basic operations, equations |

## Materials:

| White boards | Vocabulary Notebooks |
| :--- | :--- |
| Crayolas |  |
| Socks |  |$\quad$ Cards


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

## Gain prior knowledge by asking students the following questions

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?
What are the basic operations that you need to utilize during math?

| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> A number can be written in a variety of ways. For example, the number 100 can be written 50 $+50,200 \div 2$ or $10 \times 10$. Write three different ways to show the number: <br> 270 | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in with students repeatedly. |
| 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. <br> 8. After one player finishes his/her turn, then the cards taken are replaced by cards from | 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. |

the remaining deck
9. Player with the most cards at the end of the game win

## Math Vocabulary

Word for Today: equation
Description: An equation is a number sentence that has numerals and operations that are equal on both side of the $=$ sign. Ex.: $4+2=6$ is a simple equation.
Students should complete the Vocabulary Notebook

Vocabulary Notebook Sample:

| New Word | My Description <br> equation |
| :--- | :--- |
| A number sentence to express an operation and <br> an answer |  |
| It is challenging to write and equation <br> using large numbers. | Drawing |

## Activity

Equation Writer

Explain to students that they are going to have an opportunity to write 4 equations-one for each operation: addition, subtraction, multiplication, and division.
Demonstrate how students will use cards to randomly demonstrate numbers. Deal yourself 8 cards. (Decks will not have 10s, face cards, or jokers) You may use all or some of the cards. For example, if I draw a $7,3,2,2,1,6,8,9$, I could make the problem $732+126=858$, or I could subtract saying 732-126=606; or $732 \times 126=92,232$, or I could make a $126 \div 2=63$. Player can only make 1 equation with each of the cards.
At the end of the play, the answers from all 4 equations will be totaled together, and the winner is the player with the highest total.

1. Divide students into pairs
2. Give each pair a deck of cards (10s, face cards, and jokers removed) and have them create the equations together and find the total of the answers
3. When all have finished, compare the grand totals for each team


## 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: | $4^{4 \mathrm{~h}} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Equation and Rolling to 0 |
| Focus: | Math vocabulary, basic operations, order of operations |

## Materials:

| White boards | Vocabulary Notebooks |
| :--- | :--- |
| Crayolas | five, 6-sided dice for each pair |
| Socks | Product Hunt Work Sheet |


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

## Gain prior knowledge by asking students the following questions

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?
What are the basic operations that you need to utilize during math?

| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> The school had a fundraiser to buy new soccer goals. Each classroom sold candy bars for $\$ 1.00$ each. At the end of the first week, this is how each of the $5^{\text {th }}$ grades were doing: <br> Which room sold the most candy? The least? How do you know you are correct? <br> 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. | *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. <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. |

7. Winner is determined by who has the most numbers covered.
Word for Today: equation Math Vocabulary
Description: An equation is a number sentence that has numerals and operations that are
equal on both side of the $=$ sign. Ex.: $4+2=6$ is a simple equation.
Have students share the Vocabulary Notebooks in pairs, discussing the word, making any
additions or changes.
Vocabulary Notebook Sample:

| New Word | My Description |
| :--- | :--- |
| equation | Showing how two things are equal by writing a |
| The equation is $5+8=13$. |  |

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.

1. Each player or group of players is given 56 -sided dice; (you can add 12 sided dice to stretch player's skills)
2. Player rolls all the dice.
3. Player works the equation, using addition, subtraction, multiplication, and division, to get to an answer of " 0 ".
4. After working the equation one way, player tries to find as many different ways as possible to get to "0" with the same numbers.
5. Equations should be recorded on paper or white board.

Example:
Player rolls a 6, a 5, a 3, a 2, a 2.

- $(6-5)-(2 * 2) * 3=0$



## 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.

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 |


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

## Materials:

| White boards | Decks of cards | 2 dice for each pair of students |
| :--- | :--- | :--- |
| Crayolas | Vocabulary Notebooks |  |
| Socks | Graph paper (1/4 "squares) |  |


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

Gain prior knowledge by asking students the following questions
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?
What are the basic operations that you need to utilize during math?

| Content (the "Meat") |  |
| :--- | :--- |
| Problem of the Day <br> Rico has 243 papayas and bananas total. If Rico has 72 bananas, how many more <br> papayas does Rico have? Explain how you got your answer. | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout |
| What are the key numbers? The key words? | During the lesson check in <br> with students repeatedly. <br> Check in about what is <br> happening and what they are |
| thinking. |  |




## 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: | $4^{4 \mathrm{~h}}$ \& $5^{\mathrm{th}}$ Grade |
| Lesson Title: | Grid Areas 2 |
| Focus: | Multiplication, area, and math vocabulary |

## Materials:

| White boards | Decks of cards | $30-40$ paper clips for each pair |
| :--- | :--- | :--- |
| Crayolas | Vocabulary Notebooks |  |
| Socks | Graph paper (1/4 " squares) |  |


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

## Gain prior knowledge by asking students the following questions

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?
What are the basic operations that you need to utilize during math?

## Content (the "Meat") <br> Problem of the Day

Mark has a total of 504 chairs. He must put them in rows of 9 . He has decided that he will need to make 56 rows. Is his answer correct? 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

## *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.

| opportunity to be both a player and referee |  |  |
| :---: | :---: | :---: |
| Word for Today: Review of the word ar Description: In a figure defined by bounda considered the area. Can be measured in other means <br> Have students share the Vocabulary Note additions or changes. <br> Vocabulary Notebook Sample: <br> New Word <br> area <br> Personal Connection <br> I can find the area of these different shapes. | cabulary <br> $s$, the space inside those boundaries is quare feet, square inches, square miles or <br> ks in pairs, discussing the word, making any <br> My Description <br> The term that refers to the space inside an object <br> Drawing | 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) <br> Vocabulary Notebooks can be made from $1 / 2$ of a composition book |

## Activity

Review "Grid Areas" from yesterday. Discuss how the dimensions of the grid area were determined by rolling the dice.
Explain that today, "Grid Areas" will be determined the student actually measuring items in paper clips and then recording the measurement "to scale" on the grid paper, 1 clip = $1 / 4$ "
box.
Demonstrate: With a string of paper clips hooked together, measure a piece of paper (count the number of clips long and the number of clips wide). Draw the form on the paper using the scale of 1 clip to 1 square. In the center of the drawing, write the number of squares total as you did yesterday).

## Grid Areas \#2

1. Divide students into pairs
2. Give each pair 1 sheet of $1 / 4^{\prime \prime}$ grid paper and $25-30$ paper clips (small work better)
3. Students find 3 things to measure and record the measurements (note: the size of the object is limited by the number of paper clips you give each pair of students)
4. Have pairs share their measurements with other students.

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 <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!)

- 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: | $4^{\mathrm{h}} \& 5^{\mathrm{h}}$ Grade |
| Lesson Title: | What's The Average? |
| Focus: | Math vocabulary, basic operations, statistics |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
cards

| Opening |
| :--- |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> John and Cathy are looking at this number: " 8,592 ". Cathy says that the 5 stands for 500 . John disagrees and says the 5 is for 50 . Which one is correct and how do you know? <br> Which numbers and words are important? Why? | *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> Draw! <br> 1. Divide students into pairs and give each pair a deck of cards <br> 2. Remove the face cards and jokers from the deck of cards. <br> 3. Shuffle the deck. <br> 4. Decide who will go first. <br> 5. First player draws two cards. <br> 6. Student multiplies the cards. <br> 7. Student writes his/her problem on the white board, writing a complete number sentence. <br> 8. Students take turns drawing and creating problems. | 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: average

Description: An average is found by adding numbers together and ten dividing the total by the number of numerals that were added together. (Ex. $5+6+7+8=26 \div 4=6 ½$ ) Average is a way of comparing things to a standard. In math we often use the word "mean" instead of the word average.
Have students complete his/her Vocabulary Notebook.

Vocabulary Notebook Sample:

| New Wordaverage | My Description <br> Average refers to the number that could be <br> evenly spread across a group |
| :--- | :--- |
| Personal Connection <br> The temperature here is an average of <br> $81^{\circ}$ if you think year round. | Drawing |

## Activity <br> What's the Average?

Demonstrate: Get a deck of cards (without jokers, face cards, or 10s) and draw our 7 cards. Ask students the process for finding the average (add and then divide). Ask for students to help total the value of the cards. Ask students what the number is to be used as the divisor" 7 " in this case. Ex. Cards include 5, 4, 6, 3, 8, 8, $2+36 \div 7=51 / 7$

Then answer each of these questions:
What is the smallest number? The largest?
What is the average? What is another word for average? (mean)

1. Check in to be sure that students understand the activity.
2. Divide students into pairs
3. Students should find 5 averages
4. Have students record the averages from smallest to largest
5. Students should share the averages they have found with the rest of the class
6. Students should answer the 4 questions above

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.

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.

| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th } ~ \& ~ 5 t h ~ G r a d e ~}$ |
| Lesson Title: | Who's Average |
| Focus: | Math vocabulary, average, basic operations |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
Paper clips (a box for each group at a minimum
Double 9 Dominoes

| Opening |
| :--- |
| $\quad$ State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |



## Math Vocabulary

## Word for Today: average

Description: An average is found by adding numbers together and ten dividing the total by the number of numerals that were added together. (Ex. $5+6+7+8=26 \div 4=61 / 2$ ) Average is a way of comparing things to a standard. In math we often use the word "mean" instead of the word average.
Have students share the Vocabulary Notebooks in pairs, discussing the word, making any additions or changes.

Vocabulary Notebook Sample:

| New Word | My Description <br> The average is found by adding and then <br> dividing, it tells you a general answer |
| :--- | :--- |
| Personal Connection | Drawing |
| The average number of cookies for each <br> person is 3 cookies. | $3+4+8=15$ <br> $15 \div 3=5$ |

## Activity <br> Who's Average?

Demonstrate: Create several strings of paper clips hooked together. Ask one student to come up to the front of the room. Measure the students in paper clips. Label this string of paper clips with the student's name. Repeat the process with another student. Use a second string of paper clips. Ask students for the process of finding the average. Adding together and then dividing by the number (in this case number of paper clip strings). Determine the "average" height. Then ask students to determine who in the class would be taller than average and less than average.
Let students know that Who's Average is going to be done as a group effort. Ask students to determine who is the shortest person and who is the tallest person in the classroom. Have the students measure each of these students in paper clip strings. Then have students hook the two pieces together and find the average. Once found, this becomes the "standard"

1. Divide students into groups of 4
2. Each group of 4 should order the students in the classroom as "above average" or "below average"
3. Each group should then line up each side of the continuum to determine if they are correct. Remember, you are not trying to determine who is above or below average, but by determining how correct the prediction of the teams is.

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.

| 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!)

- 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.

Double 9 Dominoes
(1)



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| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{4 \mathrm{~h}}$ \& $5^{\mathrm{th}}$ Grade |
| Lesson Title: | Exactly 100 Median |
| Focus: | Math vocabulary, basic operations, pattern |

## Materials:

| White boards | Vocabulary Notebooks |
| :--- | :--- |
| Crayolas | 6-sided dice; 12-sided dice |
| Socks |  |


| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> Study the shapes and determine what the pattern is. Complete the pattern by adding the next 5 shapes, replacing the question marks. | *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: $9 \times 4=36$ <br> $4 \times 9=36$ <br> $36 \div 4=9$ <br> $36 \div 9=4$ <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. |
| Word for Today: median Math Vocabulary | It is important to review academic math vocabulary often throughout the day. |

Description: While an average is found by adding a set of numbers and then dividing by the number of items in the set. The mean is different. It is important when you are looking for the mean to order the numbers from the smallest to the largest. The median is the number in the middle. For example, in this set of numbers: $3,5,5,6,7,7,7$, the mean is the number " 6 " because it is in the middle. If we were trying to find the average, we would discover that the average is $55 / 7$, slightly less than the median.
Have students share the Vocabulary Notebooks in pairs, discussing the word, making any additions or changes.

Vocabulary Notebook Sample:

| New Word $\quad$median | My Description <br> In a range of numbers the median is the number <br> in the middle, not in value but in order |
| :--- | :--- |
| Personal Connection | Drawing |
| Put the numbers in order from smallest <br> to largest and then circle the median. |  |

## Activity

Exactly 100

## Demonstrate:

On the white board, draw 3 columns. Label the first $>\mathbf{1 0 0}$, the center one 100, and the last one < 100
Show students 212 -sided dice and 26 -sided dice.
Explain that you will roll the 4 dice one time. Then ask students to help you create three number sentences. One that equals less than 100, one that equals more than 100, and if possible, one that equals 100 exactly. Example:
Player rolls a 5, 5, 1, and 4
$1[5(5 \times 4)$ ]
$(5 \times 1)+(5-4)+6$
$5(5 \times 4)+1=101$

## Playing the game

1. Divide students into pairs
2. Give each pair two-12-sided dice and two 6 -sided dice.
3. Player \#1 rolls all four dice.
4. Player tries to make an equation, using addition, subtraction, multiplication, and/or division, which will fit in each of the columns above, using the same numbers.
5. Player scores one point for >, one point for <, and 3 points for exactly 100.
6. Highest score wins

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: | $4^{\text {th }}$ \& $5^{\text {th }}$ Grade |
| Lesson Title: | Times Up |
| Focus: | Measuring Time |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
Copies of activities at end of Lesson Plan

| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |

## Content (the "Meat")

## Problem of the Day

Martin wrote the number 5,732,807 in words. Do you agree or disagree with Martin's response? He wrote: five million, seven hundred thirty-two thousand, eight hundred seventy. Explain why you answered as you did.

## 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.

|  |  |
| :--- | :--- |
|  |  |
| Word for Today: median $\quad$ Math Vocabulary |  |

## *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.

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.

Description: While an average is found by adding a set of numbers and then dividing by the number of items in the set. The mean is different. It is important when you are looking for the mean to order the numbers from the smallest to the largest. The median is the number in the middle. For example, in this set of numbers: $3,5,5,6,7,7,7$, the mean is the number " 6 " because it is in the middle. If we were trying to find the average, we would discover that the average is $55 / 7$, slightly less than the median.
Review the entry from yesterday. Have students discuss in pairs and determine if they want to make any changes in the Vocabulary Notebook entry.

## Vocabulary Notebook Sample:

| New Wordmedian | My Description <br> In a series of numbers the median is the one <br> that is in the middle-location not value |
| :--- | :--- |
| Personal Connection <br> In that string of numbers that has 35 <br> different number, the one that is the <br> median is in the middle. | Drawing |

## Activity

Times Up
This game requires three players: 2 contestants and 1 judge.
Each contestant has a pencil/pen and a white board. The player should make 10 squares on the white board.
You will need one set of Times Cards for every group of 3 people.
To play the game, Times Up Cards are face down in the center.
Player \#1 draws a card and answers the question.
If the answer is correct, then player colors in one square.
If the answer is incorrect, the other player has an opportunity to answer that question correctly and then answer one of their own. They color in each box, 1 box for each correct answer.

Demonstrate: Show students how to play the game. Bring up three students. The "judge" has the answer key.

Answer Key and playing cards are attached to this lesson plan. It is suggested that you print the cards on card stock and laminate for future use.

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.

## 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 |

## Times Up Questions

| 1. How many days are there in a <br> year? | 2. How many weeks are there in <br> a year? | 3. Which months have 31 days? <br> 4. How many years in a decade? |
| :--- | :--- | :--- |
| 5. How many years in a century? | 6. How many weeks in a <br> decade? |  |
| 7. How many weeks in a <br> century? | 8. How many hours in a day? | 9. How many hours in a week? |
| 10. How many hours in a year? | 11. How many years in "4 score <br> and 7 years ago..." | 12. How many time zones are <br> there around the world? |
| 13. How many hours are there in <br> 420 minutes? | 14. How many seconds are there <br> in 6 hours? | 15. What time is it when the <br> airport says the time is $1700 ?$ |
| 16. If it is $9: 00$ in LA, what time is <br> it in New York City? | 17. What do the letters "EST" <br> mean? | 18. What is the reason there is <br> Leap Year every 4 years? |
| 19. How many days in a decade? | 20. How many days in a <br> century? | 21. What time is it when the <br> airport says the time is 0600? |
| 22. How many quarters in a <br> year? | 23. How many minutes in 3 <br> days? | 24. How many days in 4 years? |

## Times Up! Answer Key

1. 365 days
2. 52 weeks
3. January, March, May, July, August, October, December
4. 10 years
5. 100 years
6. 520 weeks
7. 5,200 weeks
8. 24 hours
9. 168 hours
10. 8,760 hours
11. 87 years
12. 24 time zones
13. 7 hours
14. 360 seconds
15. 5:00 p.m.
16. 12:00
17. Eastern Standard Time
18. Each year there is actually $1 / 4$ of a day over 365 days. Each 4 years the total "extra" equals 1 day, so it is added to the calendar.
19. $3,652+1 / 2$ of a day
20. 36,500 days
21. $6: 00 \mathrm{a} . \mathrm{m}$.
22. Four quarters
23. 4,320 minutes
24. 1,461 (Remember leap year)

| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Tic Tac Toe 245 |
| Focus: | Math vocabulary, multiples and multiplication |

## Materials:

White boards Vocabulary Notebooks
Crayolas
Socks

| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> Susan has a total of $\$ .85$. She has only quarters, dimes and nickels. How many different ways could Susan have the total of $\$ .85$ ? <br> Show all possible ways. (draw them on a piece of paper) <br> How do you know you have all of the ways? | *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> Spokes on a Wheel <br> 1. Divide students into pairs <br> 2. On a white board, student draws a small circle with 9 spokes coming out of it (should look like a bicycle tire) <br> 3. Have students choose to put a 6,7 or 8 in the center circle <br> 4. Student rolls two dice and adds the pips (dots) <br> 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 $7 \times 8=56$ <br> 6. Process continues until all spokes have an equation | 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: multiple |  |
| Description: A number that is a multiple of another number would be the product of that base number times another number. Example: 3, 6, 9, 12, 15, 18, 21, 24, 27, and 30 are all multiples of 3 |  |
| Students complete the Vocabulary Notebook |  |
| Vocabulary Notebook Sample: |  |
| New Word | My Description |
| multiple | A series of numbers that are related because of the equal difference between them |
| Personal Connection | Drawing |
| It is easy to count in multiples of 2,5 and 10. |  |

## Activity

## Tic Tac Toe

Demonstrate: Draw a Tic Tac Toe on the board. Write a different number in each of the spaces. Explain that to "claim" a space student must name a least 3 multiple of the number in the Tic Tac Toe Space

| 5 | 3 | 9 |
| :--- | :--- | :--- |
| 4 | 1 | 7 |
| 8 | 2 | 6 |

If I would like to place my mark in the 6 space, I must say at least 3 of the following multiples: $6,12,18,24,30,36,42,48,54$, or 60

## Tic Tac Toe

1. Divide students into pairs
2. Give each group a white board and markers (or crayolas) 2 different colors
3. They will play a total of 10 games, each game board should be different, numbers in different places on the board
4. When 10 games have been played, have students report wins, losses, and the number of cat's games
5. Record totals on a chart

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

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.

| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Fact Family Time to Multiply |
| Focus: | Multiplication |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
6 -sided dice; 12 -sided dice decks of cards

| Opening |
| :--- |
| $\quad$ State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> John had 873 cookies. He put 396 of them in a box for the students in his afterschool program. John estimates that he has about 480 cookies left. Do you agree? Why or why not? | *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 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. |
| Word for Today: estimate Math Vocabulary | It is important to review academic math vocabulary often throughout the day. |

Description: Estimate is a word we use in math to talk about a best or educated guess. If there are many items, say paper clips, in a pile and you would like to know about how many paper clips are there, you can count them, or you can estimate the number that are there. Unlike a guess where you simply hope that you are right, an estimate is made based on information. So if I picked up a handful of paper clips and discovered that I could hold 100, and I checked it out and the pile of paper clips was 5 handfuls, then I could estimate that there were 500 paper clips in the pile.
Create and entry in your Vocabulary Notebook for the word "estimate".
Vocabulary Notebook Sample:

| New Wordestimate | My Description <br> A guess about something—like how many, <br> based on information |
| :--- | :--- |
| Personal Connection <br> I estimate that there are 100 beans in the <br> jar. | Drawing |

## Activity

Time To Multiply
Replay the game from yesterday. Review the rules of play.
Materials:

- Deck of Cards (remove 10s. face cards and jokers)
- White boards
- Vis-à-vis pens

Purpose of the game: Practice the operations of multiplying and subtracting.

## Directions:

1. One player stacks the cards face-down in a pile.
2. Player 1 draws two cards, multiplies the numbers, and says the product.
3. Player 2 takes a turn in the same way.
4. The player with the greater product finds the difference between those two products. The player records the difference as the number of points earned for the round. The used cards are placed in a discard pile. If it's a tie, neither player earns points for the round
5. Play continues in the same way until all the cards have been used. The player with the most points at the end of the game wins.

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: | $4^{\text {th } \& 5^{\text {th }} \text { Grade }}$ |
| Lesson Title: | Time To Multiply |
| Focus: | Multiplication |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
Double 9 Dominoes

| Opening |
| :--- |
| $\quad$ State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |

## Content (the "Meat")

Problem of the Day

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

Jean is going to a concert at the park. She read in the newspaper that there were only 6,000 tickets for sale. The concert has already sold 4,831 tickets. How many do they have left to sell to be sold out?

## 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: $2 \times 3=6$

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: subtract

Description: Subtract is a mathematical operation that requires you to remove some items from the group. For instance, if you have 10 cookies and you eat 2 of them (you remove them from the group of 10 cookies) you have 8 cookies left. It doesn't matter how you subtract the items, you must remove them from the group in question.
Create an entry in your Vocabulary Notebook for the word "subtract".

Vocabulary Notebook Sample:

| New Word | My Description <br> subtract you start with 10 cookies and you share <br> three of them, subtract 3 from 10 to find out <br> the number of cookies you have |
| :--- | :--- |
| Personal Connection <br> I will subtract that money from my piggy <br> bank. | Drawing |

## Activity <br> Time To Multiply

## Materials:

- Deck of Cards (remove 10s. face cards and jokers)
- White boards
- Vis-à-vis pens

Purpose of the game: Practice the operations of multiplying and subtracting.

## Directions:

1. One player stacks the cards face-down in a pile.
2. Player 1 draws two cards, multiplies the numbers, and says the product.
3. Player 2 takes a turn in the same way.
4. The player with the greater product finds the difference between those two products. The player records the difference as the number of points earned for the round. The used cards are placed in a discard pile. If it's a tie, neither player earns points for the round.
5. Play continues in the same way until all the cards have been used. The player with the most points at the end of the game wins.

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.

Consult 4 Kids Lesson Plans


## 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.


## Double 9 Dominoes



| $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
| :---: | :---: | :---: | :---: | :---: |
| $\bullet$ | $\bullet$ |  |  |  |
| $\bullet \bullet$ | $\bullet \bullet$ | $\bullet$ | $\bullet$ | $\bullet \bullet$ |
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| $\bullet \bullet \bullet$ | $\bullet \bullet \bullet$ |  |  |  |
| $\bullet \bullet \bullet$ | $\bullet \bullet$ | $\bullet \bullet \bullet$ | $\bullet \bullet$ | $\bullet \bullet \bullet$ |
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| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Make That Number |
| Focus: | Review |

## Materials:

Post Its
Dice
Prizes (these can be time, a leadership role, opportunities to be the "teacher"

| Opening |  |
| :--- | :--- |
| Today we are going to have fun playing a game. | State the objective |

## Content (the "Meat") <br> Activity <br> Make That Number

1. Divide students in groups of $3-4$
2. On the Post-lt, each group writes a number between 5 and 70
3. Post the numbers in numeric order on the white board or a chart.
4. Roll 5 dice one time and one time only
5. Teams are to use any math that they know ( $+,-, X, \div$, use of parenthesis, exponents) to make each of the numbers on the Post Its.
6. Give Teams 20-25 minutes to complete the task
7. Team that has the most correct equations, wins the prize

|  |  |
| :---: | :---: |
| Say: | Closing |
| • Please recap what we did today. | Review |
| $\bullet$ |  |

## Consult 4 Kids Lesson Plans

## 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Making 50 |
| Focus: | Operations |

## Materials:

| White boards | Decks of cards |
| :--- | :--- |
| Crayolas | Vocabulary Notebooks |
| Socks |  |


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

Gain prior knowledge by asking students the following questions
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?
What are the basic operations that you need to utilize during math?

| Content (the "Meat")Problem of the Day <br> Casey Elementary School had a fundraiser. The 5th grade classrooms brought in the <br> money as listed on the table below. Which classroom brought in the most money? The <br> least? |  | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in <br> with students repeatedly. <br> Check in about what is |
| :--- | :--- | :--- |
| happening and what they are |  |  |
| thinking. |  |  |

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: least

Description: Least is a word that is used to compare two or more items. For example if I have 4 Milky Way bars, 7 Snicker's bars, and 1 Twix, then I could say that Twix is the candy I have the least of. You wouldn't have to know how many I had, but you would know that I have fewer Twix than the other kind of candy. Least often means the smallest number. Create an entry in your Vocabulary Notebook for the word "least"

Vocabulary Notebook Sample:

| New WordLeast | My Description <br> Smaller than something else |
| :--- | :--- |
| Personal Connection <br> Of the two number: 6,793 and 9,113, <br> 6,793 is the least. | Drawing |

Activity
Making 50

## Materials

Game Board (attached to this lesson plan)
Sheet Protector
Vis-à-vis pen or crayola
Winning combinations: $32+3+15 ; 19+20+11 ; 13+11+26 ; 6+21+23 ; 10+17+13$ on the board.

## Directions:

1. Students work in pairs taking turns.
2. Place the Game Board in the sheet protector.
3. Player $\# 1$ finds 3 numbers that can go together to make a total of 50 . Numbers must be touching one another horizontally, vertically, diagonally or in an "L" shape.
4. Player \#1 circles the three numbers and writes the equation on a white board.
5. Player \#2 repeats, circling and writing his/her equation underneath the first one on the white board.
6. Play continues until players have found all of the possible combinations (there are 4).

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.

## Consult 4 Kids Lesson Plans

## 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.

Making 50 Game Board

| 13 | 30 | 20 | 26 | 16 | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 11 | 14 | 13 | 11 | 25 |
| 19 | 27 | 5 | 33 | 29 | 10 |
| 14 | 10 | 17 | 6 | 23 | 21 |
| 32 | 3 | 3 | 17 | 31 | 16 |
| 11 | 15 | 29 | 5 | 33 | 29 |


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Making 75 |
| Focus: | Mathematical Reasoning |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
dice
decks of cards (jokers and face cards removed)

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

Gain prior knowledge by asking students the following questions
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?
What are the basic operations that you need to utilize during math?

| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> Look at the list of numbers below. There is a pattern to these numbers. Determine what the pattern is and write the next three numbers. $6,12,18,24,30,$ , $\qquad$ $\qquad$ , | *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> Spokes on a Wheel <br> 1. Divide students into pairs. <br> 2. On a white board, student draws a small circle with 9 spokes coming out of it (should look like a bicycle tire). <br> 3. Have students choose to put a 6,7 or 8 in the center circle. <br> 4. Student rolls two dice and adds the pips (dots). <br> 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 $7 \times 8=56$. <br> 6. Process continues until all spokes have an equation. | 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. |

## Math Vocabulary

## Word for Today: pattern

Description: Pattern refers to an organization of things into something that is predictable. If you understand the pattern of something, then you can make a guess as to what will come next. For example, in this pattern, $4,8,12,16,20,24,28,32$ $\qquad$ , we know that the next numbers would be $36,40,44$, and so on. Seeing and understanding a pattern is helpful in math.
Students complete the Vocabulary Notebook
Vocabulary Notebook Sample:

| New Word $\quad$ pattern | My Description |
| :--- | :--- |
| Personal Connection | Organized presentation that can replicated |
| Although the pattern in the Sudoku puzzle <br> was complex John was able to figure it out. | Drawing |

## Activity <br> Making 75

## Materials:

Grid
Winning combinations: $30+25+20 ; 19+46+10 ; 28+22+25 ; 40+19+16 ; 33+27+$ 10

## Directions:

1. Students work in pairs to create a game board (like the one from yesterday) in which they have at least 4 ways that the players can make 75 .
2. (Discuss that they should begin with the 4 or so problems, determine where to place those numbers and then fill in the rest).
3. After completing the game board, pair exchanges with another pair and plays the game.

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.

## Consult 4 Kids Lesson Plans



## 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.

Consult 4 Kids Lesson Plans
Making 75 Game Board

| 13 | 30 | 20 | 26 | 16 | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 11 | 25 | 13 | 11 | 25 |
| 19 | 27 | 5 | 33 | 28 | 10 |
| 14 | 10 | 17 | 6 | 22 | 21 |
| 33 | 3 | 46 | 17 | 31 | 16 |
| 11 | 15 | 29 | 5 | 40 | 19 |


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\mathrm{h}} \& 5^{\mathrm{t}}$ Grade |
| Lesson Title: | Sum and Spill the Beans |
| Focus: | Operations |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
Cards
Spill the Beans blank gameboard

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

## Gain prior knowledge by asking students the following questions

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?
What are the basic operations that you need to utilize during math?

| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day Find the sum of the numbers below $\begin{array}{r} 546 \\ +329 \\ \hline \end{array}$ | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in with students repeatedly. <br> Check in about what is <br> happening and what they are |
| 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 . <br> 8. After one player finishes his/her turn, then the cards taken are replaced by cards from the remaining deck. | 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. |

9. Player with the most cards at the end of the game win.

| Word for Today: sum |
| :--- |
| Description: Sum is the word we use to describe the total or the answer in addition problem. |

When you are told to find the sum, you should know that it means you are going to add. In the
problem 45 + 62, the sum is 107.
Write several problems on the board and have students find the sum.
Students should complete the Vocabulary Notebook
It is important to review
academic math vocabulary
Complete the Vocabulary
notebook for each word.

## Consult 4 Kids Lesson Plans



## 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.


## Spill the Beans Game Board

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


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Spill The Beans |
| Focus: | Multiples |

## Materials:

| White boards | Vocabulary Notebooks | Materials from yesterday |
| :--- | :--- | :--- |
| Crayolas | two, 12-sided dice for each pair |  |
| Socks | Product Hunt Work Sheet |  |


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

Gain prior knowledge by asking students the following questions
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?
What are the basic operations that you need to utilize during math?

| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> Solve the number sentence below. Then write a story problem to fit the number sentence. $386+298=$ | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in with students repeatedly. <br> Check in about what is |
| Fact Practice | happening and what they are thinking. |
| 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. | 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: sum |  |  |
| Description: Review the word sum from yesterday. Give students several more |  |  |
| opportunities to find the sum of 4-5 problems that you write on the board. |  |  |
| Have students share the Vocabulary Notebooks in pairs, discussing the word, making any |  |  |
| additions or changes. |  |  |
| Vocabulary Notebook Sample: |  |  |
| New Word My Description <br> What is the sum of 8 and $9 ?$ Drawing |  |  |

## Activity <br> Spill the Beans

Review the game from yesterday and talk about the rules and how to play the game. Use the game materials from yesterday.

## Materials:

- Grid
- Beans (2 for each team)
- White board
- Small cup


## Directions:

1. Students work in pairs.
2. Students fill in the grid using the numbers $0-9$. In creating the board students should use only one each of the $5,6,7,8$, and 9 . The other numbers ( $0-4$ ) can be used more than once.
3. When board is complete, Player \#1 shakes up the two beans in the cup and spills them onto the game board.
4. Student then multiplies the numbers that the beans land on and subtracts the total from 100. (If a bean lands on a line or off the board, the bean may be spilled again) Second turn requires the player to subtract from the total.
5. First player to reach zero wins.

## Consult 4 Kids Lesson Plans



## 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.

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 |


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Eighteen Only |
| Focus: | Mathematical Reasoning |

## Materials:

White boards Vocabulary Notebooks

Crayolas decks of cards
Socks

| Opening |
| :--- |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |

## Content (the "Meat")

## Problem of the Day

The sum of two three digit numbers is 606. The numbers in the addends are $1,2,3,4,5$, and 6. What are the two addends? How do you know?

## Fact Practice

## 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. When possible, engage students in a "teach to learn" opportunity and have the student become the teacher.

It is important to review

Word for Today: addends
Description: Addends are the numbers that you add together to find the sum or the total. Addends can have 1 digit or they can have 4-8 digits. There is no limit. The addends in this problem: $4,789+2,319=$ are the two numbers 4,789 and 2,319 . Write a problem with 3 addends, 2 addend, 4 addends.
Have students complete his/her Vocabulary Notebook.

Vocabulary Notebook Sample:

| New WordAddends | My Description <br> In the math problem $5+3=8$, the addends are <br> 5 and 3 |
| :--- | :--- |
| Personal Connection <br> What are the two addends in that addition <br> problem? | Drawing |

## 18 Only

## Materials:

Only game board (see below). Draw this on the board and have students replicate.


## Directions:

Students work in pairs.
Students create the game board above.
Students can only use the number 1-8.
Students will create 4 equations, all of which, when totaled, will $=18$.
$A+B+C+D=18$
$A+B+G+H=18$
$C+D+E+F=18$
$E+F+G+H=18$

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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Problem Solving and 99 |
| Focus: | Basic Operations |

## Materials:

White boards Vocabulary Notebooks
Crayolas Decks of cards

Socks

| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> Describe two different stories that could account for the following number sentence. $413-218=195$ | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in with students repeatedly. <br> Check in about what is <br> happening and what they are |
| 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. | 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: problem solving | It is important to review academic math vocabulary |

Description: Problem solving identified a mindset that you can have. When you have a problem solving mindset it means that you are going to find a way to solve a math problem or any other challenge that you might face. Problem solving means that you have to make "guesses" based on information that you have. Problem solving may allow you to come up with a variety of ways to get the answer. Your task then is to pick the problem solving strategy that makes the most sense to you.
Create an entry in your Vocabulary Notebook for the term "problem solving"
Vocabulary Notebook Sample:

| New Word | My Description <br> Thinking about challenges and trying to find <br> a solution |
| :--- | :--- |
| Personal Connection <br> When I saw the problem, I began to problem <br> solve. | Drawing |

## Activity <br> Ninety Nine

Materials: Deck of Cards (all cards including jokers)
Players: 2-4
Purpose of the game: Practice mental math in adding and subtracting, and game strategies. Total value of pile can never exceed " 99 ".

## Directions:

Each card counts for its face value except:

- 9's simply allow the player to pass, they are neither added to or subtracted from the total.
- 10 's are a -10 , requiring the player to subtract 10 from the total.
- the joker is " 99 " (you can play after the joker if you have a 9 , a 10 , or another joker)
- Aces count as 1 and all face cards are 10.

1. Each player is dealt 3 cards.
2. The first player plays a card and states the value of the card.
3. First player draws a card, keeping his/her hand at 3 cards.
4. The second player plays a card and states the value of the two cards added together (unless the second player plays a 9 , a 10 or a joker). Second player draws a card, keeping his/her hand at 3 cards.
5. For example, if player 1 plays a 7 , he/she would say 7 . Draws a card. If the second player plays an 8 , he/she would say 15 . Draws a card. If a third player plays a ten, he/she would say 5 , and so on. Draws a card.
6. The player to reach 99 with NO OTHER PLAYER being able to play a card, wins. Remember, after the pile reaches 99 , players can still play a 9,10 or joker.
7. When all three numerals are placed, the largest number wins.
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.

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: | $4^{\mathrm{t}} \& 5^{\mathrm{th}}$ Grade |
| Lesson Title: | The Puzzler |
| Focus: | Math |

## Materials:

| White boards | Decks of cards for each pair |
| :--- | :--- |
| Crayolas | Vocabulary Notebooks |
| Socks |  |


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

## Gain prior knowledge by asking students the following questions

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?
What are the basic operations that you need to utilize during math?

| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> Julie rolled 5 dice. She rolled a $4,2,6,5,3$. What is the largest possible number she can build if she uses all 5 digits? What is the smallest? | *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. | 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: probable

Description: Probable is a very interesting word. It means what is "likely". A probable answer to a math problem is one that would make sense based on the information that you have. Probable is not an absolute, it is not a guarantee that your "guess" is accurate, but it is likely that you are correct. When we estimate we come up with a probable answer.
Create an entry in your Vocabulary Notebook for the word probable.
Vocabulary Notebook Sample:

| New Wordprobable | My Description |
| :--- | :--- |
| Likely to occur |  |

## Activity <br> The Puzzler

## Materials:

Circle shaped counters
Purpose of the game
Create two lines of 5 by moving only two markers.

## Directions:

Replicate the pattern with the counters that you see below.
Move only two markers to create 2 rows of 5 markers.


When finished, create your own puzzle challenge: hint-begin with the end configuration, and move 2-5 times to find a new configuration. Write down each move. Have a friend play your game.

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.

## Consult 4 Kids Lesson Plans



## 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | The Puzzler 2 |
| Focus: | Mathematical Reasoning |

## Materials:

| White boards | Vocabulary Notebooks |
| :--- | :--- |
| Crayolas | Dice |
| Socks | toothpicks |


| Opening |
| :--- |
| $\quad$ State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day Write the following number in expanded notation. $426,387$ | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in with students repeatedly. |
| 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 | 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. |


| numbers in the ladder, writing the total to the right of the number. |  |
| :---: | :---: |
| Math Vocabulary <br> Word for today: expanded form <br> Description: Expanded form is the way to write a number so that the person can see the place value of each of the numerals in the number. In our number system there are 10 numerals: $0,1,2,3,4,5,6,7,8$, and 9 . It is the place that the number is in that tells us its value. Expanded form makes that more clear. Example: 3,214,768 in expanded form is $3,000,000+200,000+10,000+4,000+700+60+8$. <br> Create an entry in your Vocabulary Notebook for the term "expanded form". <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). <br> Vocabulary Notebooks can be made from $1 / 2$ of a composition book. |
| Activity <br> The Puzzler \#2 <br> Materials: <br> 9 toothpicks for each pair of students <br> Directions: <br> 1. Arrange the 9 tooth picks into the 3 triangles (see picture below). <br> 2. Once the arrangement is replicated, move only 2 toothpicks to create 5 triangles instead of 3 . | 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. |

## Consult 4 Kids Lesson Plans



## 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: | $2^{\text {nd }}$ Grade |
| Lesson Title: | Column Addition |
| Focus: | Column Addition |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
Cards

| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |

## Content (the "Meat")

Problem of the Day
Count forward to 69 by 2's starting at the number 13. Write the numbers as you say them. When you are finished, are the numbers you wrote down "odd" or "even"? Tell how 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 adds 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: addend

Description: The addends of an addition problem or the numbers that you are adding
> *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. often throughout the day

| $\begin{array}{rrr}\text { together. In these examples: } & 2 & 83 \\ +6 & +47\end{array}$ |  |
| :---: | :---: |
|  |  |
| The addends of the first problem are 2 and 6 , the addends of the second are 83 and 47 . A problem can have more than tree addends. |  |
| Review your Vocabulary Notebook. Discuss things with a partner. Make any changes that you need to in order to strengthen your entry. <br> Vocabulary Notebook Sample: |  |
| New Word | My Description |
| Addend | 5 and 8 are the addends in an addition problem |
| Personal Connection <br> I like doing addition problems that have 3 or 4 addends. |  |

## Activity <br> Column Addition

Demonstrate: On the board or chart paper make a grid with two columns and four rows. Label the first row "Addend \#1", the second row "Addend \#2, and the third row "Addend \#3. Label the 4th row "sum" (which is the word that describes an addition answer.) The partners draw cards (ace through 9) and place them in the grid. There is a two digit number in each row. See the sample:

| Row \#1 | 5 | 3 |
| :--- | :--- | :--- |
| Row \#2 | 2 | 6 |
| Row \#3 | 1 | 8 |
| Sum | 9 | 7 |

This problem would be read $53+26+18=97$

Focus on having young people "compete" in pairs or small groups. Once a game is mastered you can utilize it in the "When Homework Is Complete" center

## Closing

## Review

Say:

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


## Debrief

## Three Whats

Ask the following three what questions:
What was your key learning for the day?
What opportunities might you have to do this same thing in the "real world"?
What advice would you give to a "new" student getting ready to do this activity?

## Reflection (Confirm, Tweak, Aha!)

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

| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Making A Whole |
| Focus: | Fractions |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
dice
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. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> Business made a profit of $\$ 240.80$. Sue keeps $1 / 2$ of the profits. She give each of the 5 people who work for her $20 \%$ of the other $1 / 2$ of the profits. How much does each person get? | *Activity $\rightarrow$ Teachable Moment(s) throughout During the lesson check in with students repeatedly. |
| Fact Practice <br> Spokes on a Wheel <br> 1. Divide students into pairs. <br> 2. On a white board, student draws a small circle with 9 spokes coming out of it. (should look like a bicycle tire) <br> 3. Have students choose to put a 6,7 or 8 in the center circle. <br> 4. Student rolls two dice and adds the pips (dots). <br> 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 $7 \times 8=56$ <br> 6. Process continues until all spokes have an equation. | 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: percentage <br> Description: Percentage refers to a fraction when the assumption is made that the denominator is 100 . So if $100 \%$ is whole, $57 \%$ indicates that 57 out of the 100 has been found, or correct, or is being used. \% is the symbol for percent. Percent fives you an | It is important to review academic math vocabulary often throughout the day Complete the Vocabulary notebook for each word. |

opportunity to compare things that do not necessarily have a denominator of 100 to begin with, but when translated into percentage, this allows the comparison to be made.
Students complete the Vocabulary Notebook
Vocabulary Notebook Sample:

| New Word | My Description <br> percentage |
| :--- | :--- |
| A way to compare by telling how many out of <br> a hundred |  |
| I was happy that I had 82\% on my social <br> studies test. | Drawing |

## Activity <br> Making A Whole

Explain to students that we are going to use cards to create fractions that can be added together to equal a whole number.
Demonstrate: Bring students up to the front as volunteers and show them how to play the game, Making A Whole as described below. Be sure that students can play the game effectively and then have them play with a partner.

Materials: Deck of cards with jokers and face cards removed White board

## Directions:

1. Shuffle the deck
2. Deal 6 cards to each player
3. Player one arranges the cards, if possible to create two fractions that will total a whole number. For example: $3 / 6+1 / 2=1$
4. Player that creates a problem that totals 1 receives one point. If he/she cannot make a fraction, he draws a card and discards one that he/she currently has.
5. Second player does the same.
6. Play continues until one player has a total of 10 points.

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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Making A Whole and Percentage |
| Focus: | Fractions |

## Materials:

| White boards | Vocabulary Notebooks |  |
| :--- | :--- | :--- |
| Crayolas | Decks of cards | Socks |


| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> John has 100 basketballs. 70 or brownish orange. The rest are white. Write a \% that shows how many white basketballs John has. | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> 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. | 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: Review the word percentage <br> Description: Review the information that you gave the students yesterday about the term | It is important to review academic math vocabulary often throughout the day. |

percentage. Remind students of the symbol that represents the word percentage (\%). Make several drawing on the board to show different percentages and how to correctly write the number and the symbol ex. $74 \%, 89 \%, 94 \%$ etc.

Have students share the Vocabulary Notebooks in pairs, discussing the word, making any additions or changes.
Vocabulary Notebook Sample:

| New Word <br> percentage | My Description <br> A part of the whole related to 100 parts in <br> the whole |
| :--- | :--- |
| Personal Connection <br> I got 100\% on my spelling test. | Drawing |

## Activity <br> Making A Whole

Review with the students how to play the game that they learned how to play yesterday. Be sure that students can play successfully before having them play on their own.
Materials: Deck of cards with jokers and face cards removed White board
Directions:

1. Shuffle the deck
2. Deal 6 cards to each player
3. Player one arranges the cards, if possible to create two fractions that will total a whole number. For example: $3 / 6+1 / 2=1$
4. Player that creates a problem that totals 1 receives one point. If he/she cannot make a fraction, he draws a card and discards one that he/she currently has.
5. Second player does the same.
6. Play continues until one player has a total of 10 points.

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

## Materials:

| White boards | Vocabulary Notebooks |
| :--- | :--- |
| Crayolas | decks of cards |
| Socks | Fraction Cards (attached) |


| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> Write a fraction that shows the number of vowels in the word: thermometer | *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> Draw! <br> 1. Divide students into pairs and give each pair a deck of cards. <br> 2. Remove the face cards and jokers from the deck of cards. <br> 3. Shuffle the deck. <br> 4. Decide who will go first. <br> 5. First player draws two cards. <br> 6. Student multiplies the cards. <br> 7. Student writes his/her problem on the white board, writing a complete number sentence. <br> 8. Students take turns drawing and creating problems. | 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: fraction <br> Description: A fraction is a number that is less than one and has two parts a numerator and a denominator. The denominator tells you have many parts you have to have in order to have the whole thing. If the denominator is 6 , then the whole has been divided into 6 parts, if the | It is important to review academic math vocabulary often throughout the day. Complete the Vocabulary notebook for each word. |

denominator is 9 , then the whole has been divided into 9 parts. The numerator tells you how many of parts of the whole you have. So if the denominator is 6 , it tells me that a whole has six parts, a numerator of 5 tells me that I have 5 of those six parts. It is a fraction that allows us to divide one thing into equal parts.
Have students complete his/her Vocabulary Notebook.
Vocabulary Notebook Sample:

| New Word $\quad$ Fraction | My Description <br> A number that represent less than a whole |
| :--- | :--- |
| Personal Connection <br> was able to get only a fraction of the work <br> done. |  |

## Activity <br> Fraction War

Demonstrate: Show the class how to play the game by bringing up volunteers to demonstrate how to play the game following the directions below.
Materials: Fraction addition and subtraction cards.
Directions:

1. Shuffle the cards and divide them equally between the 2 players
2. Players turn the top card over simultaneously
3. Player adds or subtracts the problem on the top card and calls out the answer.
4. Player with the highest value collects all of the cards
5. In the case of a tie, a next card is played.

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.

## 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.

Fraction Cards

| $\frac{1}{2}+\frac{1}{2}$ | $\frac{1}{4}+\frac{1}{4}$ | $\frac{1}{4}+\frac{2}{4}$ | $\frac{2}{4}+\frac{1}{4}$ |
| :---: | :---: | :---: | :---: |
| $\frac{1}{4}+\frac{3}{4}$ | $\frac{1}{8}+\frac{1}{8}$ | $\frac{1}{8}+\frac{2}{8}$ | $\frac{1}{8}+\frac{3}{8}$ |
| $\frac{1}{8}+\frac{5}{8}$ | $\frac{2}{8}+\frac{1}{8}$ | $\frac{2}{8}+\frac{2}{8}$ | $\frac{2}{8}+\frac{3}{8}$ |
| $\frac{2}{8}+\frac{4}{8}$ | $\frac{2}{8}+\frac{6}{8}$ | $\frac{3}{8}+\frac{1}{8}$ | $\frac{3}{8}+\frac{2}{8}$ |
| $\frac{3}{8}+\frac{3}{8}+\frac{4}{8}$ | $\frac{3}{8}+\frac{5}{8}$ | $\frac{4}{8}+\frac{1}{8}$ |  |
| $\frac{4}{8}+\frac{4}{8}$ | $\frac{5}{8}+\frac{2}{8}$ | $\frac{6}{8}+\frac{1}{8}$ | $\frac{7}{8}+\frac{1}{8}$ |
| $\frac{2}{2}-\frac{1}{2}$ | $\frac{3}{4}-\frac{1}{4}$ | $\frac{3}{4}-\frac{2}{4}$ | $\frac{4}{4}-\frac{1}{4}$ |
| $\frac{8}{8}-\frac{1}{8}$ | $\frac{8}{8}-\frac{2}{8}$ | $\frac{8}{8}-\frac{3}{8}$ | $\frac{8}{8}-\frac{5}{8}$ |
| $\frac{7}{8}-\frac{1}{8}$ | $\frac{7}{8}-\frac{3}{8}$ | $\frac{7}{8}-\frac{4}{8}$ | $\frac{7}{8}-\frac{6}{8}$ |


| $\frac{6}{8}-\frac{1}{8}$ | $\frac{6}{8}-\frac{2}{8}$ | $\frac{6}{8}-\frac{5}{8}$ | $\frac{6}{8}-\frac{5}{8}$ |
| :---: | :---: | :---: | :---: |
| $\frac{5}{8}-\frac{1}{8}$ | $\frac{5}{8}-\frac{3}{8}$ | $\frac{5}{8}-\frac{4}{8}$ | $\frac{4}{8}-\frac{1}{8}$ |
| $\frac{4}{8}-\frac{2}{8}$ | $\frac{3}{8}-\frac{1}{8}$ | $\frac{3}{8}-\frac{2}{8}$ | $\frac{2}{8}-\frac{1}{8}$ |


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Fraction War Cards |
| Focus: | Fractions |


| Materials: |  |
| :--- | :--- |
| White boards | Vocabulary Notebooks |
| Crayolas | Fraction War Cards from yesterday |
| Socks | Double 9 Dominoes |

## Opening

## State the objective

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

## Gain prior knowledge by asking students the following questions

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?
What are the basic operations that you need to utilize during math?

| Content (the "Meat") |
| :--- | :--- |
| Problem of the Day |
| The kids are going on a field trip. From Mrs. Johnson's room 3.4 bring lunch from home. In Mr. |
| Martin's class, $5 / 8$ bring lunches from home. If each class has 32 students, how many kids <br> brought lunch from home? |

## 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.

It is important to review academic math vocabulary often throughout the day. Complete the Vocabulary notebook for each word. When possible, have
pieces you have.
Have students share the Vocabulary Notebooks in pairs, discussing the word, making any additions or changes.
Vocabulary Notebook Sample:

| New Word $\quad$ My Description |
| :--- | :--- |
| A number that is less than one whole, has two |
| numbers, a numerator on top and a |
| denominator on the bottom. |$|$

Activity

## Fraction War

Review: Review the game from yesterday. Ask students how to play the game and what sort of things could "trip" a person up.
Play the game.
Materials: Fraction addition and subtraction cards

## Directions:

1. Shuffle the cards and divide them equally between the 2 players.
2. Players turn the top card over simultaneously.
3. Player adds or subtracts the problem on the top card and calls out the answer.
4. Player with the highest value collects all of the cards.
5. In the case of a tie, a next card is played.
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>

Double 9 Dominoes








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

## Materials:

| White boards | Decks of cards | deck of cards for each pair |
| :--- | :--- | :--- |
| Crayolas | Vocabulary Notebooks |  |
| Socks | Bingo Cards |  |


| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> John and Jorge are going to an amusement park. They plan to eat lunch at the park as well as enjoy the rides. It will cost $\$ 13.00$ for admission, $\$ 2.50$ for a hot dog, and a soda will cost $\$ 1.75$. John says the will only need to take $\$ 16.00$. Jorge says they need to each take $\$ 20.00$. Who do you agree with and how did you decide? | *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> 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. | 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: decimal <br> Description: A decimal is a period that separates whole numbers from numbers that represent a part of a whole. The most common place that we find a decimal is in the writing | It is important to review academic math vocabulary often throughout the day Complete the Vocabulary notebook for each word. |

of dollars and cents. To write money, start with a \$ sign and tell how many dollars are there, for example, $\$ 3$. Second step is to put the decimal or the dot after the 3 to show that we are not looking at "cents", the kind that can take 100 pennies to equal a dollar. Remind students that pennies, nickels, dimes, quarter, and half dollars, represent a portion of the dollar. If I have 3 dollars, 1 quarter and 1 dime, I would have $\$ 3.35$. Give children several chances to make this new information work.

Vocabulary Notebook Sample:

| New Word <br> decimal | My Description <br> A mathematical "period" that separates whole number from a part of the whole |
| :---: | :---: |
| Personal Connection <br> I use a decimal point to write 4.25 which says I have 4 whole things and 25 of a fifth one. | Drawing |

## Activity Decimal Bingo

Demonstrate how to set up the Bingo Card by using the answers randomly on the bingo board. New bingo cards can be made each time the game is played. Draw a large Bingo card on the board and demonstrate exactly how to set up the card.

## Decimal Bingo

Materials: Bingo Cards, Bingo answer sheet, tokens or paper to mark spaces

## Directions:

1. Student makes Bingo Card by placing the answers randomly on his/her card
2. Leader draws a problem card, writes the problem on the board.
3. Students find the answer to the problem and then if that answer is one that they selected, then that number is covered.
4. Winner calls Bingo when they have.

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.

Bingo Cards

| B | I | N | G | O |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  | Free |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Problem and Answer Cards

| $\begin{array}{r} 0.5 \\ +0.5 \\ \hline \end{array}$ | $\begin{array}{r} 0.1 \\ +0.6 \\ \hline \end{array}$ | $\begin{array}{r} 0.3 \\ +0.5 \\ \hline \end{array}$ | $\begin{array}{r} 0.6 \\ +0.9 \\ \hline \end{array}$ | $\begin{array}{r} 0.4 \\ +0.2 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{r} 45.3 \\ +10.2 \\ \hline \end{array}$ | $\begin{array}{r} 82.3 \\ +101.4 \\ \hline \end{array}$ | $\begin{array}{r} 17.3 \\ +22.8 \\ \hline \end{array}$ | $\begin{array}{r} 54.3 \\ +45.2 \\ \hline \end{array}$ | $\begin{array}{r} 14.6 \\ +25.6 \\ \hline \end{array}$ |
| $\begin{array}{r} 2.6 \\ +24.3 \\ \hline \end{array}$ | $\begin{array}{r} 118.1 \\ +67.6 \\ \hline \end{array}$ | $\begin{array}{r} 12.3 \\ +54.1 \\ \hline \end{array}$ | $\begin{array}{r} 7.5 \\ +29.4 \\ \hline \end{array}$ | $\begin{array}{r} 33.2 \\ +32.2 \\ \hline \end{array}$ |
| $\begin{array}{r} 1.5 \\ -0.8 \\ \hline \end{array}$ | $\begin{array}{r} 63.4 \\ -57.8 \\ \hline \end{array}$ | $\begin{array}{r} 7.5 \\ -3.6 \\ \hline \end{array}$ | $\begin{array}{r} 108.2 \\ -94.7 \end{array}$ | $\begin{array}{r} 1.2 \\ -0.6 \\ \hline \end{array}$ |
| $\begin{array}{r} 25.1 \\ -16.4 \end{array}$ | $\begin{array}{r} 99.1 \\ -24.9 \\ \hline \end{array}$ | $\begin{array}{r} 2.1 \\ -0.9 \\ \hline \end{array}$ | $\begin{array}{r} 480.3 \\ -358.9 \\ \hline \end{array}$ | $\begin{array}{r} 79.4 \\ -5.9 \end{array}$ |
| $\begin{array}{r} 1.2 \\ -0.5 \\ \hline \end{array}$ | $\begin{array}{r} 826.1 \\ -745.9 \\ \hline \end{array}$ | $\begin{array}{r} 512.4 \\ -460.8 \\ \hline \end{array}$ | $\begin{array}{r} 3.5 \\ -1.6 \\ \hline \end{array}$ | $\begin{array}{r} 50.3 \\ -19.4 \\ \hline \end{array}$ |

Answer Cards

| 1.0 | 0.7 | 0.8 | 1.5 | 0.6 |
| :---: | :---: | :---: | :---: | :---: |
| 55.5 | 183.7 | 40.1 | 99.5 | 40.2 |
| 26.9 | 185.7 | 66.4 | 36.9 | 65.4 |
| 0.7 | 5.6 | 3.9 | 13.5 | 0.6 |
| 8.7 | 74.2 | 1.2 | 121.4 | 73.5 |
| 0.7 | 80.2 | 51.6 | 1.9 | 30.9 |
|  |  |  |  |  |


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Decimal Bingo and Foreheader |
| Focus: | Decimals |

## Materials:

| White boards | Decks of cards | Socks |
| :--- | :--- | :--- |
| Crayolas | Vocabulary Notebooks | Decimal Bingo materials from yesterday |


| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |

## Content (the "Meat")

## Problem of the Day

Cupcakes, decorated cookies, donuts, and chocolate chip cookies are sold at the corner bakery. The prices are $\$ 2.50, \$ 1.75, \$ 1.90$, and $\$ 1.15$. How much does each item cost.

Chocolate chip cookies cost more than donuts
Decorated cookies cost the most
Neither the donuts or the cupcakes cost $\$ 1.75$

## 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.

Word for today: decimal
Description: Review the information that you shared with students yesterday. Explain to students that numbers written to the right of a decimal point are labeled tenths, hundredths, thousandths, ten-thousandths, and hundred-thousandths. Explain that the letters "th" share the information that it is a decimal. Also share that when reading these number, the decimal point is read by saying the word "and".
Have students share the Vocabulary Notebooks in pairs, discussing the word, making any additions or changes.
Vocabulary Notebook Sample:

| New Word | My Description <br> Decimal |
| :--- | :--- |
| A point that looks like a period that separates <br> a whole number from a part of a whole |  |
| Personal Connection <br> I use a decimal point when I write <br> information about money: $\$ 14.67$. | Drawing |

## Activity <br> Decimal Bingo

Review yesterday's game as you will play it again today. You will use the same material as yesterday.

Decimal Bingo
Materials: Bingo Cards, Bingo answer sheet, tokens or paper to mark spaces

## Directions:

1. Student makes Bingo Card by placing the answers randomly on his/her card.
2. Leader draws a problem card, writes the problem on the board.
3. Students find the answer to the problem and then if that answer is one that they selected, then that number is covered.
4. Winner calls Bingo when they have.
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.


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{4 \mathrm{~h}}$ \& $5^{\text {th }}$ Grade |
| Lesson Title: | Dueling Decimals |
| Focus: | Decimals |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
6 -sided dice; 12 -sided dice decks of cards

| Opening |
| :--- |
| $\quad$ State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> Julie believes that the answer to the problem below written in its simplest form if $6 / 9$. $5 / 9+1 / 9=$ <br> Is she correct? Why or why not? | *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. |
| 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: $9 \times 4=36$ <br> $4 \times 9=36$ <br> $36 \div 4=9$ $36 \div 9=4$ <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 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: simplest form <br> Description: Simplest form is a term we use when we talk about fractions. When a fraction is written in its simplest form there is no common number that can be divided into the numerator | It is important to review academic math vocabulary often throughout the day. Complete the Vocabulary |

and/or the denominator with the exception of 1 . For example $1 / 2$ is in its simplest form, however $2 / 4$ is not, because both the numerator and the denominator can be divided by 2 . Have students begin with a whole piece of paper. Have them decide how many pieces they will divide the paper into (not more than 12). Then have them divide the paper into that many pieces. This number will become the denominator. Have them select various numbers of pieces for the numerator. Record the fraction, written in the simplest form.
Have students share the Vocabulary Notebooks in pairs, discussing the word, making any additions or changes.
Vocabulary Notebook Sample:

| New Word | My Description <br> Refers to writing numbers in its most simple <br> form, making it easier for other to understand <br> what we are thinking |
| :--- | :--- |
| Personal Connection <br> When I am finished adding fractions I <br> want to put the answer into its simplest <br> form. Drawing |  |

## Activity <br> Dueling Decimals

Demonstrate how to play this game by asking volunteers to come to the front and teaching them the rules of the game as written below.
Materials: Deck of cards without tens, jokers, and face cards removed. Separate the ace (1), 2,3 , and 4 of hearts from the deck and hold them separately. White board

## Directions:

The object of this game is to create the largest number.
Shuffle the remaining cards.
Player one draws a card from the 4 hearts (either an ace or $1,2,3$, or 4 . This number will indicate where to place the decimal. Example:

| $\bullet-1$ | $\bullet-2$ | $\bullet-3$ | $\bullet-4$ |
| :---: | :---: | :---: | :---: |

If player draws the 3 of hearts, then the decimal would be in this location on his/her white board.


Player then draws one of the other cards (for example a 3. Player must decide where to place the 3 in the number grid on his/her white board.
After the number is placed, player two repeats the process.


Player one draws another card and places it on the grid (the card that is already on the card
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.
can NOT be moved.
When all three numerals are placed, the largest number wins.

## 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!)

- 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Multiples and Dueling Decimals |
| Focus: | Decimals |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
Copies of activities at end of Lesson Plan
Decks of cards

| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |

## Content (the "Meat")

Problem of the Day

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

It's Valentine's Day. 3/10 of the students received paper valentines. $1 / 10$ received a candy treat. The others received both paper valentines and a candy treat. What fraction (in its simplest form) got both paper and candy valentines?

## 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.

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.

Description: Remind students of the conversation yesterday about fractions being written in the simplest form. Remind them that this means the numbers could not both be divided by the same number other than 1.
Review the entry from yesterday. Have students discuss in pairs and determine if they want to make any changes in the Vocabulary Notebook entry.

## Vocabulary Notebook Sample:

| New Word | My Description <br> Refers to fraction written in the lowest form <br> Comparison (435 of 870 is the same as $1 / 2)$ |
| :--- | :--- |
| Personal Connection <br> Please rewrite those fractions in the <br> simplest form. <br> Drawing | $\frac{\mathbf{2}}{\mathbf{4}} \frac{\mathbf{1}}{\mathbf{2}}$ |

## Activity <br> Dueling Decimals

Review with students how to play this game and then allow them to play with new partners, etc. form last week.

## Dueling Decimals

Materials: Deck of cards without tens, jokers, and face cards removed. Separate the ace (1), 2,3 , and 4 of hearts from the deck and hold them separately. White board

## Directions:

The object of this game is to create the largest number.
Shuffle the remaining cards.
Player one draws a card from the 4 hearts (either an ace or $1,2,3$, or 4 . This number will indicate where to place the decimal. Example:

| $\bullet-1$ | $\bullet-2$ | $\bullet-3$ | $\bullet-4$ |
| :--- | :--- | :--- | :--- |

If player draws the 3 of hearts, then the decimal would be in this location on his/her white board.


Player then draws one of the other cards (for example a 3. Player must decide where to place the 3 in the number grid on his/her white board.
After the number is placed, player two repeats the process.


Player one draws another card and places it on the grid (the card that is already on the card can NOT be moved.
When all three numerals are placed, the largest number wins.

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.

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: | $4^{\text {th } \& 5^{\text {th }} \text { Grade }}$ |
| Lesson Title: | Tic Tac Toe 345 |
| Focus: | Fractiona |

## Materials:

| White boards | Vocabulary Notebooks | Materials from yesterday |
| :--- | :--- | :--- |
| Crayolas | two, 12-sided dice for each pair |  |
| Socks | Product Hunt Work Sheet |  |


| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |

## Content (the "Meat") <br> Problem of the Day

You've been saving quarters for a long time and you have them in your piggy bank. If piggy banks were all the same size and held the same number of quarters, would you rather have 3 $1 / 10$ banks or $37 / 10$ banks? Why?

## 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: equivalent

Description: Review the word equivalent from yesterday. Talk with students about what equivalent means. Ask students to divide themselves into two equivalent groups. Ask students if they should consider just numbers, or number of girls and boys, people who are

## *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.
It is important to review academic math vocabulary often throughout the day. Complete the Vocabulary notebook for each word.
this age or that. Ask them to determine in what way the groups will be equivalent. Have students share the Vocabulary Notebooks in pairs, discussing the word, making any additions or changes.
Vocabulary Notebook Sample:

| New Word <br> equivalent | My Description <br> Things that are equal are equivalent |
| :--- | :--- |
| Personal Connection <br> My 4 quarters are equivalent to your 10 <br> dimes. | Drawing |

Activity
Tic Tac Toe
Review the game from yesterday and talk about the equivalent fractions, decimals, and percentages. Have students pick new partners to play the game with. Use the game materials from yesterday.

## Directions:

1. The first column must contain a fraction card, the second column a decimal card, and the third column the percentage card.
2. When player one places his/her first card, the equivalence value of the row has been determined.
3. For example, if the first person plays .5 in the center of the Tic Tac Toe, then if the second player wants to block right or left, he/she must play the fraction or \% card that is equal to .5 .
4. Likewise, if the second player wants to play top left, then he/she must play a fraction card other than $1 / 2$, since that is being used in the center row.

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.

## 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.

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 |


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | How Many Do You Have Review |
| Focus: | Review |

## Materials:

Post Its
Dice
Prizes (these can be time, a leadership role, opportunities to be the "teacher"

| Opening |  |
| :--- | :--- |
| Today we are going to have fun playing a game. | State the objective |

## Content (the "Meat")

## Activity

## How Many Do You Have?

1. Divide students in groups of $3-4$
2. On the Post-lt, each group writes a number between 5 and 70
3. Post the numbers in numeric order on the white board or a chart.
4. Roll 5 dice one time and one time only
5. Teams are to use any math that they know ( $+,-, X, \div$, use of parenthesis, exponents) to make each of the numbers on the Post Its.
6. Give Teams 20-25 minutes to complete the task
7. Team that has the most correct equations, wins the prize

|  |  |
| :---: | :---: |
| Say: | Closing |
| • Please recap what we did today. | Review |
| $\bullet$ |  |

## 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: | $4^{\mathrm{h}} \& 5^{\mathrm{h}}$ Grade |
| Lesson Title: | Tic Tac Toe Equivalents |
| Focus: | Fractions, Decimals, Percentage Equivalents |

## Materials:

| White boards | Vocabulary Notebooks | Tic Tac Toe Game Pieces |
| :--- | :--- | :--- |
| Crayolas | Cards |  |
| Socks | Tic Tac Toe Board (attached to this lesson plan) |  |


| Opening |
| :--- |
| State the objective |
| Today we are going to practice using our math vocabulary and skills. |
| Gain prior knowledge by asking students the following questions |
| 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? |
| What are the basic operations that you need to utilize during math? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day Julie needs to have 3 equivalent fractions for $3 / 4$. What would these be? $3 / 4=$ $\qquad$ $\qquad$ $\qquad$ | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in with students repeatedly. |
| 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. <br> 8. After one player finishes his/her turn, then the cards taken are replaced by cards from the remaining deck. <br> 9. Player with the most cards at the end of the game win. | 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. |
| Word for Today: equivalent Math Vocabulary | It is important to review academic math vocabulary often throughout the day. |

Description: This term refers to things being equal. For example, if you half of an able it is equivalent to having $2 / 4$ of the apple, or $3 / 6$ of the apple, or $4 / 8$ of the apple. These are all ways of looking at how we might divide a $1 / 2$ of an apple so that we are talking about equivalents. Equivalent is two things of equal value. Ask students to consider money equivalents.
Students should complete the Vocabulary Notebook.
Vocabulary Notebook Sample:

| New WordEquivalent | My Description <br> Things that are equal in value or amount |
| :--- | :--- |
| Personal Connection <br> We have an equivalent number of cookies <br> for everyone. | Drawing |

Activity

## Tic Tac Toe

Purpose of the game is to learn the equivalents in terms of fractions, decimals, and percentages.
Explain to students that fractions, decimals and percentages can be equivalent. For example $1 / 2$ is also .5 and $50 \%$. $1 / 4$ is also .25 and $25 \%$. Talk with students and determine other equivalents (thirds, eights, tenths, sixths, etc.)
Demonstrate how to play the Tic Tac Toe game, bringing students up as volunteers to show students how to play.

## Directions:

1. The first column must contain a fraction card, the second column a decimal card, and the third column the percentage card.
2. When player one places his/her first card, the equivalence value of the row has been determined.
3. For example, if the first person plays .5 in the center of the Tic Tac Toe, then if the second player wants to block right or left, he/she must play the fraction or \% card that is equal to .5 .
4. Likewise, if the second player wants to play top left, then he/she must play a fraction card other than $1 / 2$, since that is being used in the center row.

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.

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


| $1 / 4$ | .25 | $25 \%$ |
| :---: | :---: | :---: |
| $1 / 2$ | .5 | $50 \%$ |
| $3 / 4$ | .75 | $75 \%$ |
| $1 / 8$ | .125 | $12.5 \%$ |
| $1 / 3$ | .33 | $33 \%$ |
| $2 / 3$ | .67 | $67 \%$ |
| $3 / 8$ | .375 | $37.5 \%$ |
| $5 / 8$ | .625 | $62.5 \%$ |
| $7 / 8$ | .875 | $87.5 \%$ |
| $1 / 10$ | .1 | $10 \%$ |



| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| 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. | 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: 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| 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

| 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!)

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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Factors In Common and Target |
| 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 |


| 8. After one player finishes his/her turn, then the cards taken are replaced by cards from the remaining deck. <br> 9. Player with the most cards at the end of the game win. |  |
| :---: | :---: |
| Math Vocabulary <br> Word for Today: greatest common factor <br> Description: Greatest common factor is a term that discusses the largest number that 2 or more numbers share as a factor. Factors of a number are the two numbers you multiply together to get a particular number as the product. In the number 12 you can reach 12 with the following problems: $1 \times 12,2 \times 6,3 \times 4$. All of those numbers are then factors of 12 . <br> If you have the number 12 , the factors of 12 are $1,2,3,4,6$, and 12 <br> In the number 15 you can reach 15 with the following problems: $1 \times 15$ and $3 \times 5$. <br> If you have the number 15 the factors of 15 are $1,3,5$, and 15 <br> If you look at the factors of 12 and 15 you can see that hey share 1 and 3 . The largest of these is 3 so the largest common factor is 3 . <br> Students should complete the Vocabulary Notebook | 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 |
| Vocabulary Notebook Sample: |  |
| Personal Connection Drawing <br> The factors of 8 are $1,2,4$, and 8 . The <br> factors of 12 are $1,2,2,4,6$, and 12 . The <br> greatest common factor is 4.  |  |
| Activity <br> Factors In Common <br> Materials: Factor Cards, Factors in Common Game Board, game token <br> Directions: <br> 1. Group students in pairs. <br> 2. Place Common Factor Game Board between students face up and all Factor Cards face down. <br> 3. Player 1 draws a Factor Card, looks at the two factors on the card and then selects the number on the game board that represents the greatest common factor for those two numbers. <br> 4. Player 1 covers his/her answer with a token. <br> 5. Player 2 takes a turn. <br> 6. Play continues until all answers are covered. | 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
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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Simplest Form Concentration and Draw |
| 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.



## 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| 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 <br> Today we are going to practice using our math vocabulary and skills working with fractions. <br> Gain prior knowledge by asking students the following questions <br> What do you know about fractions? How is a fraction related to a whole? What is the top number in a fraction called? <br> What is the bottom number of a fraction called? How do those words make sense-can you think about similar words and <br> how they apply? <br> What are some strategies that you use when you are trying to figure out how to solve a mathematics problem? <br> 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| 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. |

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

## 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Foreheader and Fraction Rewrite |
| 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 <br> 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | The Ladder and Equivalent Fractions |
| 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: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | ISFEF Review |
| 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.

| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Battle Ship |
| Focus: | Coordinates |

## 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 |
| Geometry allows us to study shapes. There is plane geometry that has to do with flat shapes like lines, circles, and |
| s1uares that you can draw on a piece of paper. There is solid geometry that has to do with prisms, cubes, and pyramids. |
| In what ways is geometry useful in your day-to-day life? |
| Today we are going to use grid paper in our activity. Have you ever worked with grid paper? What do you know about |
| determining coordinates on a grid? |
| 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

Jill's yard is 40 feet by 35 feet. If she purchases sod at $\$ 5.00$ per square feet, how much will the new lawn cost her?

## 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.
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.

| Word for Today: volume |
| :--- |
| Description: Te term volume refers to the space inside a three-dimensional shape. It is |
| found by multiplying together height x length x width. |
| Create an entry in your Vocabulary Notebook for the word "volume". |
| Vocabulary Notebook Sample: |
| New Word My Description <br> volume the amount of space in a three dimensional <br> object  |
| What is the volume of that box? |

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!)

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. (Aha!)

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 |

Battleship $4^{\text {th }}-5^{\text {th }}$


| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Perimeter and Battle Ship |
| Focus: | Coordinates |


| Materials: |  |  |
| :--- | :--- | :--- |
| White boards | Vocabulary Notebooks | Materials at end of the lesson plan |
| Crayolas | 6-sided dice; 12-sided dice |  |
| Socks | decks of cards |  |


| 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 |
| Geometry allows us to study shapes. There is plane geometry that has to do with flat shapes like lines, circles, and |
| s1uares that you can draw on a piece of paper. There is solid geometry that has to do with prisms, cubes, and pyramids. |
| In what ways is geometry useful in your day-to-day life? |
| Today we are going to use grid paper in our activity. Have you ever worked with grid paper? What do you know about |
| determining coordinates on a grid? |
| 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 chart below. Write in the value of $Y$ in the problem below for each of the $x$ values.
$60 \div x=y$

| $X$ | $Y$ |
| :---: | :---: |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| 10 |  |

## Fact Practice

Fact Family
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:

## *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

| $9 \times 4=36$ <br> $4 \times 9=36$ <br> $36 \div 4=9$ <br> $36 \div 9=4$ |  |  |
| :--- | :---: | :---: |
| Students should roll 2 dice and create a Fact Family by writing the members of the family on |  |  |
| the white board. Student should roll a total of 5 times, creating 5 Fact Families |  |  |
| Math Vocabulary |  |  |
| Word for Today: perimeter |  |  |
| Description: The term perimeter means the distance around a two dimensional shape. To <br> find the perimeter, you start and one spot, go around the outside edge of the shape, coming <br> back to where you started. We can measure a perimeter with a ruler or some other measuring <br> tool, conventional or non-conventional. You can also add the length of each side of a shape <br> together to find the perimeter. <br> Create and entry in your Vocabulary Notebook for the term "perimeter". <br> Vocabulary Notebook Sample: |  |  |
| New Word  <br> Personal Connection <br> He will walk the perimeter of the yard with <br> his dog. My Description |  |  |

## Activity <br> Battle Ship

Graphing coordinates is an important learning for students. In this activity, students will determine where to place battleships by rolling dice to identify the coordinates.

## Battle Ship <br> Directions:

1. Divide students into pairs. Give each player a set of 4 dice and a piece of grid paper.
2. Player rolls 2,3 or 4 dice to determine the coordinates of each battleship and marks the point on the graph. For example, if the player rolls 4 dice and by adding 3 of them together comes up with 11 , and the $4^{\text {th }}$ die is a 3 , he/she could marks the battleship at 311.
3. Player repeats step 1 until he/she has 5 battleships in play.
4. When both players have their boards marked, the game is ready to continue.
5. Players take turns guessing the location of the battleship. If the player misses, his/her opponent says "MISS", if the coordinate guessed is correct, then the player says "HIT". Guesses must be made stating the $x$ axis and then the $y$ axis.
6. Winner is the player that sinks all of the opponent's battleships.
student become the teacher.

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!)

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.

Battleship Lesson $94^{\text {th }}-5^{\text {th }}$

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| $3 \rightarrow$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $2 \rightarrow$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  | 1 | 2 | 3 | 4 |  | 5 | 6 | 7 | 8 | 9 | 10 | 10 | 111 | 12 |


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

## Materials:

| White boards | Decks of cards |
| :--- | :--- |
| Crayolas | Vocabulary Notebooks |
| Socks | Attribute cards (at end of the 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 attributes? How is a single attribute related to a whole description of an item? When you are describing something, what are some of the easiest attributes to identify? Think about geometric shapes. What would be some obvious attributes of shapes? Why is understanding attributes important in math?
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> Mental math is when you do a math problem in your head without pencil and paper. If you were to find the answer to $83 \times 5$ by using mental math, how will you do this in the easiest way? | *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> Fore-header <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. | 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 "teaching to learn". |

## Math Vocabulary

## Word for today: equilateral triangle

Description: A triangle is a three sided figure. It has three angles (points at which the lines forming the triangle meet.) These angles will add up to $180^{\circ}$ in ALL triangles. In an equilateral triangle, each angle is equal, so each angle equals $60^{\circ}$. An equilateral triangle is usually the first picture of a triangle that we have. They look like this:


Create an entry in your notebook for the term: equilateral triangle.
Vocabulary Notebook Sample:

| New Word <br> equilateral triangle | My Description <br> all the sides and angles are equal |
| :--- | :--- |
| Personal Connection <br> The musical instrument is an equilateral <br> triangle. | Drawing |

Activity
Attributes
This game was played yesterday. Ask students what they learned about playing the game that is helpful. Have students share strategies. Ask students to play in a trio that they did not play in yesterday.

## Attributes

## Directions:

1. Divide students into trios.
2. Give each trio a deck of Attribute Cards.
3. Shuffle the cars and deal them one at a time to each player, face up.
4. When one of the player sees 3 cards with a common attribute (even if the cards are in someone else's hand, the player calls, "Trio" and then names the common characteristic and picks up the three cards.
5. Play continues, dealing the cards one at a time, until all cards have been dealt and been picked up.
6. Player with the most cards wins.

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.

## 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. (Aha!)

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

## Materials:

White boards
Crayolas
Socks

Attribute 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 attributes? How is a single attribute related to a whole description of an item? When you are describing something, what are some of the easiest attributes to identify? Think about geometric shapes. What would be some obvious attributes of shapes? Why is understanding attributes important in math?
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> John has 13 boxes of baseball cards. Each box has 250 cards. How many baseball cards does John 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. When possible, engage students in "teaching to learn". |



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

## Attributes

An attribute is a characteristic or a trait. An attribute could be color, stripes, solids, spots, shapes, edges, corners and any other characteristic that identifies something. When we categorize something we look for shared characteristics or attributes.
The purpose of this activity is to determine what attributes can categorize objects-in other words, what attributes do the objects have in common.

## Attributes

## Directions:

1. Divide students into trios.
2. Give each trio a deck of Attribute Cards.
3. Shuffle the cars and deal them one at a time to each player, face up.
4. When one of the player sees 3 cards with a common attribute (even if the cards are in someone else's hand, the player calls, "Trio" and then names the common characteristic and picks up the three cards.
5. Play continues, dealing the cards one at a time, until all cards have been dealt and been picked up.
6. Player with the most cards wins.

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.

## 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. (Aha!)

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| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | What's In A Shape? |
| Focus: | Geometry |


| Materials: |  |
| :--- | :--- |
| White boards | Vocabulary Notebooks |
| Crayolas | Dice |
| Socks | What's In A Shape Worksheet (at end of lesson plan) |


| 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 |
| Geometric shapes come in all shapes and sizes. Name some of the more common shapes? There are two dimensional or |
| flat shapes, and then there are three dimensional or shapes that have volume. For example, a triangle is a three-sided |
| shape and a pyramid is a three dimensional shape that begins with a triangle? What other 3-dimensional shapes do you |
| know? |
| 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
Lorna is purchasing bags of oranges. She has decided that she needs 9 bags. Each bag weighs 2.4 pounds. How much do the bags weight together? How do you know?

## 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.

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.

## *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: obtuse angle

Description: an angle is created when two lines come together to create a point. If three angles are included in one shape, you have a triangle. In a triangle if you added the measurement of each angle, you would have $180^{\circ}$. An obtuse angle is an angle that has more than $90^{\circ}$. A right angle, which is shaped like an L , has $90^{\circ}$ in it. An obtuse angle has more than $90^{\circ}$, and less than $180^{\circ}$. An obtuse angle looks like this:


Vocabulary Notebook Sample:

| New Word <br> obtuse angle | My Description <br> more than a 90 degree angle |
| :--- | :--- |
| Personal Connection <br> When I opened the door as wide as I <br> could it formed an obtuse angle. | Drawing |

## Activity <br> What's In A Shape?

This activity was worked on yesterday. Ask students what they learned about playing the game that is helpful. Have students share strategies. Ask students to work in a different pairing today.

## What's In A Shape?

## Directions:

1. Divide students into pairs.
2. Give each pair a set of 6 shapes.
3. Have students cut the shape apart.
4. Give each pair a directions sheet.
5. Follow the directions and complete each challenge.

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!)

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. (Aha!)

## What's In A Shape Lesson $34^{\text {th }}-5^{\text {th }}$ Grade

Study the different shapes that you have been given and cut out. You have an Equilateral Triangle (E), Diamond (D), Square (S), Rhombus (R), Hexagon (H) , and Trapezoid (T).
These shapes have a relationship with one another and this is an exercise in which you will explore that relationship.
Solve the following pattern block equations. Write the letter the shape the equation makes in the blank.
$3 \times E=$ $\qquad$ $3 \times R=$ $\qquad$
$\mathrm{R}+\mathrm{E}=$ $\qquad$ $2 \times 1=$ $\qquad$

If the perimeter of the Equilateral Triangle $(\mathrm{E})$ is 3 units, what is the perimeter of

R $\qquad$ T $\qquad$ H $\qquad$
If the area of the Equilateral Triangle ( E ) is 1 square unit, what is the area of

## R

$\qquad$ T $\qquad$ H $\qquad$
Draw the following shapes by following the directions:

Use two different paper pattern: Make a shape with a perimeter of 8 units and an area of 8 square units.

Use three paper patterns. Make a shape with a perimeter of 7 units and an area of 5 square units.
Use five paper patterns. Make a shape with a perimeter of 6 units and an area of 6 square units.
Use three different paper patterns to make a shape with a perimeter of 11 and an area of 11 square units.

Just for fun, use the paper patterns to make a totally unique shape. Figure out the perimeter and the area.

## Consult 4 Kids Lesson Plans



| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | What's In A Shape Triangle |
| Focus: | Geometry |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
dice
What's In A Shape worksheet 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
Geometric shapes come in all shapes and sizes. Name some of the more common shapes? There are two dimensional or flat shapes, and then there are three dimensional or shapes that have volume. For example, a triangle is a three-sided shape and a pyramid is a three dimensional shape that begins with a triangle? What other 3-dimensional shapes do you know?
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> If Sally makes $\$ 21.25$ each week when she helps Mrs. Jones with her housework, how much money will Sally make in 8 weeks? How do you know? | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in with students repeatedly. |
| Fact Practice <br> Spokes on a Wheel <br> 1. Divide students into pairs. <br> 2. On a white board, student draws a small circle with 9 spokes coming out of it (should look like a bicycle tire). <br> 3. Have students choose to put a 6,7 or 8 in the center circle. <br> 4. Student rolls two dice and adds the pips (dots). <br> 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 $7 \times 8=56$. <br> 6. Process continues until all spokes have an equation. | 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 |


 | Wath Voc |
| :--- |
| Wescription: A triangle is a three sided figure |
| an isosceles triangle there are two sides that are |
| the same. The third side and the third angle ar |
| triangle looks like this: |

Students complete the Vocabulary Notebook.
Vocabulary Notebook Sample:

| New Word | My Description |
| :--- | :--- |
| isosceles triangle |  |
| two sides and two angles equal |  |

## Activity

What's In A Shape?
Geometric shapes can take a variety of forms. When those geometric shapes are combined, you can look closely at patterns, fractions, and other relationships. You will have an opportunity to look at several shapes, each labeled with a letter. You will be instructed to think about these shapes in relationship with one another.

## What's In A Shape?

## Directions:

1. Divide students into pairs.
2. Give each pair a set of 6 shapes.
3. Have students cut the shape apart.
4. Give each pair a directions sheet.
5. Follow the directions and complete each challenge.
student become the teacher.

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.

## Consult 4 Kids Lesson Plans



## 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. (Aha!)

## What's In A Shape Lesson $34^{\text {th }}-5^{\text {th }}$ Grade

Study the different shapes that you have been given and cut out. You have an Equilateral Triangle (E), Diamond (D), Square (S), Rhombus (R), Hexagon (H) , and Trapezoid (T).

These shapes have a relationship with one another and this is an exercise in which you will explore that relationship.
Solve the following pattern block equations. Write the letter the shape the equation makes in the blank.
$3 \times E=$ $\qquad$ $3 \times \mathrm{R}=$ $\qquad$
$\mathrm{R}+\mathrm{E}=$
$2 \times 1=$ $\qquad$

If the perimeter of the Equilateral Triangle $(\mathrm{E})$ is 3 units, what is the perimeter of

## R

$\qquad$ T $\qquad$ H $\qquad$
If the area of the Equilateral Triangle ( E ) is 1 square unit, what is the area of

## R

$\qquad$ T $\qquad$ H $\qquad$
Draw the following shapes by following the directions:

Use two different paper pattern: Make a shape with a perimeter of 8 units and an area of 8 square units.

Use three paper patterns. Make a shape with a perimeter of 7 units and an area of 5 square units.
Use five paper patterns. Make a shape with a perimeter of 6 units and an area of 6 square units.
Use three different paper patterns to make a shape with a perimeter of 11 and an area of 11 square units.

Just for fun, use the paper patterns to make a totally unique shape. Figure out the perimeter and the area.


| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Forward Ho |
| Focus: | Geometry |

## 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 geometry.

## Gain prior knowledge by asking students the following questions

Combining geometric shapes in a variety of different ways allows new shapes to be formed. For example, if you put two triangles together at the base, you will get a diamond.


What other shapes could you form is you added different geometric shapes together?
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> Find the product of $5.78 \times 3.1$. Explain, in a step by step manner, what you did to get the answer correct? | *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> 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. | 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: translation (slide) |
| Description: Translating or sliding a geometric shape occurs when a shape is moved or slid |
| new a new location without rotating it or flipping the shape. Here is an example: |
| Create an entry of the word "translation" in the vocabulary notebook. <br> Vocabulary Notebook Sample: <br> New Word <br> translation <br> Personal Connection Description <br> I will translate that picture to a new place on <br> the page. |

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!)

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
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 |

## START HERE



FINISH

| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Scalene Triangle and Forward Ho |
| Focus: | Geometry |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks Cards
Forward Ho materials at end of lesson plan

## Opening

## State the objective

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

## Gain prior knowledge by asking students the following questions

Combining geometric shapes in a variety of different ways allows new shapes to be formed. For example, if you put two triangles together at the base, you will get a diamond.


What other shapes could you form is you added different geometric shapes together?
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> Jorge did the math problem below. When he did he got the following answer: 27.648. Is Jorge right? How do you know? $\begin{array}{r} 4.32 \\ \times 6.4 \\ \hline \end{array}$ | *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 thinking. <br> Take advantage of any |
| 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. | 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 |

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.

## Math Vocabulary

## Word for Today: scalene triangle

Description: A triangle is a three-sided figure with three angles. An equilateral triangle has three equal sides and three equal angles. An isosceles triangle has two sides and two angles that are equal. A scalene triangle has no sides and no angles that are equal. A scalene triangle looks like this:


Students should complete the Vocabulary Notebook
Vocabulary Notebook Sample:

| New Word | My Description |
| :--- | :--- |
| Scalene triangle |  |
| A triangle with no equal sides or angles |  |

## Activity <br> Forward Ho!

Basic shapes, squares, diamonds and triangles can be made by combining Tangram pieces. Working on this activity will strengthen students' understanding of spatial and geometric relationships.

## Forward Ho!

## Directions:

1. Divide students into pairs or trios.
2. Give each group a game board, a deck of cards with only aces, $2 \mathrm{~s}, 3, \mathrm{~s} 4 \mathrm{~s}$, and 5 s , a game token, and one set of Tangram pieces for each student.
3. Player draws a card and moves that many spaces on the game board. When he/she arrives at the space, he/she will see a shape.
4. He/she will now make the shape on the space with the number of Tangram pieces that is indicated by the card drawn. For example: player one draws a 2 and moves to a square that has a diamond. He/she must then make a diamond using 2 Tangram pieces.
student become the teacher.

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. If player can make the shape with the required number of pieces, he/she can stay on the space, if he/she can't, then he/she must go back to where he/she was.
6. Winner is the first person to reach the finish line.

Note: more than one player can be on a space at the same time.

## 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.

## START HERE



FINISH

| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Reflection Flip Slide Turn |
| Focus: | Geometry |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
decks of cards
Materials attached to the lesson plan-grid paper, shapes

## Opening

## State the objective

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

## Gain prior knowledge by asking students the following questions

Geometry allows us to study shapes. There is plane geometry that has to do with flat shapes like lines, circles, and squares that you can draw on a piece of paper. There is solid geometry that has to do with prisms, cubes, and pyramids. In what ways is geometry useful in your day-to-day life?
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") |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :---: | :---: | :---: | :---: | :---: |



## Activity

## Flip, Slide and Turn

It is possible to move a geometric figure in three ways:
You can flip a figure over a line. When you do this it is called a reflection.
You can slide a figure along straight lines and this is called a translation.
You can turn a figure around a point and this is called a rotation.

## Flip, Slide, and Turn

## Directions:

1. Divide students into pairs.
2. Give each pair two pieces of graph paper and a set of four shapes.
3. Write the four questions on the board and make a copy for each pair.
4. Pair of students Cut out each of the shapes and then follows the directions with each piece-tracing the shape on the graph paper before the direction and then after following the direction, labeling the picture so you know if they flipped, slid, or turned the piece.
5. Pair should create a design on the second piece of graph paper, using flips, slides, and

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 $1 / 20$ 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.
turns.

## 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.

Flip, Slide and Turn Lesson $74^{\text {th }}$ - $5^{\text {th }}$


You can slide a figure along straight lines. Another word for slide is translation.
You can turn the figure around a point. Another word of turn is rotation.
You can flip the figure over a line. Another word for flip is reflection.
When you slide, turn, or flip a figure, does its size change? Does its shape change? The original figure and the final figure are the same.
Select one of the shapes below and trace it on grid paper. Then demonstrate how you can slide, flip, or turn the design.


Grid Paper


| Component: | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | Flip Slide and Turn |
| Focus: | Geometry |


| Materials: |  |
| :--- | :--- |
| White boards | Vocabulary Notebooks |
| Crayolas | Double 9 Dominoes |
| Socks | 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 geometry. |
| Gain prior knowledge by asking students the following questions |
| Geometry allows us to study shapes. There is plane geometry that has to do with flat shapes like lines, circles, and |
| sluares that you can draw on a piece of paper. There is solid geometry that has to do with prisms, cubes, and pyramids. |
| In what ways is geometry useful in your day-to-day life? |
| 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

Melanie is dividing 246 by 31 . She thinks that the first number of her answer (the quotient) will be placed in the hundreds place. Is she correct? How do you know?

## 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: $2 \times 3=6$ |  |
| :--- | :--- |
| Word for Today: rotation (turn) |  |
| Description: Rotation means to turn around a center. The distance from the center to any <br> point on the shape stays the same. Every point makes a circle around the center. A rotation <br> is not like a slide in which you just move something over. It is not like a flip when you turn <br> something over or upside down. A rotation is turning the shape. An example could look like <br> this: |  |
| Create an entry for the word rotation in your Vocabulary Notebook. <br> Vocabulary Notebook Sample: |  |
| New Word <br> Notation | My Description |
| My necklace clasp continues a rotation |  |
| around my neck. |  |

Activity
Flip, Slide, and Turn
This activity was worked on yesterday. Ask students what they learned about playing the game that is helpful. Have students share strategies. Ask students to work in a different pairing today.

It is possible to move a geometric figure in three ways:
You can flip a figure over a line. When you do this it is called a reflection.
You can slide a figure along straight lines and this is called a translation.
You can turn a figure around a point and this is called a rotation.

## Flip, Slide, and Turn

## Directions:

1. Divide students into pairs.
2. Give each pair two pieces of graph paper and a set of four shapes.
3. Write the four questions on the board and make a copy for each pair.
4. Pair of students Cut out each of the shapes and then follows the directions with each piece-tracing the shape on the graph paper before the direction and then after following the direction, labeling the picture so you know if they flipped, slid, or turned the piece.

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. Pair should create a design on the second piece of graph paper, using flips, slides, and turns.


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

## Double 9 Dominoes



Consult 4 Kids Lesson Plans


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Flip, Slide and Turn Lesson $74^{\text {th }}$-5th


You can slide a figure along straight lines. Another word for slide is translation.
You can turn the figure around a point. Another word of turn is rotation.
You can flip the figure over a line. Another word for flip is reflection.
When you slide, turn, or flip a figure, does its size change? Does its shape change? The original figure and the final figure are the same.
Select one of the shapes below and trace it on grid paper. Then demonstrate how you can slide, flip, or turn the design.


Grid Paper

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Component | Math |
| :--- | :--- |
| Grade Level: | $4^{\text {th }} \& 5^{\text {th }}$ Grade |
| Lesson Title: | BAWFF Review |
| 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
Choice of 5 activities
Over the past 11 days students have played 5 different games. Give students an opportunity to play one of these games.
Battleship
Attributes
What's In A Shape?
Forward Ho!
Flip, Slide and Turn

## 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. (Aha!)
