| Component: | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}$ Grade |
| Lesson Title: | What's My Pattern |
| Focus: | Math vocabulary, patterns, addition |

## Materials:

| White boards | Vocabulary Notebooks |
| :--- | :--- |
| Crayolas | Playing cards |
| Socks |  |


| 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> Look at the pattern. Copy it and then draw the next 3 shapes. How do you know what to draw? | *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 or subtract. <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 $6+4=10$, and pick up the 6 and the 4. | 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. |

8. After one player finishes his/her turn, then the cards taken are replaced by cards from the remaining deck
9. Player with the cards at the end of the game win

## Math Vocabulary

## Word for Today: pattern

Description: A pattern is something that is predictable. Once you know when a string of information begins to repeat itself, then you can identify what will come next by looking at the part of the pattern you can already see. Patterns are sometimes defined as ABAB or ABCABC, or any other configuration.
Students should complete the Vocabulary Notebook

Vocabulary Notebook Sample:

| New Word <br> pattern | My Description <br> An organized order to things with a predictable next item |
| :---: | :---: |
| Personal Connection <br> What is the pattern that you can see on the wall paper? | Drawing |

## Activity <br> What's My Pattern?

Demonstrate: Patterns can be made by repeating shapes, numbers, colors, and so on. A pattern must repeat itself exactly to be a pattern. For example, the math lesson plans have a pattern to them, they are predictable because you can guess what is coming next. Tell students that they are going to be making patterns today. They will need to make 4 different patterns: $A B A B A B, ~ A B C A B C, ~ A A B C C A A B C C$, and finally a pattern of their own design.

Sample ABABAB:



Have students share the patterns made with other students and explain the "pattern" to the others.

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: | $2^{\text {nd }}$ Grade |
| Lesson Title: | What's My Rule? |
| Focus: | Math vocabulary, patterns, basic operations |

## 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? <br> What are the basic operations that you need to utilize during math? |


| Content (the "Meat") |  |
| :---: | :---: |
| Problem of the Day <br> Look at this list of numbers. These numbers are not random; they are following a pattern, or a rule. If the pattern continues, what will the next three numbers be? $4,8,12,16,20,24, \ldots, \square,$ | *Activity $\rightarrow$ Teachable Moment(s) throughout During the lesson check in with students repeatedly. Check in about what is |
| Fact Practice <br> Number Hunt <br> 1. Divide students into pairs <br> 2. Each pair needs a Number Hunt sheet (attached to this lesson plans ) <br> 3. Player rolls two, 12 -sided dice. <br> 4. Player adds or subtracts the two numbers. <br> 5. If the number is not yet covered, then player may cover the number. <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. When possible, engage students in a "teach to learn" opportunity and have the student become the teacher. |

## Math Vocabulary

Word for Today: pattern
Description: A pattern is something that is predictable. Once you know when a string of information begins to repeat itself, then you can identify what will come next by looking at the part of the pattern you can already see. Patterns are sometimes defined as ABAB or ABCABC, or any other configuration.
Students should review the entry on the word equation from yesterday and determine if they need to make and additions or changes.

Vocabulary Notebook Sample:

| New Word pattern | My Description <br> Organizing something so you can predict what <br> will happen next |
| :--- | :--- |
| Personal Connection <br> Can you identify the pattern that is on the <br> calendar? | Drawing |

## Activity <br> What's My Rule?

There are patterns in the way our numbers are written. There are patterns in the way the things appear in the world. Understanding these patterns helps us to predict what is coming next. This predictability makes it easier make sense of the world and to answer the questions posed. Identify the "rule" or pattern in each problem.

$$
\begin{aligned}
& 2,4,6, \ldots, \ldots, \ldots, 14,16 \\
& 5,10,15, \ldots, \ldots, \ldots, 35,40
\end{aligned}
$$

After doing these two together, have students work in pairs to complete the following problems. Ask students to write the pattern after they have completed it.
6, 12, 18, 24, $\qquad$
$\qquad$
$\qquad$

$$
8,9,10,11
$$

$\qquad$ , __, $\qquad$
25, 30, 35, $\qquad$
$\qquad$
AABCCBAABCCB $\qquad$
7, 14, 21, 28, $\qquad$


## 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.

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: | $2^{\text {nd }}$ Grade |
| Lesson Title: | Crack the Code |
| Focus: | Math vocabulary, basic operations, place value |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
cards ner

## 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
Here's one way to show 25. Think of at least 3 different ways to show 25 . You can use numbers, pictures, words and other representations to show the number.

$$
5+5+5+5+5=25
$$

## 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 adds or subtracts the cards.
7. Student writes his/her problem on the white board, writing a complete number sentence.
8. Students take turns drawing cards 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.

## Math Vocabulary

## Word for Today: place value

Description: In our number system the position a number is located in will determine its value. Numbers are written in clusters of 3 . The number furthest to the right is in the ones place, the middle numeral is in the tens place, and the number to the left is in the hundreds place. If you have a three digit number-528 you are in reality saying $500+20+8$. In other words, the 5 stands for five hundred, the 2 for twenty, and the 8 for simply that- 8 . As numbers get larger, the pattern of three numbers stays the same, but a comma is inserted to let you know if the number is for thousands, million, billions, trillions, and so on. As an example, 528,000 is said 5 hundred twenty-eight thousand, with the comma representing the word thousand. 528,528,528 would be read: 5 hundred twenty-eight million, 5 hundred twenty-eight thousand, 5 hundred twenty-eight.

Have students review the Vocabulary Notebook entry from yesterday with a partner and make any additions or changes they need to make.
Vocabulary Notebook Sample:

| New Word | My Description <br> Place value <br> The position you place a numeral in to <br> represent hundreds, tens, or ones |
| :--- | :--- |
| Which of the numerals is in the thousands <br> place. | 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.

## Activity <br> Crack the Code!

Explain to students that you have a code for them to crack. Each number is connected to an alphabet letter in the first grid. This is followed by 11 questions, because there are 11 letters in the clue word. Read each clue and then correspond the letter with the number of the question (written above each number 1-11)
For a sample have the clue word be Key. The clues would be

1. The number in the hundreds place: 139
2. The number in the tens place: $8 \underline{41}$
3. The number in the ones place: $54 \underline{3}$

| S | Y | O | U | K | M | E | C | I |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9 | 3 | 5 | 2 | 1 | 8 | 4 | 6 | 7 |

1. The number in the tens place 583
2. The number in the hundreds place: 736
3. The number is in the ones place: 476
4. The number in the ones place: 981
5. The number in the hundreds place: 489
6. The number in the tens place: 431
7. The number in the ones place: 718
8. The number in the hundreds place: 536
9. The number in the tens place: 428
10. The number in the hundreds place: 925
11. The number in the tens place: 742

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: | $2^{\text {nd }}$ Grade |
| Lesson Title: | Greater Than Less Than |
| Focus: | Comparing Numbers using < and >, addition, and math vocabulary |

## Materials:

| White boards | Decks of cards |
| :--- | :--- |
| Crayolas | Vocabulary Notebooks |
| Socks | < and > symbols (see cards attached to this lesson plan) |


| Opening |
| :---: |
| State the objective |
| Today we are going to practice using our math vocabulary and math 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> You will see three numbers in order from the least to the greatest. After you have looked at them, tell why this order is correct. $29,21,19$ | *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> Addition 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 add 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 | 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: < and > |  |
| Description: These two symbols mean greater (or bigger) than and less (or smaller) than. |  |
| They are used to compare numbers. The pointed end always points to the smaller of the |  |
| two numbers. If numbers are equal, these symbols would not be used. |  |
| Vocabulary Notebook Sample: | My Description |
| New Word <br> <and > | Drawing |
| Compare the numbers by using the the concept of greater than and <br> less than |  |

## Activity

Demonstrate: We are going to practice determining whether a number is greater or less than another number. Here is a deck of cards that does not have the face cards or jokers. Here are the cards that have the greater than or less than symbol on the. Notice the arrow that lets you know which direction is up.
Ask for 2 volunteers to come up so we can learn to play this game.

1. Deal each player 5 of the number cards.
2. Place the remainder of the cards face down on the board.
3. Place the < > cards face down next to the cards.
4. Turn up the first card. This is the "comparison number"
5. Player draws a < or > card and must play a number from his/her hand that is < or > the beginning number. If player can play a number, the next player repeats the steps, but the number the first player played is now the "comparison number". If the player cannot play, then he/she must draw a card.
6. First player to play all of his/her 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 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.

## 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.

| $<$ <br> UP $\uparrow$ |  |  |
| :---: | :---: | :---: |
| $\begin{gathered} < \\ U P \uparrow \end{gathered}$ | $<$ $\text { UP } \uparrow$ | $\begin{aligned} & < \\ & U P \uparrow \end{aligned}$ |
| $\begin{array}{r} > \\ \text { UP } \uparrow \end{array}$ | $>$ <br> UP $\uparrow$ | $>$ <br> UP $\uparrow$ |
|  |  | $\begin{aligned} & > \\ & U P \uparrow \end{aligned}$ |


| Component: | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}$ Grade |
| Lesson Title: | Odds Evens Exactly 10 |
| Focus: | Math vocabulary, identifying even and odd numbers |

## Materials:

| White boards | Vocabulary Notebooks |
| :--- | :--- |
| Crayolas | Dice |
| 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 <br> Count backwards by 2's starting at the number 19. Write the numbers as you say them. When you are finished, are the numbers you wrote down "odd" or "even"? Tell how 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 $7+8=15$ <br> 6. Process continues until all spokes have an equation | 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: odd and even numbers <br> Description: Every number is either an odd number or an even number. An even number is one that you say when you count by 2 's. For example: $2,4,6,8,10,12,14,16,18,20$, $22,24,26,28,30$ and so on. An odd number is one that you do not say when you are counting by 2 's. For example: $1,3,5,7,9,11,13,15,1719,21,23,25,27,29$ Students complete the Vocabulary Notebook |  | 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. |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
|  |  |  |
| Students complete the Vocabulary Notebook <br> Vocabulary Notebook Sample: |  |  |
| New Word | My Description |  |
| Odd and Even | Describes numbers that can be divided by 2 (even) and those which can't (odd) |  |
| Personal Connection <br> I like odd numbers better than even numbers. | Drawing |  |
|  | 5,70 |  |
| Activity <br> Odds, Evens, and Exactly 10 |  | 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. |
|  |  |  |
| Demonstrate: On the board or chart paper make a grid with three columns. Label the columns. Label the first one "odd" the second one "even", and the third one "exactly 10". Once you have set up the "game board", ask students to do the same on either the white board or a piece of paper. |  |  |
| Teach the volunteers how to play the game. <br> 1. Player rolls 3 dice. <br> 2. Player totals the 3 dice. <br> 3. If the total is even, the equation goes in the "Evens" column. If the total is odd, the equation goes in the "Odds" column. If the equation totals exactly 10, it is written in the "Exactly 10" column. <br> 4. Players take turns until they have rolled at least 10 times. <br> 5. Winner of the game is the person with the most in the Exactly 10 column. |  |  |
|  |  |  |
|  |  |  |



## 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: | Pick One |
| Focus: | Math vocabulary, comparing numbers, addition |

## Materials:

| White boards | Decks of cards | $</>$ cards (attached to this lesson plan.) |
| :--- | :--- | :--- |
| Crayolas | Vocabulary Notebooks |  |
| Socks | Deck 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

Write six numbers that are greater than 25 on your white board. Share them with your neighbor and explain why you know that these number are more than 25.

## Fact Practice

## Foreheader

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

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

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

## Math Vocabulary <br> Word for Today: Review of the symbols < and >

Description: These two symbols mean greater (or bigger) than and less (or smaller) than. They are used to compare numbers. The pointed end always points to the smallest of the two numbers. If numbers are equal, these symbols would not be used.
Have students share the Vocabulary Notebooks in pairs, discussing the word, making any additions or changes.

## Vocabulary Notebook Sample:

| New Word | My Description <br> Ha way to compare numerals by saying they <br> are greater or less than another value |
| :--- | :--- |
| Personal Connection <br> 7 is > than 5 but 7 is < 9. | Drawing |

## Activity

Pick One
Demonstrate: Tell students that the activity for today is predicting whether a number will be greater than or less than another number. Ask for 2 volunteers. Show students the deck of cards that does not have 10s, face cards or jokers. Show them the < and > cards as well. Deal each player 3 cards. The players each make a three digit number by arranging the cards. For example, if the player draws a 4,5 , and 6 , he/she can make $456,465,546,564$, 645 , or 654 . After each player has made his/her number and written it on the white board, player one draws a </> card. If player 1 draws a less than card, if the opposing player's number is less that player 1's, he/she wins the 3 cards. If the opposing player's number is greater than player 1's (which means that Player 1 has the number "less than", then Player 1 wins the three cards.
Repeat play several times until students understand the game. Have the "audience" call out the winner as the volunteers turn the white board for all to see and then draws the</> card.
The person who draws the </> cards switches between the two players.
Pass out the supplies
Divide students into pairs
Let the play begin

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.

Consult 4 Kids Lesson Plans

| $\begin{gathered} < \\ U P \uparrow \end{gathered}$ | $\begin{gathered} < \\ U P \uparrow \end{gathered}$ | $\begin{gathered} < \\ \text { UP } \uparrow \end{gathered}$ |
| :---: | :---: | :---: |
| $<$ | $<$ | $<$ |
| UP $\uparrow$ | UP $\uparrow$ | UP $\uparrow$ |
| > | > | > |
| UP $\uparrow$ | UP $\uparrow$ | UP $\uparrow$ |
| $>$ | > | > |
| UP $\uparrow$ | UP $\uparrow$ | UP $\uparrow$ |


| Component: | Math |
| :--- | :--- |
| Grade Level: | 2nd Grade |
| Lesson Title: | Hundred's Chart |
| Focus: | Math vocabulary, addition, subtraction, odd numbers and even numbers |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
Hundred's Chart (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 <br> You are going to add several numbers together and then determine whether the answer is odd or even. Then you will discuss why you think what you think. <br> Begin with the number 2 <br> Add 6 <br> Add 20 <br> Subtract 4 <br> What is the total? Is it odd or even? How do you know? Why do you think this occurred? | *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> Addition Ladder <br> 1. Give each student a white board (include marker or crayola) <br> 2. Student should draw a ladder like the one below | 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. |


| $\square$ 2 <br> 1 <br> 3. Have student roll 2 dice, total the pips and then add that number to each of the numbers in the ladder, writing the sum to the right of the number |  |
| :---: | :---: |
| Math Vocabulary <br> Word for Today: odd number and even number <br> Description: Every number is either an odd number or an even number. An even number is one that you say when you count by 2's. For example: $2,4,6,8,10,12,14,16,18,20$, $22,24,26,28,30$ and so on. An odd number is one that you do not say when you are counting by 2's. For example: $1,3,5,7,9,11,13,15,1719,21,23,25,27,29$ <br> Students review the entry made into the Vocabulary Notebook with a partner, making any changes or additions that are necessary <br> Vocabulary Notebook Sample: | It is important to review academic math vocabulary often throughout the day. <br> 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 |
| Odd and even <br> Odd number: 1, 3, 5, 7 <br> Even number: 2, 4, 6, 8 | be made from $1 / 2$ of a composition book. |
| Personal Connection Drawing <br> $\quad$ Can you count in odd numbers?  |  |
| Activity <br> Hundred's Chart <br> Demonstrate: Show students a Hundred's Chart. Talk about the chart and have them tell you the purpose of the chart. Explain to students that they will be working in pairs to determine all of the different ways to identify even numbers. Have a chart up with the numbers from 1-20. Have several different colors of crayons. Using a blue crayola, have volunteer circle the numbers that are said when counting by 2 's $(2,4,6,8,10,12,14,16$, 18,20 ) with a blue crayola. <br> Have students now skip count by 3 's, 4 's, 5's, and 10 "s. When they skip count by 3 's, circle the numbers in red. Ask them how many numbers are circled more than once? <br> Repeat the process with $4 \mathrm{~s}, 4,8,12,16,20,24,28,30,32,36$, (color purple) , $5,10,15$, $20,25,30,35,40,45,50$, (color yellow) and finally $10 \mathrm{~s} 10,20,30,40,50,60,70,80,90$, 100 (be sure to go 100) (color orange) <br> At the end, ask students to tell you how many numbers are EVEN and how many are ODD (the answer is 50 of each). Students may be confused and want to count a number as even if it is circled. Remind them that even numbers are those you say when counting by 2's, not other numbers. <br> Hundred's Chart is attached. | 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: | $2^{\text {nd }}$ Grade |
| Lesson Title: | Place Value |
| Focus: | Math vocabulary, basic operations, place value |

## Materials:

White boards
Crayolas
Socks

Vocabulary Notebooks
cards without tens, face cards and jokers
Set of Smallest / Largest Cards for each group

| 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 Jorge says the 3 tens equal 30 ones. Is he right? Tell how you know. | *Activity $\rightarrow$ Teachable <br> Moment(s) throughout <br> During the lesson check in |
| Fact Practice <br> Bump It Up! Add A Zero <br> 1. Divide students into pairs <br> 2. Give each pair a white board and a deck of cards (without face cards, jokers, or 10s) <br> 3. The object of this fact practice is to sum numbers until you reach 1,000 . <br> 4. Student draws 2 cards, adds the value of the cards together, multiplies by ten and writes the total on the sheet. <br> 5. It is not the other person's turn to do the same <br> 6. When play returns to the first player, the process is repeated, although this time, the totals are added together. <br> 7. First person to 1,000 wins. <br> 8. 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. | 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. |
| Word for Today: place value Math Vocabulary | It is important to review academic math vocabulary often throughout the day. |

Description: In our number system the position a number is located in will determine its value. Numbers are written in clusters of 3 . The number furthest to the right is in the ones place, the middle numeral is in the tens place, and the number to the left is in the hundreds place. If you have a three digit number-528 you are in reality saying $500+20+8$. In other words, the 5 stands for five hundred, the 2 for twenty, and the 8 for simply that-8. As numbers get larger, the pattern of three numbers stays the same, but a comma is inserted to let you know if the number is for thousands, million, billions, trillions, and so on. As an example, 528,000 is said 5 hundred twenty-eight thousand, with the comma representing the word thousand. 528,528,528 would be read: 5 hundred twenty-eight million, 5 hundred twenty-eight thousand, 5 hundred twenty-eight.

Have students complete the Vocabulary Notebook.

## Vocabulary Notebook Sample:

| New Word | My Description <br> Olace value <br> Ones, tens, hundreds, thousands, ten <br> thousands place |
| :--- | :--- |
| Personal Connection <br> The place a numeral is in determines the <br> value of the numeral. | Drawing |

Activity
Place Value

Demonstrate: Show students three cards. Ask them to help you arrange the cards to be the smallest number possible. Write it on the board. Ask students if they agree and why they believe this is the smallest number. Now ask them to help you arrange the cards to be the largest possible number. Repeat the process. Now ask students to help you make any three digit number using the cards.
Explain that this is the process they will go through. Tell them that they will be in groups of 23 students. They will know who "wins" each number by drawing a smallest or largest card, indicating which player will win the cards-the one with the smallest number or the largest number when compared.

## Directions:

1. Shuffle the two decks of cards. Place each face down in the center.
2. Each player receives 3 number cards. He/she makes a three digit number.
3. Players read the 3 digit number to each other.
4. One player draws a card from the smallest/largest deck. The player with the larger or smaller number wins all 6 cards. If the numbers are exact, then those cards are put back in the deck of numbers.
5. Repeat until all number cards are gone.

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.

Smallest and Largest Cards

| smallest | smallest | smallest |
| :---: | :---: | :---: |
| smallest | smallest | smallest |
| smallest | smallest | smallest |
| largest | largest | largest |
| largest | largest | largest |
| largest | largest | largest |


| Component: | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}$ Grade |
| Lesson Title: | STRETCH It Out |
| Focus: | Math vocabulary, basic operations, number notation |

## 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> Sometimes we read story problems that must be solved by the creation of a number sentence. Today we are going to write a story problem that the following number sentence represents. $13+9=$ | *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> 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 adds or subtracts the cards. <br> 7. Student writes his/her problem on the white board, writing a complete number sentence. <br> 8. Students take turns drawing cards and creating problems. | 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: expanded notation

Description: Expanded notation is a way to write a number that represents each numeric value of the place the numeral is in. Example: 324 in expanded notation is $300+20+4$. In expanded notation, the numerals to the right of the number are represented by 0 which holds the place of the other numbers.
Have students complete his/her Vocabulary Notebook.
Vocabulary Notebook Sample:

| New Word | My Description |
| :--- | :--- |
| Expanded notation | Writing a number so you can see what it is by <br> separating hundreds, tens, and ones |
| Personal Connection <br> We had an assignment to write the <br> numbers in expanded notation. | Drawing |

## Activity <br> S-T-R-E-T-C-H It Out!

Demonstrate: Numbers can be written in expanded notation. This is helpful for students when they are learning about place value. Sometimes the numeral 4 is much more than simply $\odot-() \cdot()=4$. In the number 41 , the 4 's value is 40 , in 411 , the 4 's value is 400 , and so on. Today we are going to write numbers in expanded notation.
Model: $368=300+60+8$

1. Divide students into pairs, giving each pair 36 -sided dice ( 9 sided would be perfect if you have them)
2. Student rolls a number and decided how to arrange the die so the number can be read. For example, if the roll is 3,6 , and 7 , the number could be 367 or any other arrangement of those numbers.
3. Students write the number and then write the number in expanded notation. 367 would become $300+60+7=4,367$
4. Pair should roll 10 different numbers, writing the number in both the standard and expanded notation formats.
5. Pairs then select one number to share with the group in both formats.

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: | 2nd Grade |
| Lesson Title: | Expanded and Contracted Notation |
| Focus: | Expanded Notation |

## Materials:

| White boards | Vocabulary Notebooks |
| :--- | :--- |
| Crayolas | Double 9 Dominoes |
| Socks | four 6-sided dice per pair |


| 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: expanded notation

Description: Expanded notation is a way to write a number that represents each numeric value of the place the numeral is in. Example: 324 in expanded notation is $300+20+4$. In expanded notation, the numerals to the right of the number are represented by 0 which holds the place of the other numbers.
Have students share the Vocabulary Notebooks in pairs, discussing the word, making any additions or changes.

Vocabulary Notebook Sample:

| New Word | My Description <br> Expanded notation |
| :--- | :--- |
| Writing a number by showing all parts in an <br> expanded form |  |
| Write the number in expanded notation. | Drawing |

## Activity <br> Expand and Contract

Demonstrate: Write the following numbers on the board.

$$
731,(900+30+1), 817 \text { and }(500+40+9)
$$

Ask students to expand the numbers that are not in expanded notation already, and contract the numbers that are already in expanded notation.
Write each number in BOTH formats as students provide the answers

1. Divide students into pairs
2. Give each pair a deck of cards with the 10 s, face cards and jokers removed
3. Ask students to draw four cards, arrange the numerals to form a 3-digit number and then to write that number in both the standard and expanded notation format
4. Students should create 10 numbers
5. Invite pairs of students to share the numbers they generated with a pair of peers

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

Double 9 Dominoes


| $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
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| Component: | Math |
| :--- | :--- |
| Grade Level: | $2^{\text {nd }}$ Grade |
| Lesson Title: | Tic Tac Toe 2 2 |
| Focus: | Math |

## Materials:

Enlarged Tic Tac Toe Boards—one for each pair of students (duplicate on 11 " $\times 17^{\prime \prime}$ if you can
Prizes (these can be time, a leadership role, opportunities to be the "teacher"

## Opening <br> State the objective

Today we are going to have fun playing a game.

## Content (the "Meat")

teams

## Activity

## Tic Tac Toe

1. Divide students in groups of 2
2. Give each pair a Tic Tac Toe Board (enlarge from this lesson plan)
3. In order to place an " $X$ " or and " $O$ " in a space, students must be able to complete the math problem in the space
4. Students should apply "paper, rock, scissors" to determine who will go first (best 2 out of 3 )
5. Winner receives a High Five

|  | 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


## Tic Tac Toe <br> Math—2nd Grade

| Order the numbers below from the largest to the smallest (place the largest number on top and the smallest number on bottom. <br> 789 <br> 897 <br> 987 <br> 876 | Complete this problem: $\begin{array}{r} 257 \\ +394 \\ \hline \end{array}$ | Separate these numbers into odds and evens: <br> 639 <br> 468 <br> 900 <br> 321 <br> 735 <br> 957 |
| :---: | :---: | :---: |
| Complete this problem $\begin{array}{r} 361 \\ -187 \\ \hline \end{array}$ | Each of the numbers below has a 7 in it, either in the ones, tens or hundreds place. Match the 7 to the place value it represents. | Write the following number in expanded notation: <br> 749 |
| Write this number that is written in expanded notation in the standard form. $400+30+7$ | What are the next three figures in this pattern? Write them on the lines. $\qquad$ | Write a number sentence for this story problem. Susie has 14 T-Shirts. Johanna has 11 T -Shirts. Their new friend Ruby has 19 T-Shirts. How many $T$-Shirts do the girls have together? |

