

Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grade
Lesson Title:	Time to Multiply
Focus:	Multiplication

Materials:

White boards Vocabulary Notebooks
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.

# 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 → Teachable Moment(s) throughout
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	During the lesson check in with students repeatedly.
not?	Check in about what is happening and what they are thinking.
Fact Practice	
Fact Family	Take advantage of any teachable moments.
A Fact Family is 3 numbers which have a relationship in multiplication and division. For example, the number 9, 4, and 36 have a particular relationship in math. This family has four members: $9 \times 4 = 36$ $4 \times 9 = 36$ $36 \div 4 = 9$	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.
$36 \div 9 = 4$ Students should roll 2 dice and create a Fact Family by writing the members of the family on the white board. Student should roll a total of 5 times, creating 5 Fact Families	When possible, engage students in a "teach to learn" opportunity and have the student become the teacher.
Math Vocabulary Word for Today: estimate	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:

vocabulary Notebook Sample.	,
New Word	My Description
estimate	A guess about something—like how many, based on information
Personal Connection	Drawing
I estimate that there are 100 beans in the jar.	

Complete the Vocabulary notebook for each word.
When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation).
Vocabulary Notebooks can be made from ½ of a composition book.

# 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.

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?

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



Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Time To Multiply 2
Focus:	Multiplication

Materials:

White boards

Vocabulary Notebooks

Crayolas

Double 9 Dominoes

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

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:  $2 \times 3 = 6$ 

# \*Activity → 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: 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
subtract	If you start with 10 cookies and you share three of them, subtract 3 from 10 to find out the number of cookies you have
Personal Connection	Drawing
I will subtract that money from my piggy bank.	10-3=7

It is important to review academic math vocabulary often throughout the day. Complete the Vocabulary notebook for each word. When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation). Vocabulary Notebooks can be made from ½ of a

composition book.

# Activity 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.

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"?

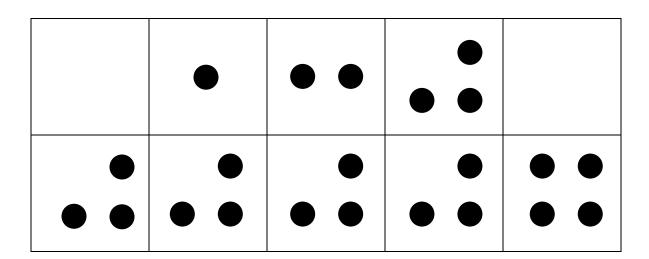
What advice would you give to a "new" student getting ready to do this activity?

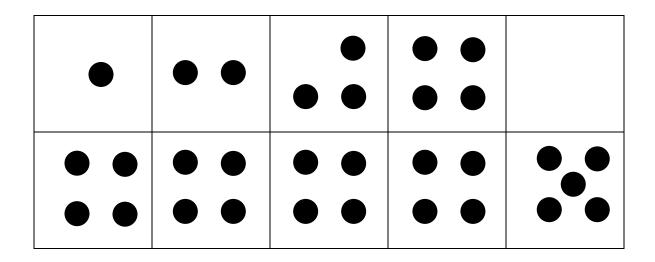
- Ask students to think about what they did today in math.
- Ask them to comment on what they did today was something they already knew how to do. (Confirmation)
- Ask them to comment on what they did today that was like something they had done before except in one particular way which was new to them.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



# **Double 9 Dominoes**

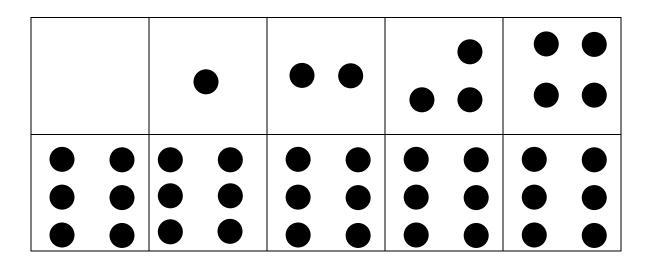
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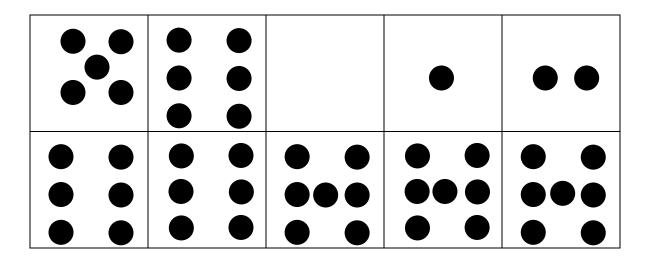






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Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Make That Number
Focus:	Review

Materials:

Post Its

Dice

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

# **Opening**

State the objective

Today we are going to have fun playing a game.

# Content (the "Meat")

# Activity

## Make That Number

- 1. Divide students in groups of 3 4
- 2. On the Post-It, 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, ÷, 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?



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



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

Casey Elementary School had a fundraiser. The  $5^{th}$  grade classrooms brought in the money as listed on the table below. Which classroom brought in the most money? The least?

Classroom	Amount
Mr. Jones	\$539
Ms. Smith	\$486
Mr. Felix	\$574
Ms. Taylor	\$531

#### 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.

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

During the lesson check in with students repeatedly.

Check in about what is happening and what they are thinking.

Take advantage of any teachable moments.

Stop the class and focus on a student's key learning or understanding. Ask openended questions to determine what the rest of the group is thinking.

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



- **6.** 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 Word	My Description
least	Smaller than something else
Personal Connection	Drawing
Of the two number: 6,793 and 9,113, 6,793 is the least.	least <

It is important to review academic math vocabulary often throughout the day. Complete the Vocabulary notebook for each word. When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation). Vocabulary Notebooks can be made from ½ of a composition book.

# 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.
- 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).

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?

- 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 <sup>th</sup> & 5 <sup>th</sup> Grades	
Lesson Title:	Making 75
Focus:	Mathematical Reasoning

Materials:

White boards Vocabulary Notebooks

Crayolas dice

Socks 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

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, , ,

#### **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  $7 \times 8 = 56$ .
- 6. Process continues until all spokes have an equation.

# \*Activity → 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: 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 \_\_\_\_\_, 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	My Description	
pattern	Organized presentation that can replicated	
Personal Connection	Drawing	
Although the pattern in the Sudoku puzzle was complex John was able to figure it out.	4 1 7 5 8 6 9 5 7 4 1 3 5 3 1 1 2 4 3 8 7 9 8 7 7 7 6 2 8	

It is important to review academic math vocabulary often throughout the day.

Complete the Vocabulary notebook for each word.

When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation).

Vocabulary Notebooks can be made from ½ of a

composition book.

# Activity 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.

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?

- 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 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 <sup>th</sup> & 5 <sup>th</sup> Grade
Lesson Title:	Spill the Beans
Focus:	Operations

Materials:

White boards Vocabulary Notebooks

Crayolas Cards

Socks 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?

Cont	tent (	(the	"M	leat"

# Problem of the Day

Find the sum of the numbers below

546 +329

#### **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<sup>th</sup> 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.

# \*Activity → 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.



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

## Math Vocabulary

## 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

Vocabulary Notebook Sample:

New Word	My Description
sum	Answer in an addition problem
Personal Connection	Drawing
To find the average you must first find the sum of all of the numbers and then divide.	sum = total

It is important to review academic math vocabulary often throughout the day Complete the Vocabulary notebook for each word.
When possible, have

When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation).

Vocabulary Notebooks can

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

## **Activity**

# Spill the Beans 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 6, 7, 8, and 9. The other numbers (0-5) 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.

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?

- 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 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Spill The Beans 2
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	*Activity → Tea Moment(s) thro
Solve the number sentence below. Then write a story problem to fit the number sentence.	During the lesson c with students repea
386 + 298 =	Check in about wha
Fact Practice	happening and what thinking.
Product Hunt  1. Divide students into pairs.	Take advantage of teachable moments

- 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.

# achable oughout

check in eatedly.

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f any ts.

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: 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
sum	Answer in an addition problem
Personal Connection	Drawing
What is the sum of 8 and 9?	8 + 9 = 17

It is important to review academic math vocabulary often throughout the day.

Complete the Vocabulary notebook for each word.

When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation).

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

# Activity 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.
- First player to reach zero 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 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?

- 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



It is important to review

	· · · ·
Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	Eighteen Only
Focus:	Mathematical Reasoning

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	*Activity → Teachable Moment(s) throughout
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?	During the lesson check in with students repeatedly.
Fact Practice Draw!	Check in about what is happening and what they are thinking.
<ol> <li>Divide students into pairs and give each pair a deck of cards.</li> <li>Remove the face cards and jokers from the deck of cards.</li> <li>Shuffle the deck.</li> <li>Decide who will go first.</li> <li>First player draws two cards.</li> <li>Student multiplies the cards.</li> <li>Student writes his/her problem on the white board, writing a complete number sentence.</li> <li>Students take turns drawing and creating problems.</li> </ol>	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: 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:

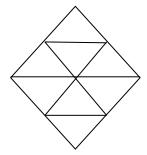
New Word	My Description
Addends	In the math problem 5 + 3 = 8, the addends are 5 and 3
Personal Connection	Drawing
What are the two addends in that addition problem?	6+5=11

academic math vocabulary often throughout the day.
Complete the Vocabulary notebook for each word.
When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation).
Vocabulary Notebooks can be made from ½ of a composition book

# **Activity**

# 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.



	Closing	
	Review	
Say:		
<ul> <li>Please recap what we did today.</li> </ul>		
<ul> <li>Did we achieve our objectives?</li> </ul>		
	Debrief	

# **Three Whats**

Ask the following three what questions:

What was your key learning for the day?

What opportunities might you have to do this same thing in the "real world"?

What advice would you give to a "new" student getting ready to do this activity?

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



Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	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	*Activity → Teachable Moment(s) throughout				
Describe two different stories that could account for the following number sentence.	During the lesson check in with students repeatedly.				
Fact Practice Multiples  Multiples  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.	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: 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:

vocabulary ivolcbook Sample.	
New Word	My Description
Problem solving	Thinking about challenges and trying to find a solution
Personal Connection	Drawing
When I saw the problem, I began to problem solve.	

often throughout the day.
Complete the Vocabulary notebook for each word.
When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation)
Vocabulary Notebooks can be made from ½ of a composition book.

# Activity 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.

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?

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



# Fact Practice--Multiples

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



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

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?

#### **Fact Practice**

## **Multiplication War**

- Divide students into pairs. Give each pair a deck of cards without face cards and jokers.
- Shuffle the deck and divide the cards evenly between the two players.
- On go, the players turn over the cards at the same time.
- Students multiply the 2 numbers that have been turned up.
- First person to give the answer either wins the cards because the answer is correct, or has to turn over 2 cards because he/she gave the wrong answer.
- At the end of round, students may reshuffle the pile of cards that they have.
- Play can continue until one player has all cards or time has called.

# \*Activity → 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 Vo	It is important to review	
Word for Today: probable  Description: Probable is a very interesting wanswer to a math problem is one that would make. Probable is not an absolute, it is not a gis likely that you are correct. When we estimate Create an entry in your Vocabulary Notebook Vocabulary Notebook Sample:  New Word  Personal Connection	academic math vocabulary often throughout the day. Complete the Vocabulary notebook for each word. When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation). Vocabulary Notebooks can be made from ½ of a composition book.	
It is probable that it will rain when the sky is full of dark clouds.	Drawing	
Act The P Materials: Circle shaped counters Purpose of the game Create two lines of 5 by moving only two m Directions: Replicate the pattern with the counters that you move only two markers to create 2 rows of 5 m  When finished, create your own puzzle che configuration, and move 2-5 times to find Have a friend play your game.	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" player getting ready to play this game so he/she could get all the blocks are completed.

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



Component:	Math
Grade Level:	4 <sup>th</sup> & 5 <sup>th</sup> Grades
Lesson Title:	The Puzzler 2
Focus:	Mathematical Reasoning

Materials:

White boards Vocabulary Notebooks

Crayolas Dice Socks toothpicks

# **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

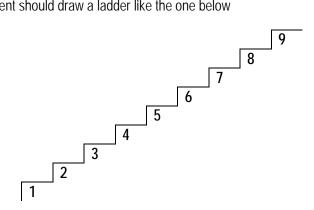
Write the following number in expanded notation.

#### 426,387

### **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

# \*Activity > 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.



numbers in the ladder, writing the total	Il to the right of the number.		
Word for today: expanded form  Description: Expanded form is the way to place value of each of the numerals in the numerals: 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. It		It is important to review academic math vocabulary often throughout the day. Complete the Vocabulary notebook for each word. When possible, have students experience the word (Ex. 4 students creating a right angle, multiple students acting out an equation). Vocabulary Notebooks can be made from ½ of a composition book.	
Materials: 9 toothpicks for each pair of students  Directions: 1. Arrange the 9 tooth picks into the 3 triang  2. Once the arrangement is replicated, move	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:

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