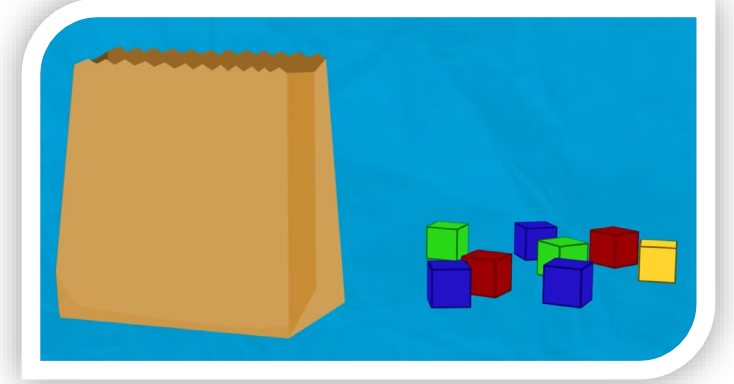# CONNECTED CLASS

GUESS AND COUNT

Materials Needed: Bag, 20 small items that are the same, a partner

Process:

Step 1: Place a handful of the same items into the bag without the child seeing it.

Step 2: Next, the child feels the bag and guesses how many objects are in it. Make sure that they do not start counting the individual items through the bag.

Step 3: After the child makes a guess, remove the objects from the bag and have the child count them. The child should point to each object as it is counted.

CONNECTED CLASS

FISHING FOR FIVE

4+1=5
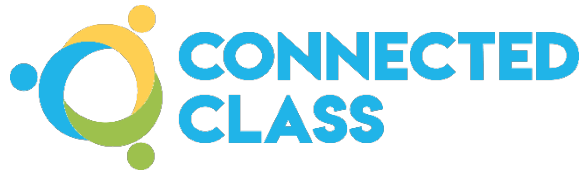
Materials Needed: Deck of cards, an opponent

Process:

Step 1: Take the aces, kings, 2s, 3s, 4s, and 5s from a deck of cards and shuffle them together. The ace will represent the number 1, and the king will have the value of zero.

Step 2: Deal five cards to each player. Place the rest of the cards face down and spread them out on the table.
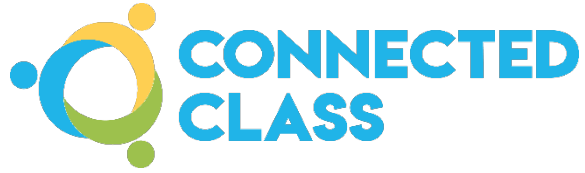
Step 3: The players look at their cards and try to make pairs. Pairs are made when you have two cards that add up to five. For example, 2 and 3 would be a pair because they equal five when added together. If any of them have two cards that add up to the value of five, they place those cards in front of them, faced up.

Step 4: To start the game, one player asks another player for a card they need. For example, someone with a 4 in their hand might ask another player for an ace because four plus one equals 5.

Step 5: If the player has the card, the first player takes it, makes the pair, and goes again.

Step 6: If the player does not have the card, they say GO FISH. The first player chooses a card from the pile in the middle of the table. If they get a match, they can lay it down. Now it is the opponent's turn.

Step 7: Play continues until no more pairs can be made. If a player runs out of cards during the game, they can take three cards from the middle. The person with the most matches at the end wins.

CONNECTED CLASS

FISHING FOR TEN

6+4=10

Materials Needed: Deck of cards, an opponent

Process:

Step 1: First remove the jacks and queens from the deck of cards. Shuffle the remaining cards together. The ace will represent the number 1, and the king will have the value of zero.

Step 2: Deal five cards to each player. Place the rest of the cards face down and spread them out on the table.

Step 3: The players look at their cards and try to make pairs. Pairs are made when you have two cards that add up to ten. For example, 7 and 3 would be a pair because they equal ten when added together. If any of them have two cards that add up to the value of ten, they place those cards in front of them, faced up.
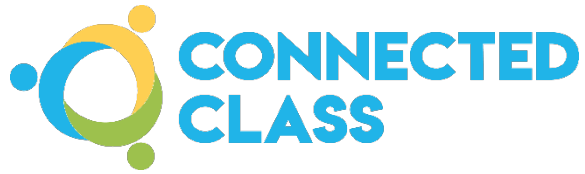
Step 4: To start the game, one player asks another player for a card they need. For example, someone with a 6 in their hand might ask another player for a 4 because 6 plus 4 equals 10.

Step 5: If the player has the card, the first player takes it, makes the pair, and goes again.

Step 6: If the player does not have the card, they say GO FISH. The first player chooses a card from the pile in the middle of the table. If they get a match, they can lay it down. Now it is the opponent's turn.

Step 7: Play continues until no more pairs can be made. If a player runs out of cards during the game, they can take three cards from the middle. The person with the most matches at the end wins.

CONNECTED CLASS

TARGET ADDEND

Materials Needed: Deck of cards with the face cards removed, timer, an optional opponent

Process:

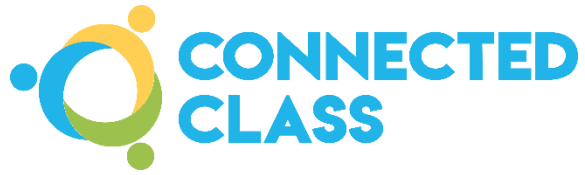Step 1: Remove the face cards from the deck.

Step 2: Look through the cards to locate your target number, for example, the number nine.

Step 3: Place that card on the left side of the playing area. That card will remain in play until all the cards have been used. Keep the rest of the cards in a pile.

Step 4: Flip over one card from the pile and place it next to the one that is already faceup.

Step 5: Add the two numbers as fast as you can.

Step 6: If you are playing with a partner, the player who says the sum first gets to keep the card. Play until there are no more cards in the pile. The player with the most cards win.

ADDITION STORIES

Materials Needed: Deck of cards and a partner
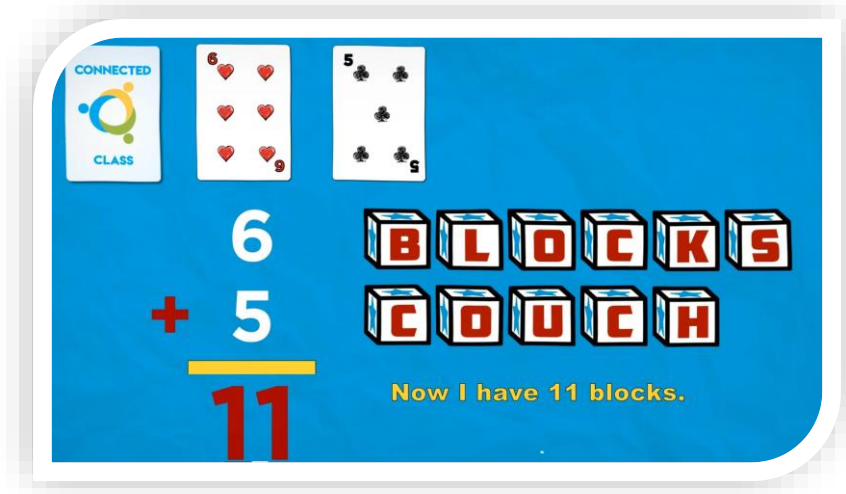
Process:
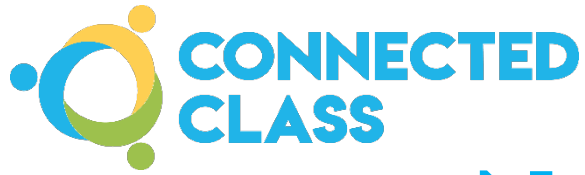
Step 1: Remove the face cards from the deck.

Step 2: Flip over two cards.

Step 3: Use the two numbers to create a scenario that could be a real addition problem.
- ➢ For example: I have six blocks, and I just found five more blocks under the couch. 6 + 5 = 11, so I now have 11 blocks.

Step 4: Take turns flipping over two cards with your partner. The person not picking the cards has to check that your problem makes sense and has been answered correctly.

NAME THAT ADDITION FAMILY

Materials Needed: Deck of cards and an opponent

Process:

Step 1: Remove the face cards from a deck of cards.

Step 2: Divide the cards into two equal piles and give one pile to each player.
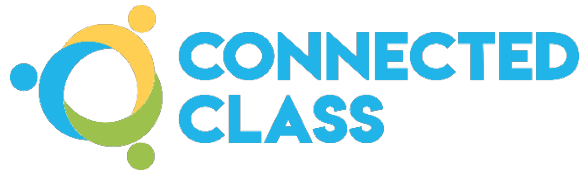
Step 3: Players take turns flipping over one card.

Step 4: When the card is turned over, the first player to correctly call out an addition fact family that uses the card as an addend gets to take the card.
  ➢   For example, if a 3 was turned over, a player could say 3 plus 8 equals 11.

Step 5: The first person to collect 20 cards wins the game.

ADDITION WAR

Materials Needed: Deck of cards and an opponent

Process:

Step 1: Remove the face cards from a deck of cards.

Step 2: Divide the cards into two equal piles and give one pile to each player.

Step 3: At the same time both players flip over the top card and place it face up on the table.

Step 4: The first person to call out the sum gets to take both cards.
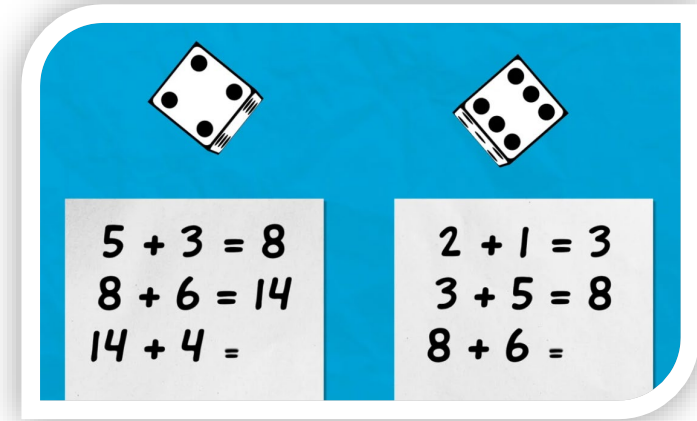
Step 5: If both players flip over the same card at the same time, each player lays down three cards facedown and then flips over the fourth card. The first person to call out the sum of those new cards gets to take all the cards on the table.

Step 6: Play until one player has all the cards.

CONNECTED CLASS

ADD THEM UP!

5 + 3 = 8
8 + 6 = 14
14 + 4 =

2 + 1 = 3
3 + 5 = 8
8 + 6 =
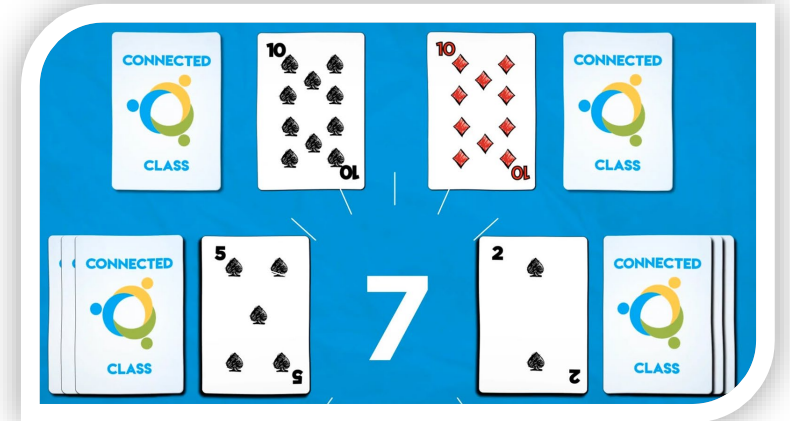
Materials Needed: Two dice, one for each player, paper and pencil, an opponent

Process:

Step 1: Both players roll their die at the same time.
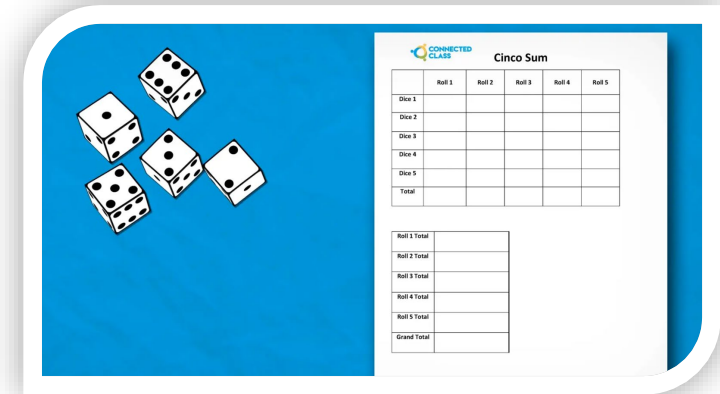
Step 2: Write the value on the die on your own paper.

Step 3: Then roll again and add the second number to the first.

Step 4: Record the sum.

Step 5: Roll the die again and add the value to your running total.

Step 6: Play continues until one player reaches 20 or more. That person is the winner. If both players reach 20 on the same turn, the person with the highest total wins.

CINCO SUM

Materials Needed: Five dice, paper, pencil, game board and an opponent

Process:

Step 1: The object of the game is to earn the highest score in five rounds.

Step 2: Each player rolls five dice and records the values under Roll 1 on the game board, then adds up the value.

Step 3: The players continue to roll their five dice, record and add until all five rounds are complete.

Step 4: To get their grand total, each player will place all their values into the second game board and add.

Step 5: The player with the greatest sum wins the game!

|	
Roll 1 Total	14
Roll 2 Total	11
Roll 3 Total	20
Roll 4 Total	11
Roll 5 Total	15
Grand Total	71

ODD MAN OUT

Materials Needed: Dominos, paper, pencil and an optional opponent

Process:

Step 1: Place all the dominos face down.

Step 2: Randomly select any five dominos.

Step 3: Determine which two-digit values that you should add together in order to equal the highest possible sum, BUT you are only able to add EVEN numbers together.

➢ For example, if you select: it would read as 41, but if you rotate the domino it would read as 14. You can only use 14 because it is an even number.

Step 4: If you are playing against an opponent, then the person with the highest score wins!

Step 5: If you are playing independently, see how fast you can get to the highest possible sum while trying to beat your fastest time each round!
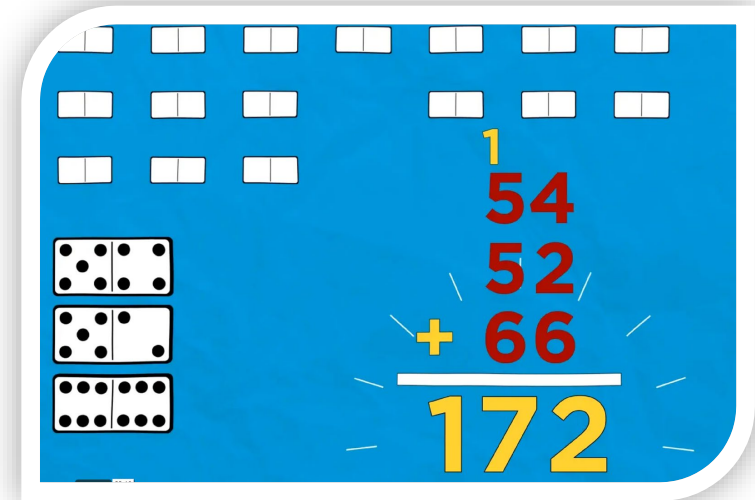
PLACE VALUE POSSIBILITIES

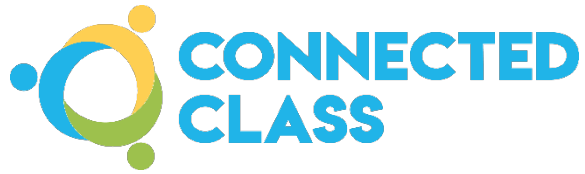**Materials Needed**: Deck of cards, paper, pencil and opponent

Process:

Step 1: Remove the face cards and tens from a deck of cards.

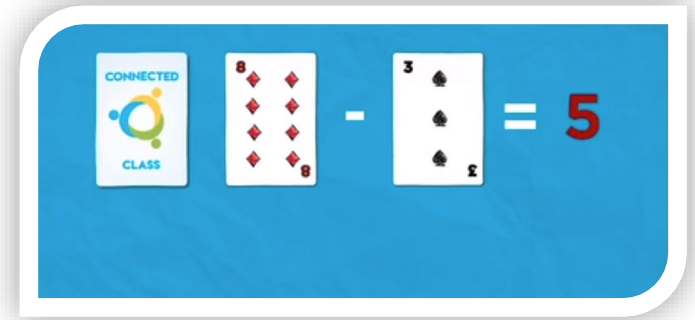Step 2: The dealer gives each player six cards face down.

Step 3: Each player uses their cards to create two different three-digit numbers, and then adds the numbers created together.

Step 4: The player with the greatest sum wins the game!

CONNECTED CLASS

TARGET MINUEND

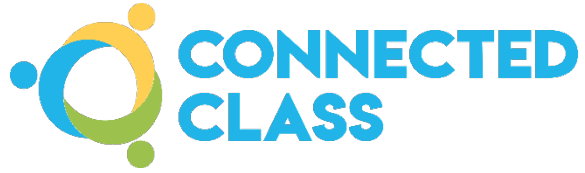**Materials Needed**: Deck of cards, an optional opponent

Process:

Step 1: Remove all the face cards from the deck but keep the aces. They will be ones for this game.

Step 2: For each round of the game, you will remove all the cards greater than the minuend or number you are subtracting from. For example, if your target number is eight, you will remove the numbers nine and ten. A handout is attached to show you which cards to use for each round. Place that card on the left side of the playing area. That card will remain in play until all the cards have been used.

Step 3: Keep the selected cards in a pile to be used as a subtrahend.

Step 4: Flip one card over from the pile and place it next to the one that is already faceup. Subtract the two numbers as fast as you can.

Step 5: If you are playing with a partner, the player who says the difference first gets to keep the card. Play until there are no more cards in the pile. The player with the most cards wins.

![CONNECTED CLASS logo]

SUBTRACTION STORIES

Materials Needed: Deck of cards and a partner
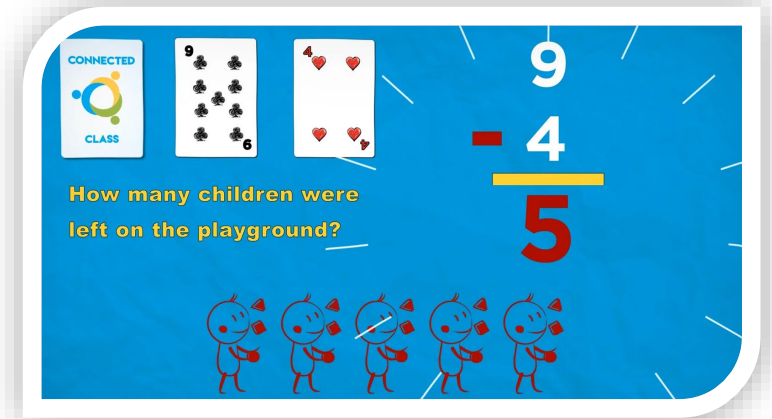
Process:
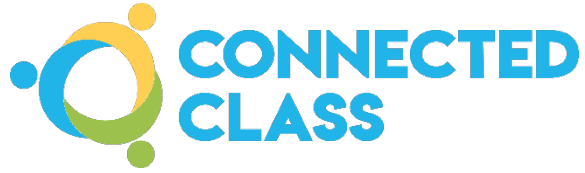
Step 1: Remove the face cards from the deck.

Step 2: Flip over two cards.

Step 3: Use the two numbers to create a scenario that could be a real subtraction problem.
  ➢ For example: There were nine children on the playground, and then four of them had to leave. How many children were left? 9 - 4 = 5, so there were five children left on the playground.

Step 4: Take turns flipping over two cards with your partner. The person not picking the cards has to check that your problem makes sense and has been answered correctly.

NAME THAT SUBTRACTION FAMILY
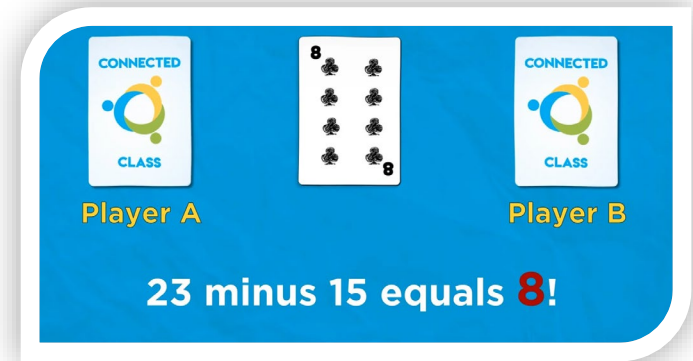
Player A   Player B

23 minus 15 equals **8**!

Materials Needed: Deck of cards and an opponent

Process:

Step 1: Remove the face cards from a deck of cards.

Step 2: Divide the cards into two equal piles and give one pile to each player.

Step 3: Players take turns flipping over one card.

Step 4: When the card is turned over, the first player to correctly call out a subtraction fact family that uses the card as the difference gets to take the card.

         For example, if an 8 was turned over, a player could say 23 minus 15 equals 8.

Step 5: The first person to collect 20 cards wins the game.

CONNECTED CLASS

SUBTRACTION WAR

Materials Needed: Deck of cards and an opponent

Process:

Step 1: Remove the face cards from a deck of cards.

Step 2: Divide the cards into two equal piles and give one pile to each player.

Step 3: At the same time both players flip over the top card and place it face up on the table.

Step 4: The first person to call out the difference gets to take both cards.
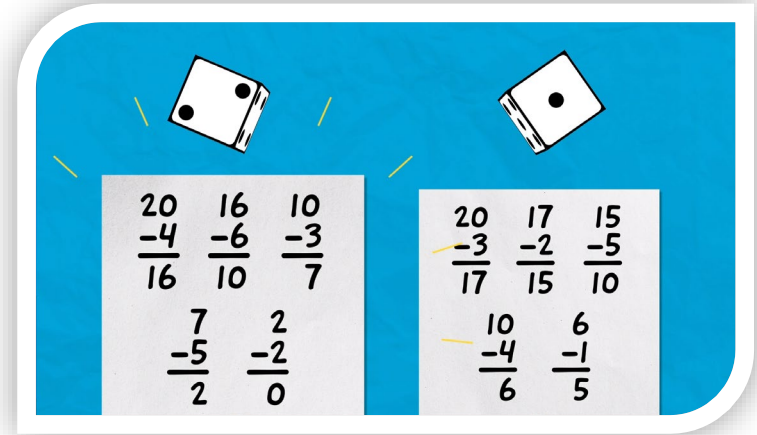
Step 5: If both players flip over the same card at the same time, each player lays three cards facedown and then flips over the fourth card. The first person to call out the difference of those new cards gets to take all the cards on the table.

Step 6: Play until one player has all the cards.
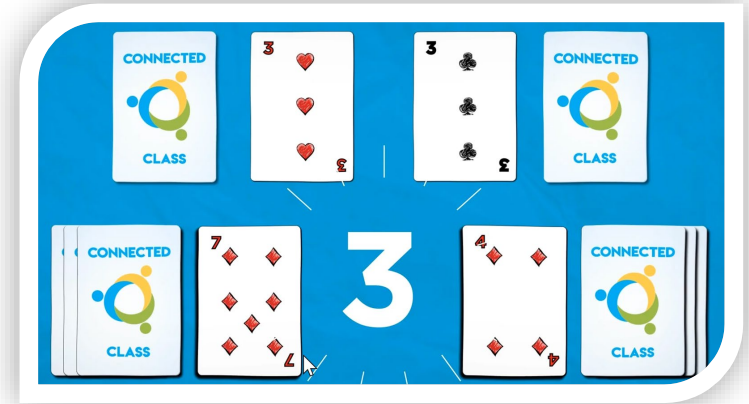
ZERO HERO

Materials Needed: Two dice, one for each player, paper and pencil, an opponent

Process:

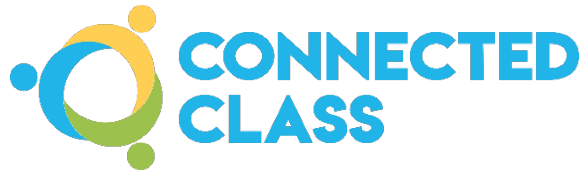Step 1: Each player writes the number 20 on their paper.

Step 2: Both players roll their die at the same time. Write the number you rolled below the number 20.

Step 3: Subtract the number from 20.

Step 4: Roll again and subtract that value from your current total.

Step 5: Play continues until one player gets to zero. That player is the winner.

**Toward the end of the game players might not be able to use the number rolled because it would result in negative numbers. For example, if you had 2 left and rolled a 4, you could not go on that turn because you cannot take 4 away from 2.

![CONNECTED CLASS logo]

DEAL DOWN

Materials Needed: A deck of cards, opponents, paper and pencil

Process:

Step 1: Remove the tens and the face cards from the deck and choose one player to be the dealer.
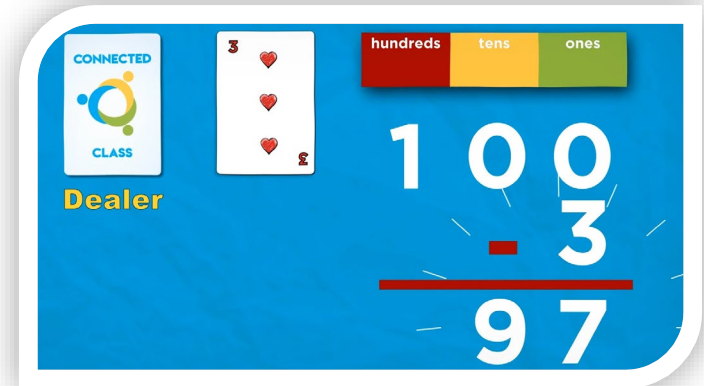
Step 2: Each player writes the number 100 at the top of the paper to begin the game.

Step 3: The dealer passes out one card to each player.

Step 4: Each player subtracts the value of the card from 100.

Step 5: The dealer will then deal out another round of cards.

Step 6: Play continues until one player reaches zero or below zero.

FOUR BY TWO SUBTRACTION

Materials Needed: A deck of cards, paper, pencil and a timer

Process:

Step 1: Remove the face cards and tens from the deck.

Step 2: Set a timer for three minutes.

Step 3: Start the timer, and flip over four cards to create the first number.
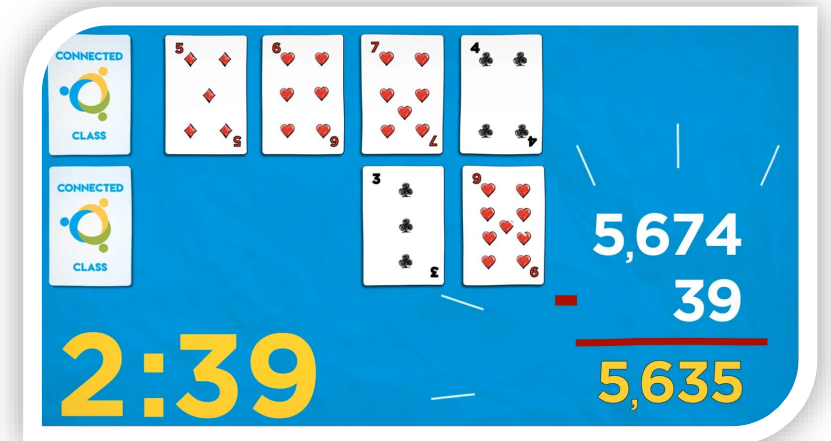
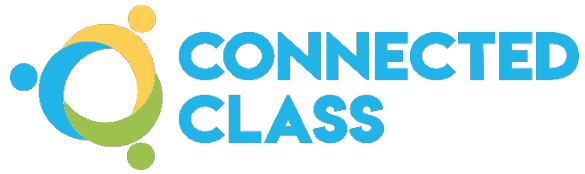Step 4: Flip over two cards to create the second number.

Step 5: The larger number is the minuend, and the smaller number is the subtrahend.
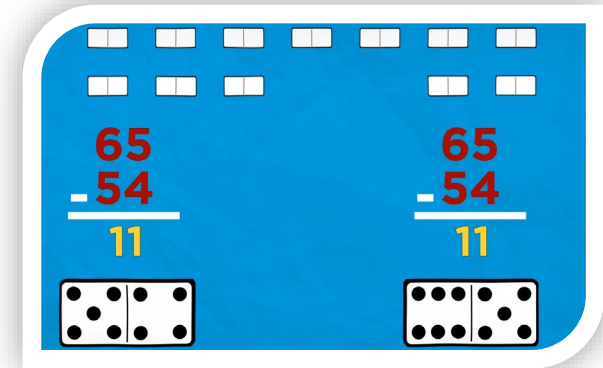
Step 6: Subtract as quickly as possible.

Step 7: Continue until your time runs out.

Step 8: Count the number of problems you completed, and try to do more next time.

GREATEST DIFFERENCE

Materials Needed: Paper, pencil, dominos and an opponent

Process:

Step 1: If playing with a set of dominos that goes up to twelve, remove any dominos with ten, eleven or twelve pips on them to prevent creating four-digit numbers.
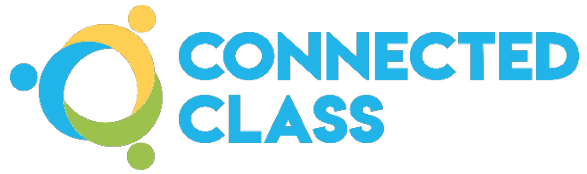
Step 2: Place the dominos facedown on the table.

Step 3: Each player flips over one domino. If there are no pips on one side of the domino, use that as a zero. For example, if you pick a domino with two pips on one side and none on the other, that could be read as two or 20.

Step 4: Once the dominos are flipped over, each player will decide what value they want to use for each domino and decide which numbers they will subtract to get the greatest possible difference. The player with the greatest difference wins both dominos.

Step 5: If both players get the same difference, each player receives one domino.

Step 6: The person who collects six dominos first wins.

![CONNECTED CLASS logo]

TARGET FACTOR

Materials Needed: Deck of cards, timer, and an optional opponent

Process:

Step 1: Remove the face cards from a deck of cards.

Step 2: Look through the cards to locate your target number.
- ➢ For example the number seven.

Step 3: Place that card on the left side of the playing area. That card will remain in play until all cards have been used.

Step 4: Keep the rest of the cards in a pile.

Step 5: Flip one card over from the pile and place it next to the one that is already face up.

Step 6: Multiply the two numbers as fast as you can. If you play with a partner, the one who says the product first gets to keep the card. Play until there are no more cards left. The player with the most cards wins.

CONNECTED CLASS
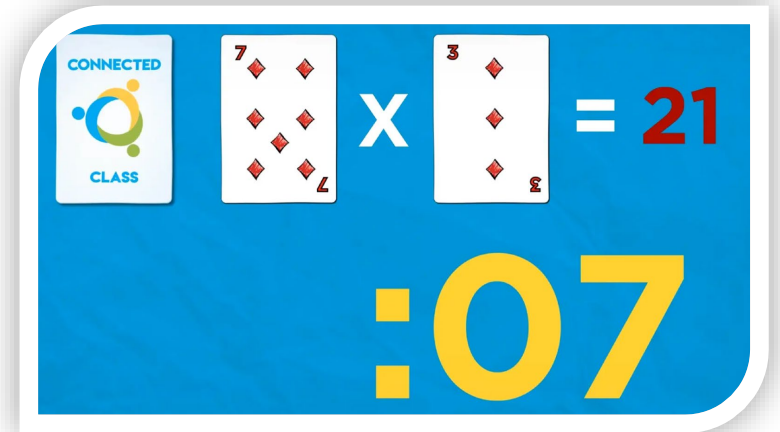
MULTIPLICATION STORIES

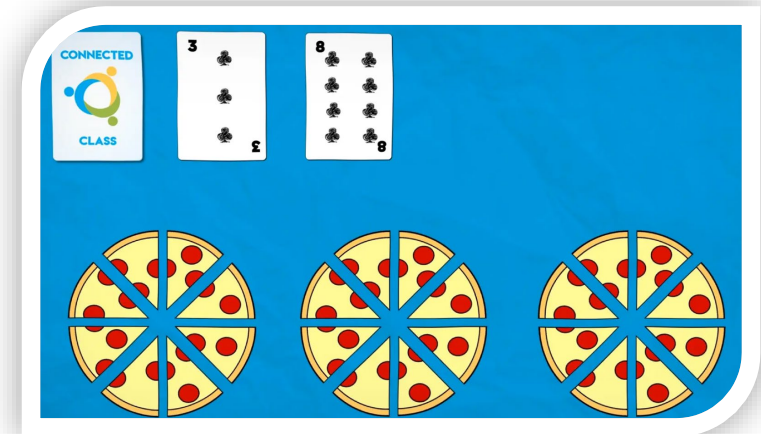**Materials Needed**: Deck of cards and a partner

Process:
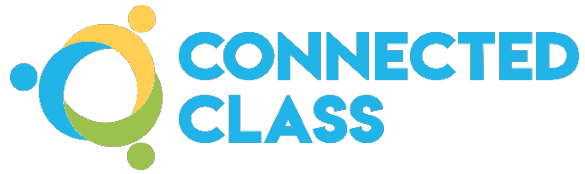
Step 1: Remove the face cards from a deck of cards.

Step 2: Flip over two cards.

Step 3: Use the two numbers to create a scenario that could be a real multiplication problem you might run across and have to solve in real life.
  ➤ For example: I have three pizzas with eight slices each; therefore, I have 24 slices of pizza for the party.

Step 4: Take turns flipping over 2 cards with your partner. The person not picking the cards has to check that your problem makes sense and has been answered correctly.

NAME THAT MULTIPLICATION FAMILY

Materials Needed: Deck of cards and an opponent

Process:

Step 1: Remove the face cards from a deck of cards.

Step 2: Divide the cards into two equal piles and give one pile to each player.
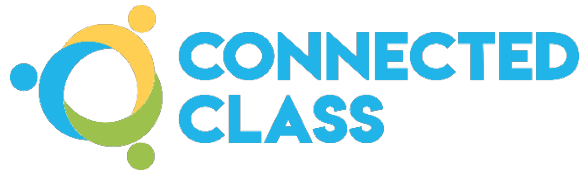
Step 3: Players take turns flipping over one card.

Step 4: When the card is turned over, the first player to correctly call out a multiplication fact family that uses the card as a factor gets to take the card.
   ➢ For example, if a 10 was turned over, a player could say 10 times 8 equals 80.

Step 5: The first person to collect 20 cards wins the game.

![CONNECTED CLASS logo]

MULTIPLICATION WAR

Materials Needed: Deck of cards and an opponent

Process:
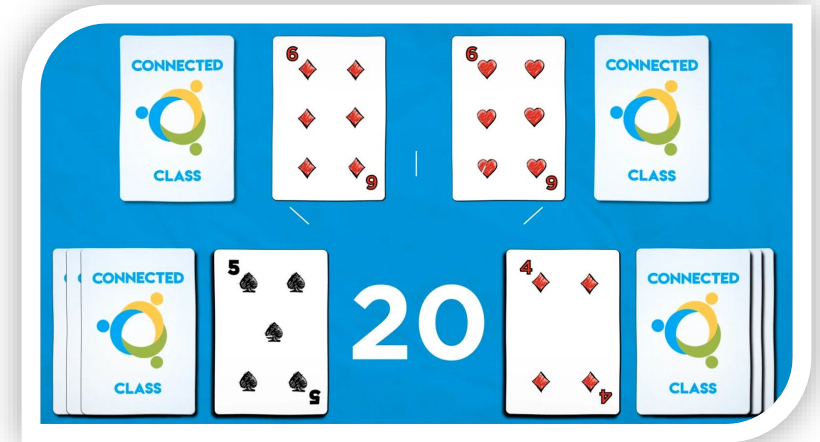
Step 1: Remove the face cards from a deck of cards.

Step 2: Divide the cards into two equal piles and give one pile to each player.

Step 3: At the same time both players flip over the top card and place it face up on the table.

Step 4: The first person to call out the product of the players' cards gets to take both cards.

Step 5: If both players flip over the same card at the same time, each player lays down three cards facedown and then flips over the fourth card. The first person to call out the product of those new cards gets to take all the cards on the table.

Step 6: Play until one player has all the cards.

MULTIPLICATION MADNESS

Materials Needed: Timer and a deck of cards

Process:

Step 1: Remove the face cards from the deck.

Step 2: Place the deck of cards face down.

Step 3: Turn on the timer.

Step 4: Flip over two cards and quickly call out the product of the two cards' values multiplied. Put those cards aside.

Step 5: Continue to draw two cards and multiply the values until there are no cards left in the deck.

Step 6: Stop the timer and record the time it took you to multiply the whole deck of cards.

Step 7: Keep challenging yourself to beat your previous time!

Step 8: If playing against an opponent, then compete to see who has the fastest time!
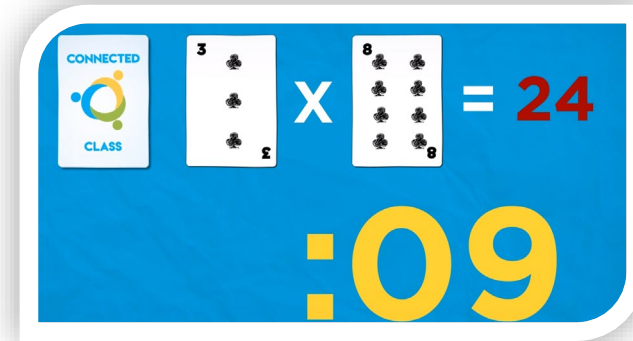
MULTIPLICATION COUNTDOWN

Materials Needed: Deck of cards, timer, paper and pencil

Process:

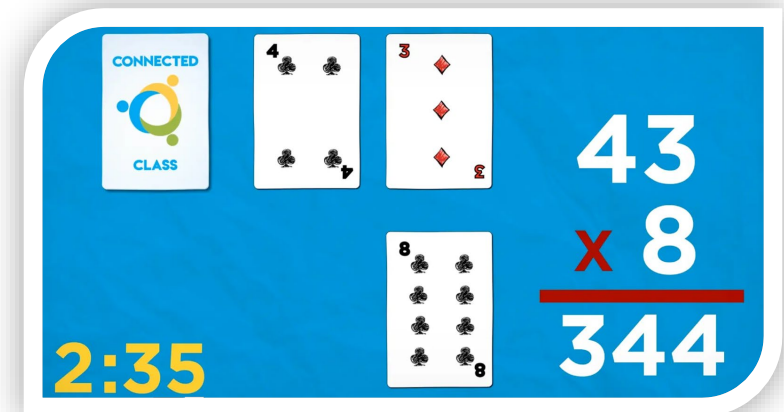Step 1: Remove the face cards and tens from a deck of cards.

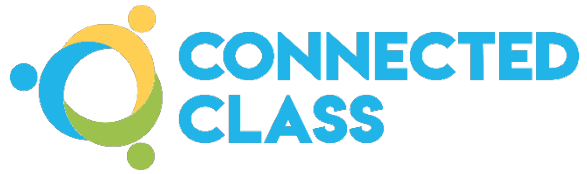Step 2: Set a timer for three minutes and press start.

Step 3: Turn over two cards to make a two-digit number.

Step 4: Flip over a third card and place it under the two-digit number.
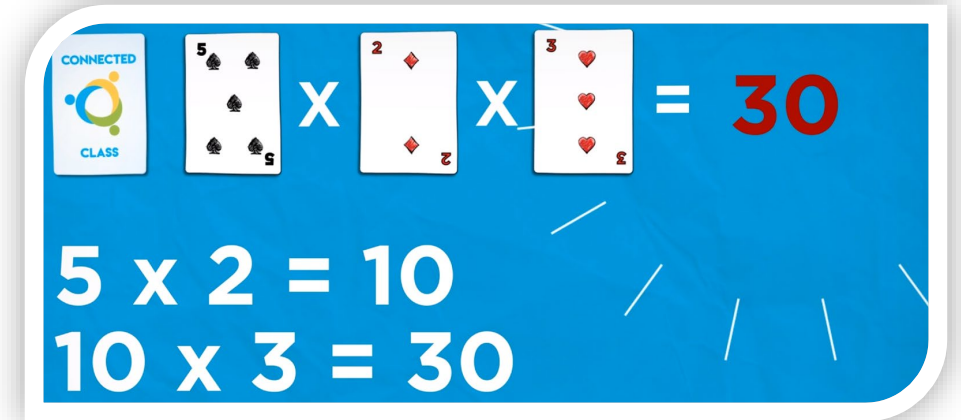
Step 5: Write down the problem and solve it.

Step 6: Continue to solve problems until the timer runs out. Try to beat the number of games played as well as the number of correct responses the next time.

![CONNECTED CLASS]

TRIPLE MULTIPLY

5 x 2 = 10
10 x 3 = 30

Materials Needed: Deck of cards, paper, pencil and an opponent
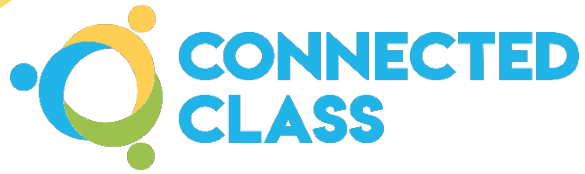
Process:

Step 1: Remove the face cards and tens from a deck of cards.

Step 2: One player will flip over three cards.

Step 3: Both players try to multiply the numbers as quickly as possible either in their heads or on paper.

Step 4: The first person to call out the product or answer to the multiplication problem gets to keep the three cards.

Step 5: The first person to get 15 cards wins.

CONNECTED CLASS

TWO BY TWO

25 x 44 = 1,100

Materials Needed: Dominos, paper, pencil, and an opponent

Process:

Step 1: Remove all the dominos that are missing pips.

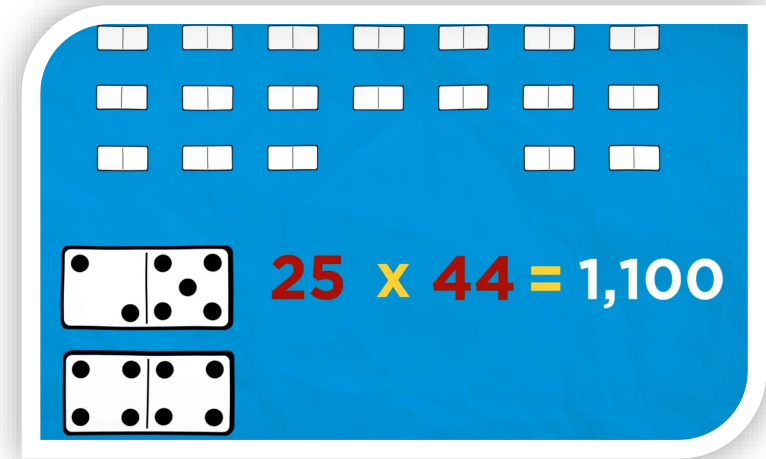Step 2: Place the dominos facedown in the middle of the table. Players should sit side by side.

Step 3: The first player flips a domino over and places it sideways so that the pips can be read as a two-digit number. They get to determine which of the two different numbers they want to use.

➤ For example if you select: it would read as 41, but if you rotate the domino it would read as 14.

Step 4: The second player flips over a second domino and places it sideways under the first domino.

Step 5: Both players will quickly multiply the two numbers together.

Step 6: The player who correctly multiplies the two numbers together the fastest gets to keep the two dominos. The first player to collect 8 dominos wins.

BIG PRODUCTS

Materials Needed: Deck of cards, paper, pencil and an optional opponent

Process:

Step 1: Remove the tens and face cards from a deck of cards.

Step 2: Place the pile of cards facedown in the middle of the table.

Step 3: Flip over four cards to make a four-digit number.

Step 4: Flip over two more cards to make a two-digit number.

Step 5: Place the two-digit number under the four-digit number and multiply.

Step 6: When you are done check your answer with a calculator. If you are playing with a partner, the player who says the product correctly first wins.

CONNECTED CLASS

TARGET DIVIDEND

Materials Needed: Two decks of cards, timer, paper, pencil, an optional opponent

Process:

Step 1: First remove all the face cards from the deck but keep the aces. They will be the number one for this game.
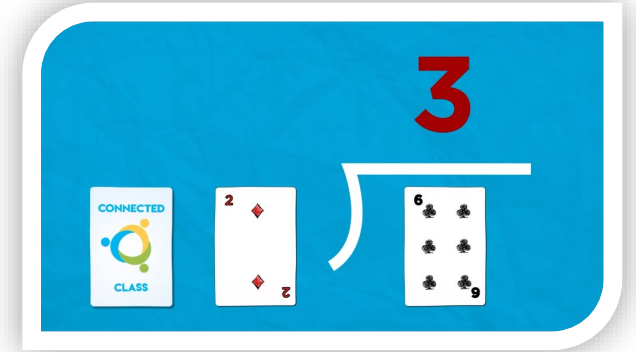
Step 2: Each round will have a certain set of cards to use. For example, if your target number is 6, you will use the following cards: the ace, the two, the three, and the six. A handout is attached to show you which cards to use for each round.
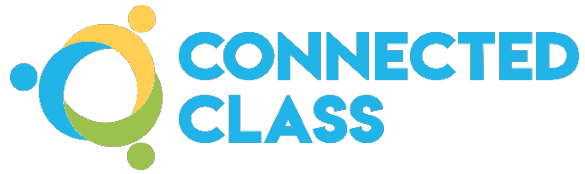
Step 3: Draw a division house large enough for one card to fit on your paper. Place your target dividend in that house, for example, the number six. That card will remain in play until all the cards have been used.

Step 4: Keep the selected cards in a pile to be used as a divisor.
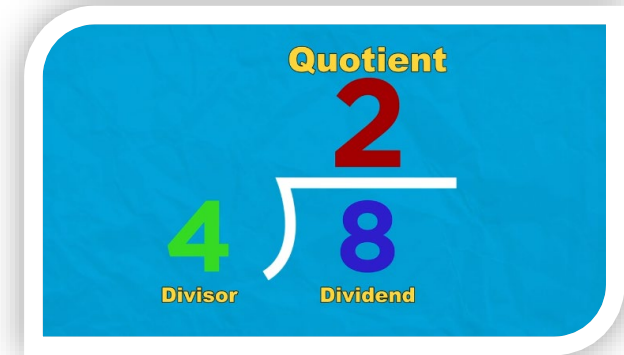
Step 5: Flip one card over from the pile, and place it outside the house, for example, the number two. Divide the two numbers as fast as you can.

Step 6: If you are playing with a partner, the player who says the quotient first gets to keep the card. Play until there are no more cards in the pile. The player with the most cards wins.

![CONNECTED CLASS logo]

TARGET DIVISOR

Materials Needed: Special deck of cards (see PDF), timer, paper, pencil, an optional opponent

Process:

Step 1: Print and cut out the deck of cards provided. Each round will have a certain set of cards to use. For example, if you are dividing by 4, you will use the following cards: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, and 48. There are 4 of each card. The blue cards will be used as the divisors. (See handout.)

Step 2: Draw a division house large enough for one card to fit under it on your paper or use the one provided.

Step 3: Place the target divisor on the outside of the house. This card will remain in play the entire round.

Step 4: Keep the selected cards in a pile to be used as the dividends. Flip one card over from the pile and place it inside the house.

Step 5: Divide the two numbers as fast as you can.

Step 6: If you are playing with a partner, the player who says the quotient first gets to keep the card. Play until there are no more cards in the pile. The player with the most cards wins. If you are playing alone, time yourself and try to beat your time the next round.
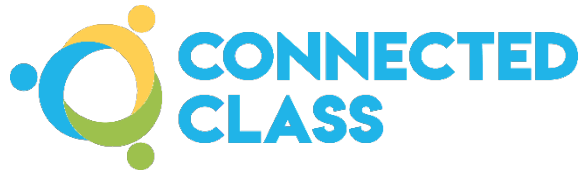
DIVISION STORIES

Materials Needed: Deck of cards and a partner
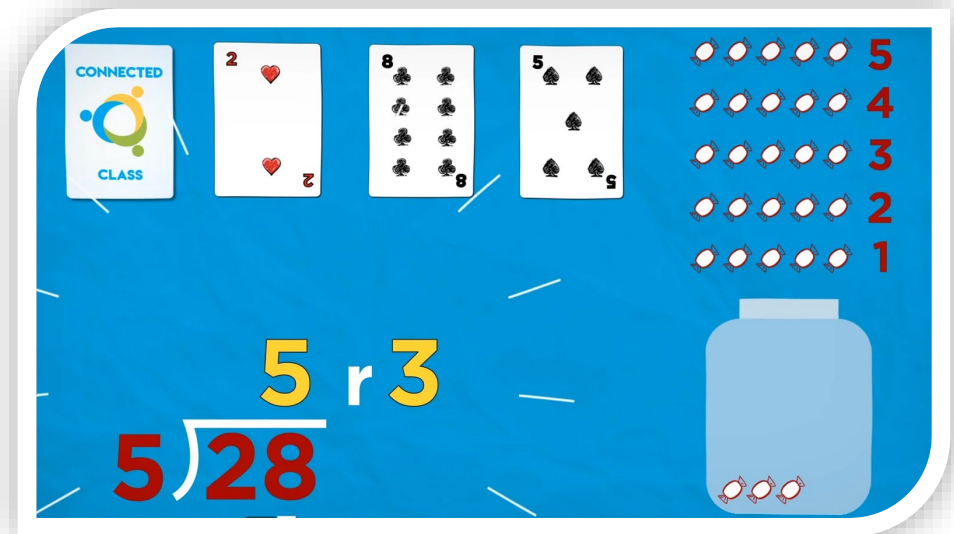
Process:

Step 1: Remove the face cards from the deck.

Step 2: Flip over three cards.

Step 3: Use the three numbers to create a scenario that could be a real division problem.
- ➤ For example: If two, eight, and five are turned over, the numbers 28 and 5 will be used to create the problem. The problem could say that there are 28 pieces of candy that will be shared between 5 friends. How much candy does each person get? 5 r3 is the answer, so each person will get five pieces of candy.

Step 4: Take turns flipping over three cards with your partner. The person not picking the cards has to check that your problem makes sense and has been answered correctly.

CONNECTED CLASS

NAME THAT DIVISION FAMILY
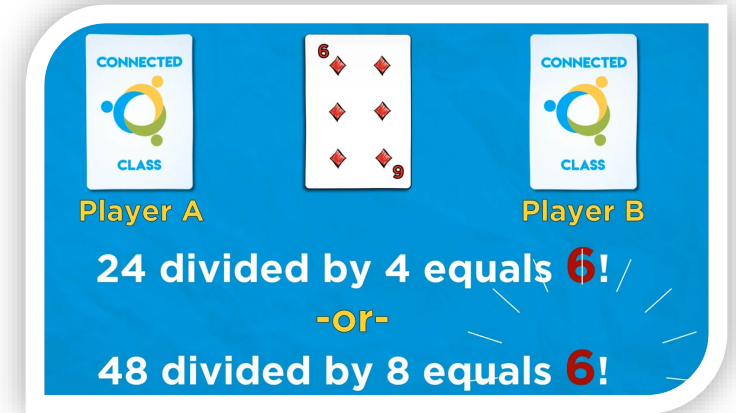
Player A

Player B

24 divided by 4 equals **6**!

-or-

48 divided by 8 equals **6**!

Materials Needed: Deck of cards and an opponent

Process:

Step 1: Remove the face cards from a deck of cards.

Step 2: Divide the cards into two equal piles and give one pile to each player.

Step 3: Players take turns flipping over one card.

Step 4: When the card is turned over, the first player to correctly call out a division fact family that uses the card as a quotient gets to take the card.

➢ For example, if a 6 was turned over, a player could say 24 divided by 4 equals 6.

Step 5: The first person to collect twenty cards wins the game.

CONNECTED CLASS

DIVIDE BY TWO

When doing long division there are steps that are followed and repeated until the problem is complete.

Dirty
Monkeys
Smell
Bad

Materials Needed: Deck of cards, an opponent, paper, and pencil

Process:

Step 1: Remove the tens and the face cards from a deck of cards.

Step 2: Draw a division house on the piece of paper with the number 2 on the outside. The 2 is called the divisor or the number you will be dividing by.

Step 3: Flip over two more cards and place them inside the house. They will be the dividend, or the number being divided in the problem.

Step 4: Each player quickly divides the dividend by two.

Step 5: The person who answers correctly first gets to keep the two cards that make up the dividend.

Step 6: Play until one player has collected ten cards.

DIVISION WAR

Materials Needed: Deck of cards and an opponent

Process:

Step 1: Remove the face cards from a deck of cards.

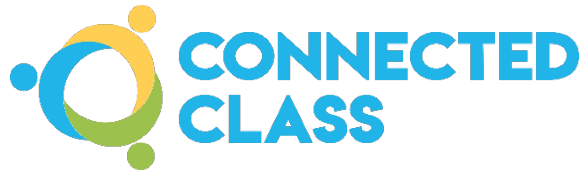Step 2: Divide the cards into two equal piles and give one pile to each player.

Step 3: At the same time both players flip over the top card and place it face up on the table.

Step 4: The first person to call out the quotient of the players' cards gets to take both cards.

Step 5: If both players flip over the same card at the same time, each player lays down three cards facedown and then flips over the fourth card. The first person to call out the quotient of those new cards gets to take all the cards on the table.

Step 6: Play until one player has all the cards.
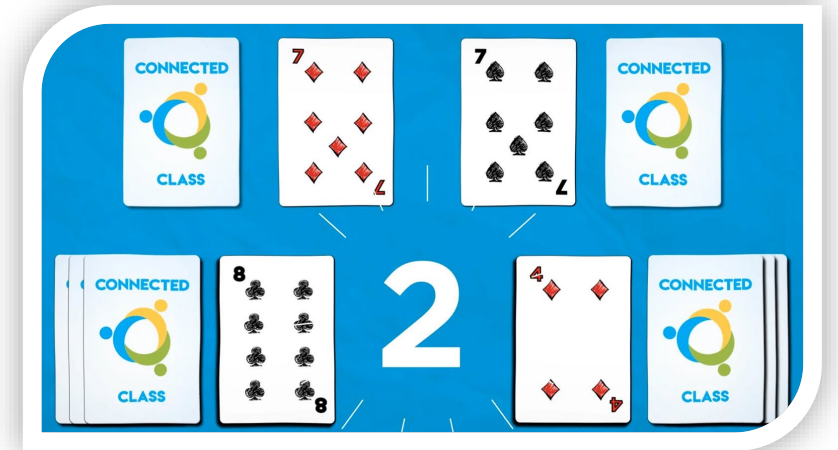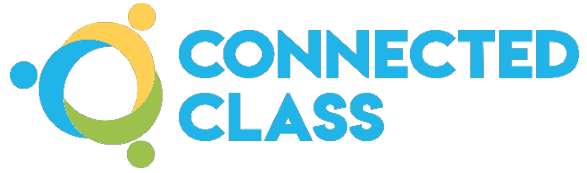
ROLL WITH REMAINDERS

Materials Needed: Five dice, timer, paper and pencil

Process:

Step 1: Set the timer for 15 minutes and start it.

Step 2: Roll all five dice. Select two of the dice to create a double-digit divisor and the remaining three dice to create a triple-digit dividend. Make sure the problem will have a remainder so you can count it as a completed problem.

Step 3: Divide.

Step 4: Repeat steps two and three until the time is up. The next time you play the game, try to complete more problems in 15 minutes.

TIC TAC DIVIDE

Materials Needed: Dominos, an opponent, paper and pencil

Process:

Step 1: Place all the dominos in the middle of the table face down.

Step 2: Draw a division house on a piece of paper.

Step 3: Draw a tic tac toe board next to the division house and decide which player will be the X's and which one will be the O's. Each time a player solves a problem correctly, that player will place an X or an O on the tic tac toe board trying to get three in a row.

Step 4: The first player turns over one domino to use outside the house as the divisor and then turns over two more dominos to put inside the house to use as the four-digit dividend.

Step 5: If the player answers the question correctly, then they get to place their X or O on the board.

Step 6: The second player will then go. Play continues until one player has three in a row or the board is filled.

MULTIPLE MANIA

Materials Needed: Deck of cards, paper, pencil, timer and an optional opponent
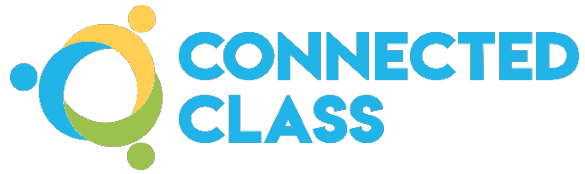
Process:

Step 1: Remove the face cards from the deck.

Step 2: Set the timer for 20 seconds and hit start.

Step 3: Flip over the top card and write down as many multiples as you can think of until the time runs out.

Step 4: Tally up the number of multiples and write it down. If you are playing with others then compare your numbers to see who had the most correct multiples listed. If you played alone then try to beat your number of multiples in the next round.
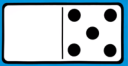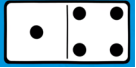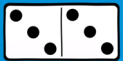
MULTIPLES IN COMMON

Materials Needed: Dominos, paper, pencil, timer, and an opponent

Process:

Step 1: Remove any dominos that have no pips on one side [domino image] as well as dominos with a number one pip. [domino image]
Remove any dominos with doubles. [domino image]

Step 2: Place the remaining dominos face down.
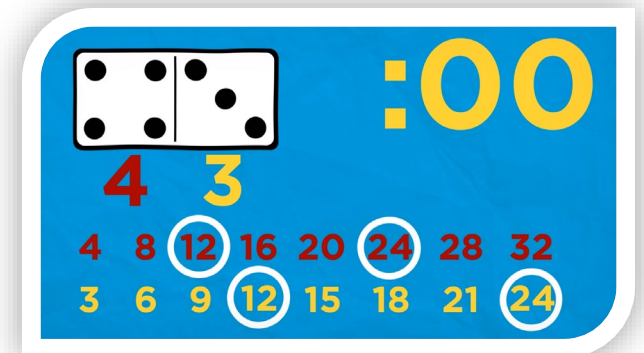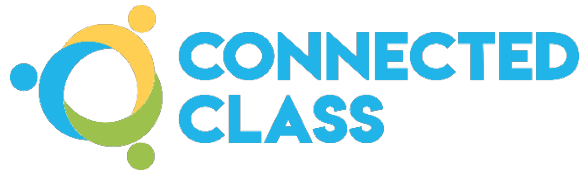
Step 3: Set the timer for 45 seconds.

Step 4: One person will flip over one domino while the other person starts the timer.

Step 5: List common multiples for the two numbers until the time runs out.

Step 6: The person with the most common multiples wins.

[image: domino showing 4 and 3 with timer :00, and lists:
4 8 (12) 16 20 (24) 28 32
3 6 9 (12) 15 18 21 (24)]

MULTIPLE WAR

Materials Needed: Deck of cards and opponent

Process:

Step 1: Remove the face cards from a deck of cards.

Step 2: Divide the cards into two equal piles and give one pile to each player.

Step 3: At the same time both players flip over the top card and place it face up on the table.

Step 4: The first person to call out the Least Common Multiple gets to take both cards.
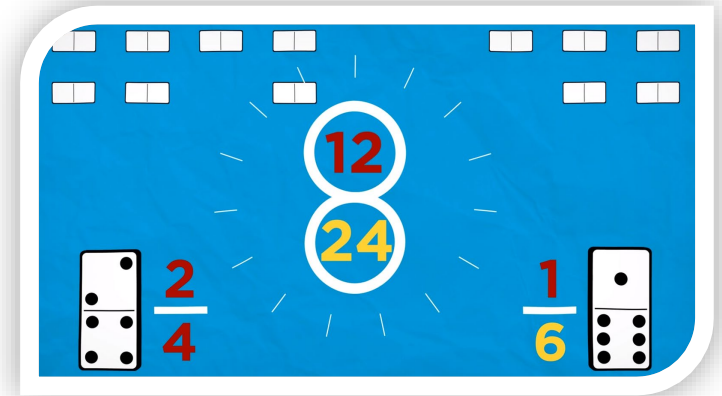
Step 5: If both players flip over the same card at the same time, each player lays down 3 cards facedown and then flips over the 4th card. The first person to call out the Least Common Multiple of the 4th cards gets to take all the cards on the table.

Step 6: Play until one player has all the cards.

CONNECTED CLASS
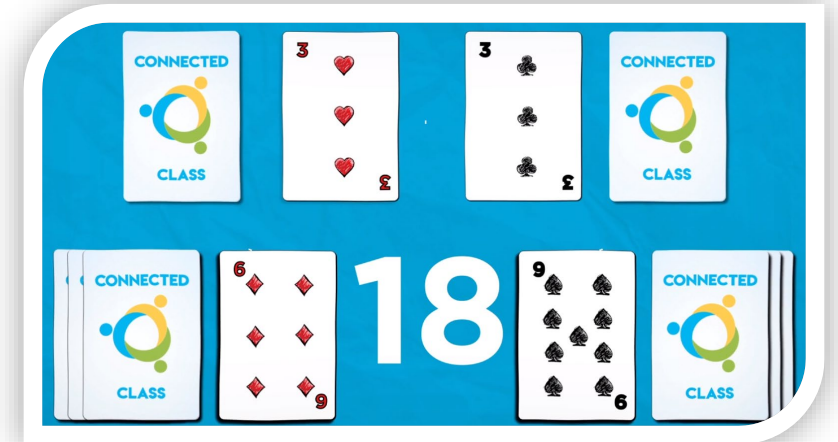
RACE FOR THE COMMON DENOMINATOR

Materials Needed: Dominos, paper, pencil and an opponent

Process:

Step 1: Remove the dominos with zero pips on either side and place the remaining dominos facedown.
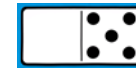
Step 2: Divide the dominos equally between the two players. Players should sit next to each other.

Step 3: On the count of three, both players flip over a domino making sure that the largest number is used as the denominator.

Step 4: The first person to call out a common denominator gets to keep both dominos.

Step 5: The first player to collect ten dominos wins the game.

SIMPLEST FORM

Materials Needed: Dominos, paper, pencil and an opponent

Process:

Step 1: Remove all dominos with 0 pips on either side.

Step 2: Turn over all remaining dominos so that they are face down.

Step 3: One person turns over a domino, and both players try to simplify it as quickly as possible and then yell out the simplest form.

Step 4: The first person to call out the simplest form gets to keep the domino.

Step 5: Continue to play until one player has 10 dominos.

Note:
- When looking at the domino, use the largest number as the denominator to create a proper fraction.
- If the fraction is already in simplest form, the first player to say "simplest form" gets the domino.
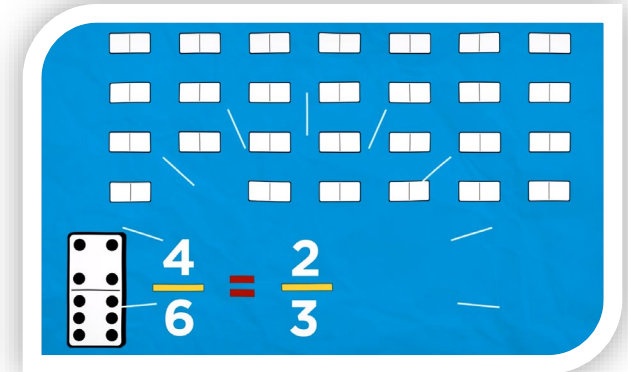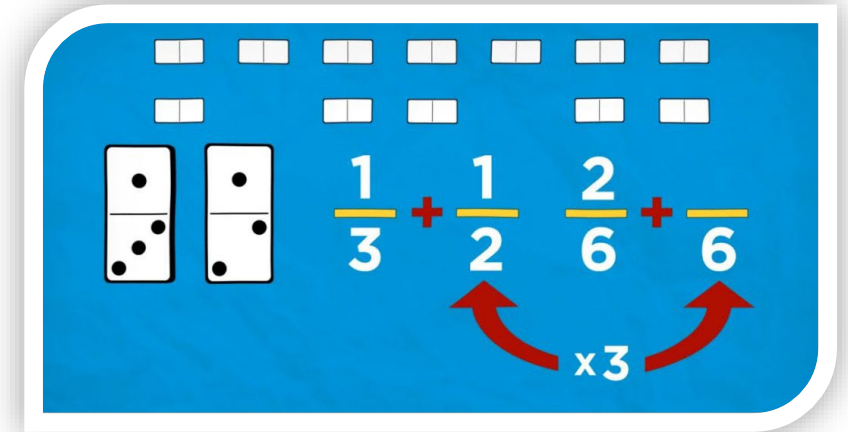
$$\frac{4}{6} = \frac{2}{3}$$

GOAL OF TWO

$$\frac{1}{3} + \frac{1}{2} \quad \frac{2}{6} + \frac{}{6}$$

x3

Materials Needed: Dominos, paper, pencil, and an opponent

Process:

Step 1: Place all the dominos face down.

Step 2: Each player begins by selecting two dominos and then reads them as fractions. $= \frac{3}{4}$

Step 3: Each player will add their set of dominos together. *Hint: You may need to create a like denominator.*

Step 4: Each player can then choose to select a third domino, if desired, to add to their other two dominos.

Step 5: The player whose sum is closest to the number two without going over wins the game!

FRACTIONS TO FIVE

Materials Needed: Dominos, paper, pencil and an opponent

Process:

Step 1: Remove all dominos with zero pips on either side.

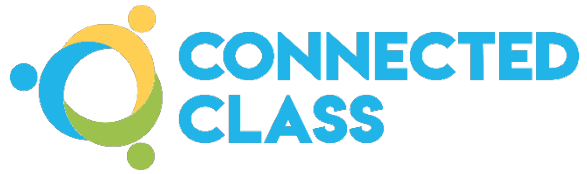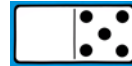Step 2: Turn over all remaining dominos so that they are face down.

Step 3: Both players choose two dominos at the same time. Each player must decide how to use each domino, either as an improper or proper fraction. For example, if you choose a domino with a four and five pips, it could be read as 4/5 or 5/4 but must stay that way for the entire game.

Step 4: Add the fractions together.

Step 5: Each player has the option to continue picking additional dominos until satisfied with the sum.

Step 6: The player who gets closest to five without going over wins the game.
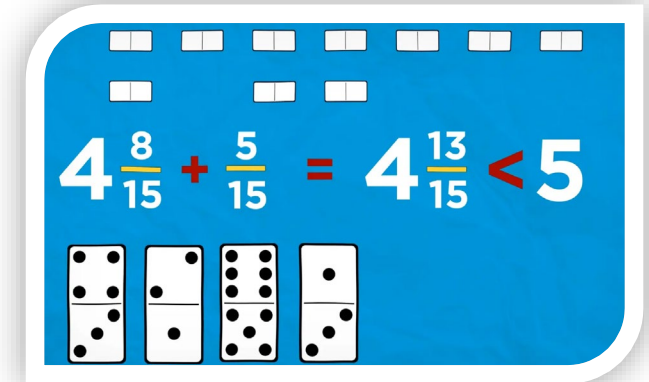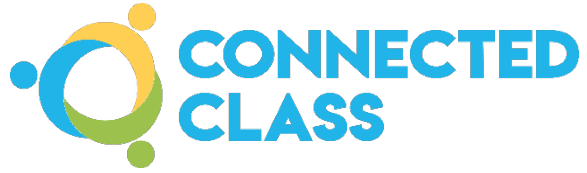
$$4\frac{8}{15} + \frac{5}{15} = 4\frac{13}{15} < 5$$

CONNECTED CLASS

PROPER TAKEAWAY

$$\frac{5}{6} - \frac{3}{8}$$

Materials Needed: Paper, pencil, deck of cards, an opponent

Process:

Step 1: Remove the face cards from the deck. The ace will be used as a one for this game.

Step 2: Deal four cards to each player.

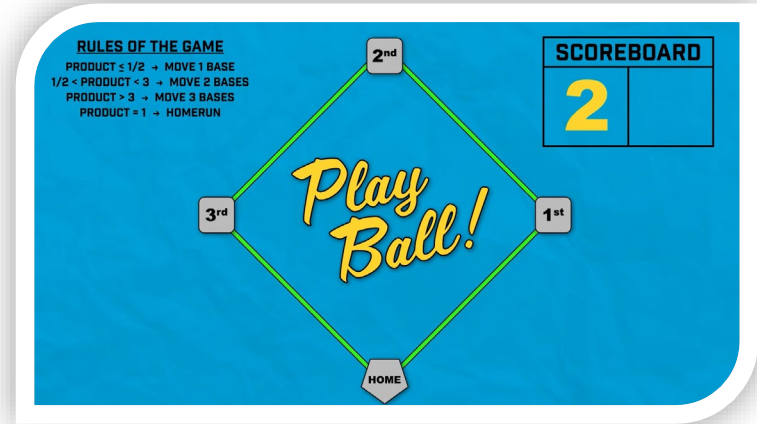Step 3: Each player uses the cards to create two fractions to use in a subtraction problem. For example, if you have 3, 5, 6, and 8, you could create the problem 5/6-3/8.

Step 4: The player who gets the smallest difference when the two fractions are subtracted gets a point, so that should be taken into consideration when deciding which two fractions to use.

Step 5: The player who has the most points after 7 rounds wins.

PLAY BALL

RULES OF THE GAME
PRODUCT ≤ 1/2 → MOVE 1 BASE
1/2 < PRODUCT < 3 → MOVE 2 BASES
PRODUCT > 3 → MOVE 3 BASES
PRODUCT = 1 → HOMERUN

SCOREBOARD 2

Materials Needed: Dominos, copy of the game board, paper, pencil, two game pieces, an opponent

Process:

Step 1: Print out or draw a copy of the game board.

Step 2: Next, remove the dominos with 0 pips and place the rest face down in front of both players.

Step 3: The first player picks 2 dominos and decides which fractions to make. For example, if the domino had 4 pips on one side and 5 pips on the other side, the fraction could be ⅘ or 5/4. They would determine the value of the second domino and then multiply the fractions.

Step 4: The fractions being multiplied can be improper fractions too. Compare your product to the chart that tells you how many bases to advance.

Step 5: Here are the rules of the game:

If the product is less than or equal to ½, you advance one base.

If the product is greater than ½ but less than 3, you advance two bases.

If the product is greater than 3, you advance three bases.

If the product is equal to 1, you get a homerun!

Step 6: You must get the exact number of bases necessary to advance. For example, if you are on 2nd base, you could advance with a 1 or 2 base "hit" but you couldn't move with a homerun.

Step 7: The first player to score 3 runs is the winner. Players can take turns picking 2 dominos to multiply. Both players can have a game piece on the gameboard at the same time.
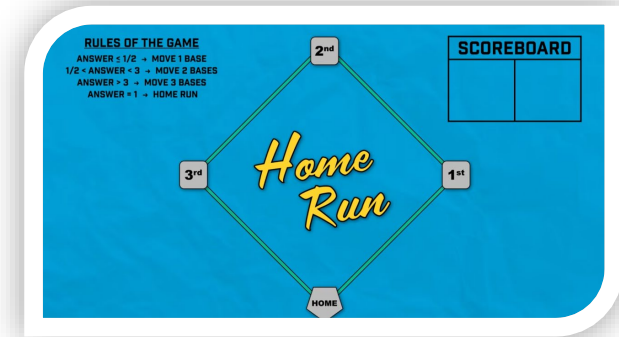
CONNECTED CLASS

HOME RUN!

Materials Needed: Dominos, copy of the game board, paper, pencil, two game pieces, an opponent

Process:

Step 1: Print out or draw a copy of the game board.

Step 2: Next, remove the dominos with zero pips and place the rest face down in front of both players.

Step 3: The first player picks two dominos and decides which fractions to make. For example, if the domino had three pips on one side and six pips on the other side, the fraction could be 6/3 or 3/6. They would determine the value of the second domino and then divide the fractions.

Step 4: The fractions being divided can be improper fractions too. Compare your product to the chart that tells you how many bases to advance.

Step 5: Here are the rules of the game:
   If the product is less than or equal to ½, you advance one base.
   If the product is greater than ½ but less than 3, you advance two bases.
   If the product is greater than 3, you advance three bases.
   If the product is equal to 1, you get a home run!

Step 6: You must get the exact number of bases necessary to advance. For example, if you are on 2nd base, you could advance with a 1 or 2 base "hit" but you couldn't move with a home run.

Step 7: The first player to score three runs is the winner. Players can take turns picking two dominos to divide. Both players can have a game piece on the game board at the same time.

IMPROPER TAKEAWAY
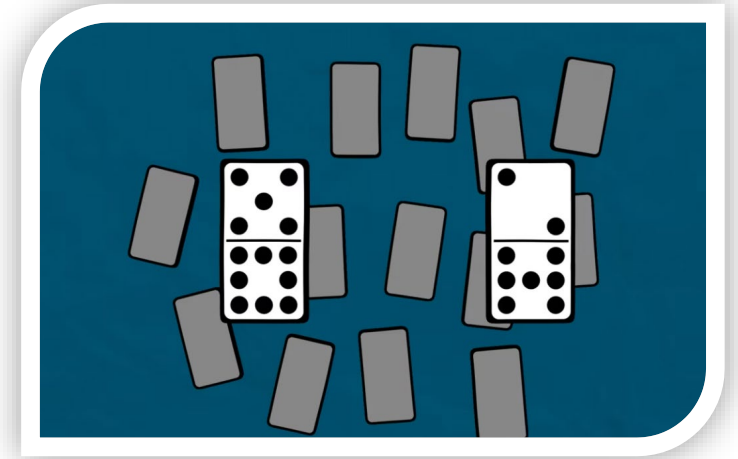
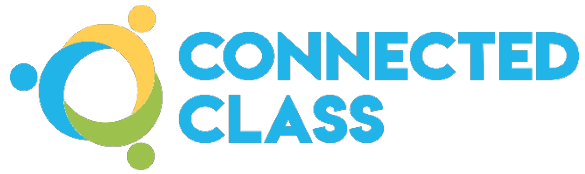**Materials Needed:** Paper, pencil, double nine dominos, an opponent

Process:

Step 1: First remove the dominos with zero pips on either side. Place the remaining dominos face down on the table.

Step 2: Each player draws two dominos from the table and creates two fractions to use in a subtraction problem. In this game at least one of your fractions needs to be an improper fraction.

Step 3: The player who gets the smallest difference when the two fractions are subtracted gets a point, so that should be taken into consideration when deciding which two fractions to use.

Step 4: The player who has the most points after seven rounds wins.

CONNECTED CLASS

MONKEY IN THE MIDDLE
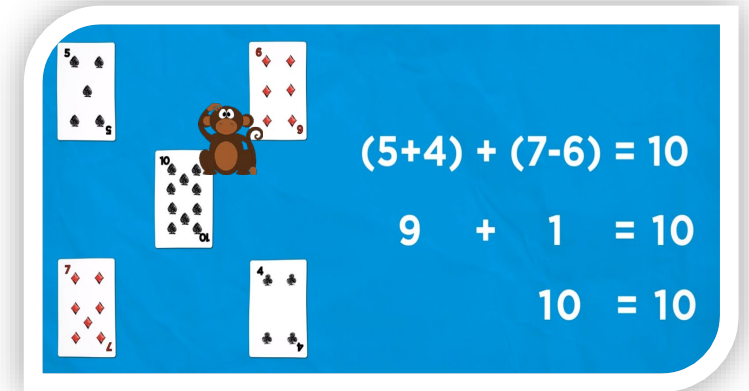
(5+4) + (7-6) = 10

9 + 1 = 10

10 = 10

Materials Needed: Deck of cards, paper, pencil, and an optional opponent
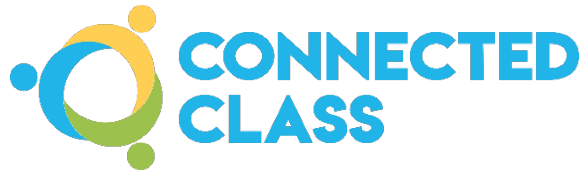
Process:

Step 1: Remove the face cards from a deck of cards.

Step 2: Dealer puts down one card (face up) and then surrounds that card with four other cards (face up).

Step 3: Player tries to write an equation that uses the four outside cards' values to reach the value of the middle (monkey) card.

Step 4: The player must follow the "Order of Operations" (**P**arentheses, **E**xponents, **M**ultiplication, **D**ivision, **A**ddition, **S**ubtraction).

Step 5: Some plays will have multiple possibilities, and some will be unsolvable!!

TWO STEPPING

Materials Needed: A deck of cards, a partner, paper and pencil

Process:

Step 1: Remove the face cards from the deck.

Step 2: Flip over three cards.

Step 3: Use the three numbers to create a scenario that could be a real-life problem involving two steps.
  ➢ For example: Laura and David collected shells at the beach. Laura found four, and David collected six. They placed them in a bag to take home, but three of the shells fell out along the way. How many shells made it home?

Step 4: Take turns flipping over three cards with your partner. The person not picking the cards has to check that your problem makes sense and has been answered correctly.

CONNECTED CLASS

INTRODUCTION:
WORD PROBLEM DETECTIVE

Process:

Use the R.I.S.E. process to help your child solve word problems.

Step 1: "R" stands for reading. Read the problem twice before moving on to the next step.

Step 2: "I" stands for investigate. Use the *Investigation Questionnaire* to locate evidence and gather clues to solve the problem.

Step 3: "S" stands for solve. Go through the whole investigation and use a variety of tools such as creating drawings to help see what is happening in the word problem.

Step 4: "E" stands for evaluate. Go back through the word problem to check your work to ensure that you solved the case.

CONNECTED CLASS

JUST DRAW IT ADDITION
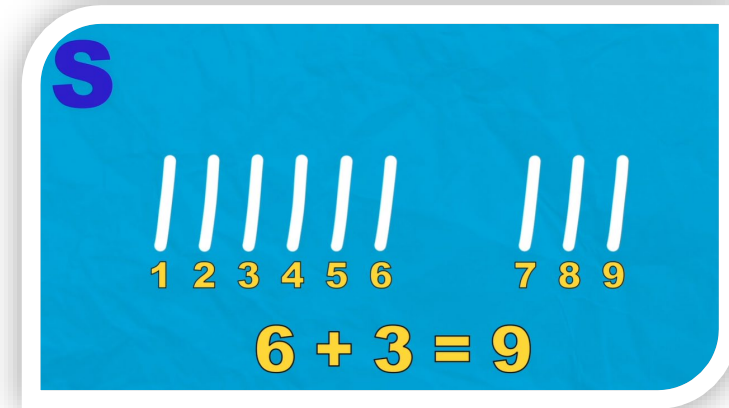
S

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

6 + 3 = 9

Materials Needed: Paper, Pencil, Word Problems, Investigation Questionnaire, Keyword List, Word Problem Answer Key

Process:

Step 1: Choose an addition word problem from the provided handouts or use word problems from a textbook or homework.

Step 2: Read the problem two times to make sure you understand what is going on.

Step 3: Use the *Investigation Questionnaire* to help you find clues and set up your problem. Write your answers on a separate piece of paper.

Step 4: Once you have answered the questions, draw a picture to help you solve the problem.

Step 5: Solve the problem and evaluate your work. An answer key is provided for the word problems attached.

Step 6: If you are correct, go on to the next problem. If you are not correct, go back and try again. Repeat the process for each word problem you solve.

JUST DRAW IT DIVISION

Materials Needed: Paper, Pencil, Word Problems, Investigation Questionnaire, Keyword List, Word Problem Answer Key

Process:

Step 1: Choose a division word problem from the provided handouts or use word problems from a textbook or homework.
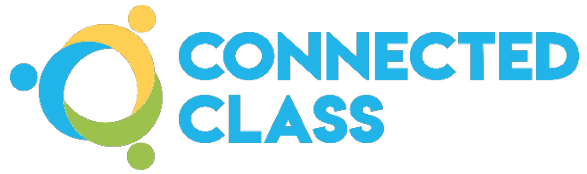
Step 2: Read the problem two times to make sure you understand what is going on.

Step 3: Use the *Investigation Questionnaire* to help you find clues and set up your problem. Write your answers on a separate piece of paper.
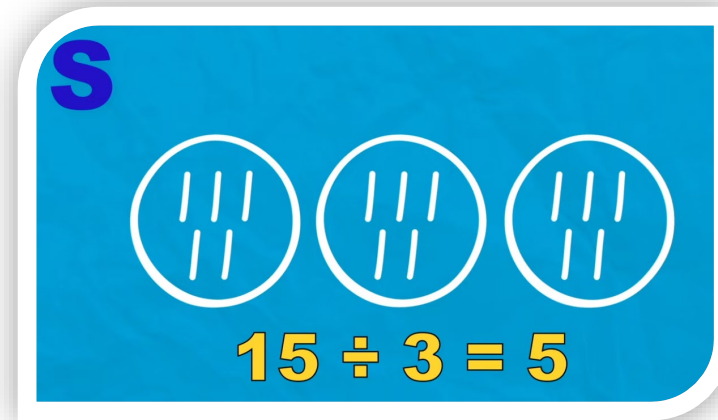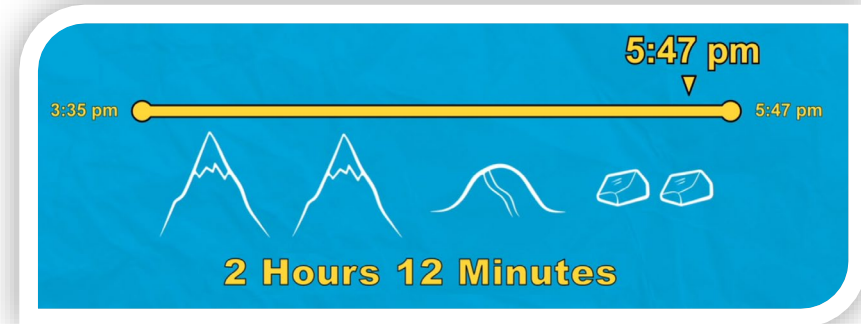
Step 4: Once you have answered the questions, draw a picture to help you solve the problem.

Step 5: Solve the problem and evaluate your work. An answer key is provided for the word problems attached.

Step 6: If you are correct, go on to the next problem. If you are not correct, go back and try again. Repeat the process for each word problem you solve.

JUST DRAW IT ELAPSED TIME

5:47 pm

3:35 pm ————————————————→ 5:47 pm

2 Hours 12 Minutes

Materials Needed: Paper, pencil, Word Problems, Investigation Questionnaire, Keyword List, Word Problem Answer Key

Process:

Step 1: The "draw a picture" strategy for elapsed time looks a bit different from most picture drawing strategies because it already has predetermined images to use. The hour is a mountain. The symbol for ten minutes is a hill, and one minute is a rock.

1 Hour =
10 Minutes =
1 Minute =

Step 2: Choose a word problem to start with from the provided handouts or use word problems from a textbook or homework.

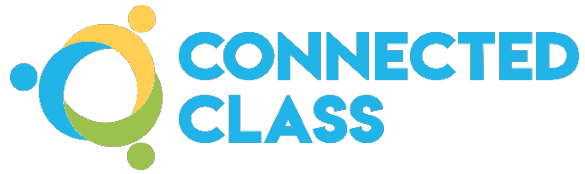Step 3: Read the problem two times to make sure you understand what is going on.

Step 4: Use the *Investigation Questionnaire* to help you find clues and set up your problem. Write your answers on a separate piece of paper.

Step 5: First, draw a number line. At the far left place your start time. Draw a mountain for each hour. Try to get as close to the end time without going past it. Next, try and use the hills. Each one represents 10 minutes. Add as many hills as you need, but make sure you do not go past the end time. Finally, if needed use one rock for each remaining minute until you reach the exact end time.
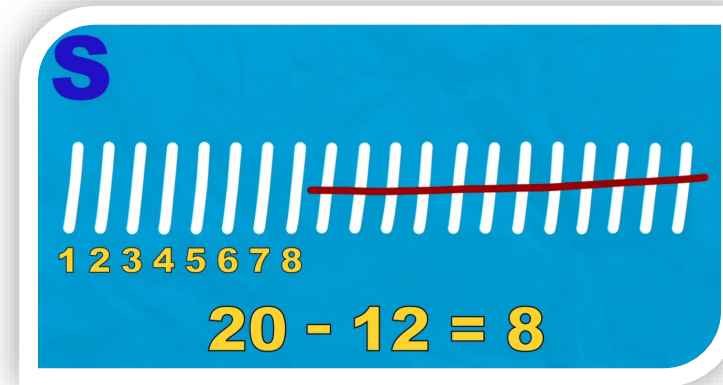
Step 6: Once you have drawn the picture, count the mountains for the total number of hours, the hills for the total number of ten-minute intervals, and the rocks for the total one-minute blocks. Add them up to solve for the total elapsed time.

Step 7: Evaluate your work. An answer key is provided for the word problems attached.

CONNECTED CLASS

JUST DRAW IT
MULTI-STEP

S

12345678

20 - 12 = 8

Materials Needed: Paper, Pencil, Word Problems, Investigation Questionnaire, Keyword List, Word Problem Answer Key

Process:

<u>Step 1</u>: Choose a multi-step word problem from the provided handouts or use word problems from a textbook or homework. Multi-step word problems are problems that require more than one calculation to solve them.
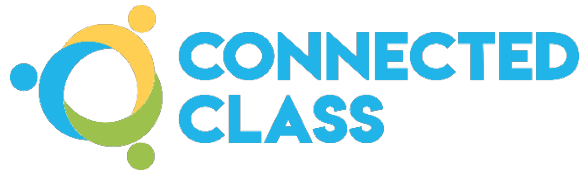
<u>Step 2</u>: Read the problem two times to make sure you understand what is going on.

<u>Step 3</u>: Use the *Investigation Questionnaire* to help you find clues and set up your problem. Write your answers on a separate piece of paper.
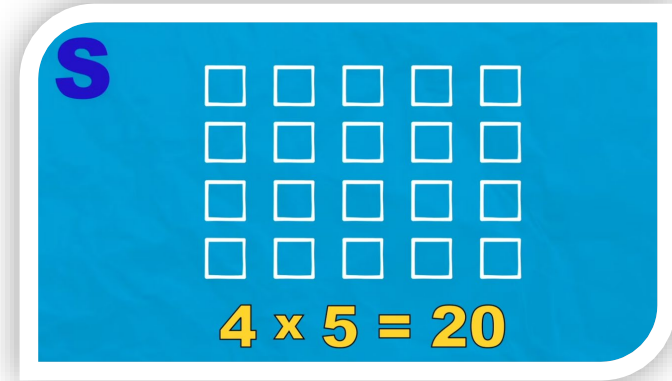
<u>Step 4</u>: Once you have answered the questions, draw a picture to help you solve the problem.

<u>Step 5</u>: Solve the problem and evaluate your work. An answer key is provided for the word problems attached.

<u>Step 6</u>: If you are correct, go on to the next problem. If you are not correct, go back and try again. Repeat the process for each word problem you solve.

JUST DRAW IT MULTIPLICATION

S

4 x 5 = 20

Materials Needed: Paper, Pencil, Word Problems, Investigation Questionnaire, Keyword List, Word Problem Answer Key

Process:

Step 1: Choose a multiplication word problem from the provided handouts or use word problems from a textbook or homework.

Step 2: Read the problem two times to make sure you understand what is going on.

Step 3: Use the *Investigation Questionnaire* to help you find clues and set up your problem. Write your answers on a separate piece of paper.
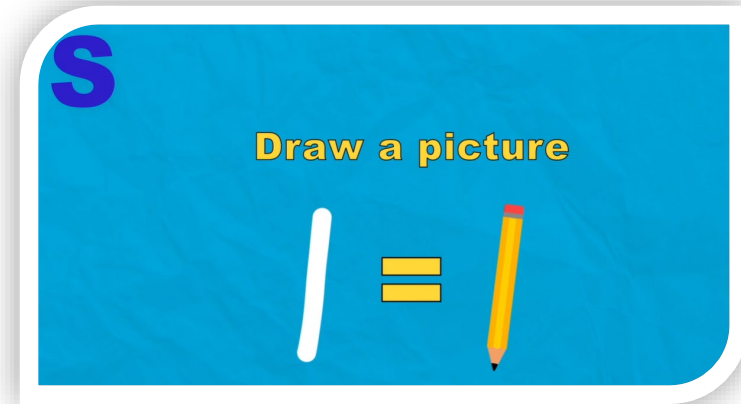
Step 4: Once you have answered the questions, draw a picture to help you solve the problem.

Step 5: Solve the problem and evaluate your work. An answer key is provided for the word problems attached.

Step 6: If you are correct, go on to the next problem. If you are not correct, go back and try again. Repeat the process for each word problem you solve.

CONNECTED CLASS

JUST DRAW IT SUBTRACTION

S

Draw a picture

| = ✏

Materials Needed: Paper, Pencil, Word Problems, Investigation Questionnaire, Keyword List, Word Problem Answer Key

Process:

Step 1: Choose a subtraction word problem from the provided handouts or use word problems from a textbook or homework.

Step 2: Read the problem two times to make sure you understand what is going on.

Step 3: Use the *Investigation Questionnaire* to help you find clues and set up your problem. Write your answers on a separate piece of paper.

Step 4: Once you have answered the questions, draw a picture to help you solve the problem.

Step 5: Solve the problem and evaluate your work. An answer key is provided for the word problems attached.

Step 6: If you are correct, go on to the next problem. If you are not correct, go back and try again. Repeat the process for each word problem you solve.