Virtual Family Math Night

brought to you by JUMP Math

Mathematical thinking

- For everyday living, work & further study
- Not the same as “doing” math
- Requires reasoning, modelling & making connections to big ideas
- Is a process that needs lots of practice

Agenda

Family Math Night 2021

1st Counting

2nd Guess My Number

3rd Card games

4th Coin play

5th Wrap Up

Counting Warm up

1. Counting activities

Counting Activity
Materials: None
Grade level: JK - 1

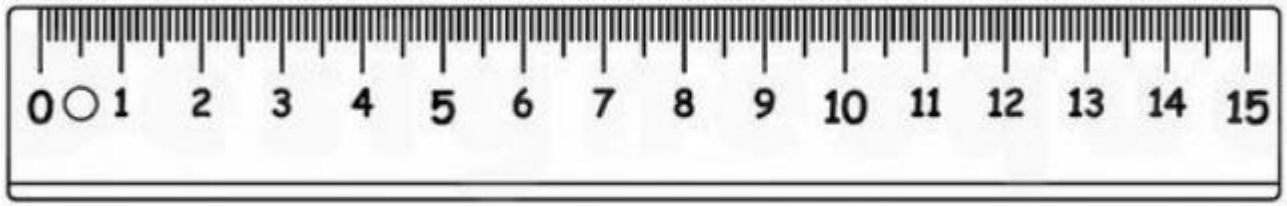
- Children can begin facing any direction, and will need space to walk forward and backwards. Note, you can play this game without walking and jumping, instead the clap simply signals a change in counting direction only.
- While walking forward, start counting forward by ones.
- Clap your hands together to signal children to stop in place, jump straight up in the air, and then turn and walk backwards.
- Now begin counting backwards, saying the number that you would count before the number that you ended on.
- For example, start at 1, count forward – 1, 2, 3, 4, 5, clap, jump and turn, count 4, 3, 2, clap, jump and turn, count 3, 4, 5, 6, 7, 8, clap, and so on…
- Start and change direction at any number, making sure that you are reaching higher and higher numbers

Counting Warm up

1. Counting activities

1  3  5  7 …

7  5  3  1



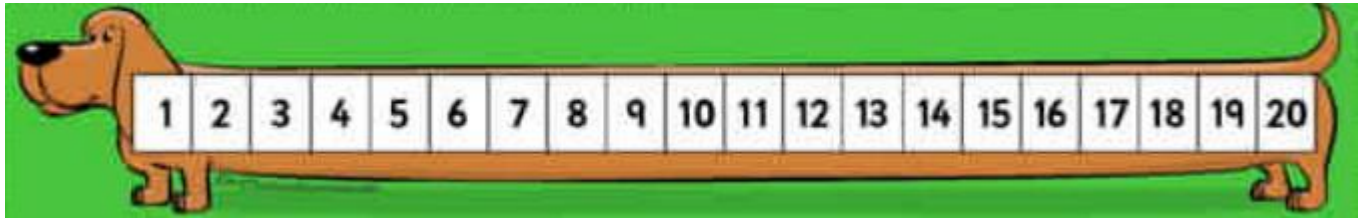
Counting Activity (also called Boom-Bang)
Materials: None
Grade level: any

- This is a skip counting activity where a chosen counting sequence is reinforced, for example, skip counting by 2's starting at 1.
- In the counting sequence, each time you would say a number that you would say when skip counting by twos, instead of saying the number you put your hands on your head (or you can say "Boom", out loud).
- Play this game counting forwards, and backwards, and starting and stopping at a different number each time.
- For example, skip counting by twos, starting at one looks like this: 1, hands on head, 3 hands on head, 5 hands on head, 7 hands on head. Going backwards looks like, 7 hands on head, 5, hands on head, 3 hands on head, 1.
- This is the entry level game.

Counting Warm up

1. Counting activities

6  8  10  12 …



Counting Activity (also called Boom-Bang)
Materials: None
Grade level: any

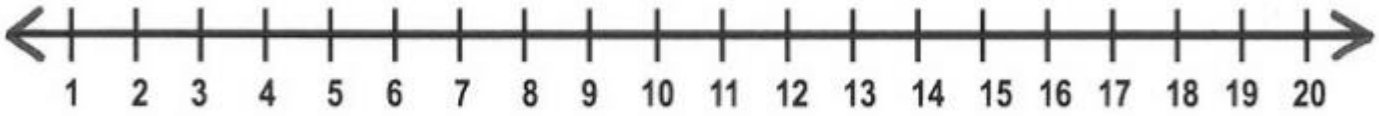
- Play this counting game reinforcing odd number counting sequences, skip counting by 2s, 3s, and so on.
- Start counting at an even number, and place your hands on your heads (or say “Boom”) each time you would count an odd number.
- For example, skip count by twos, starting at 6. 6, hands on head, 8 hands on head, 10 hands on head, 12, and so on.
- Be sure to count forwards and backwards, starting and stopping at different numbers.

Counting Warm up

1. Counting activities

1    5 

7    11 …



Counting Activity (also called Boom-Bang)
Materials: None
Grade level: any

- Increase the challenge by adding in a new rule.
- For example, skip count by 2s, starting with 1. Put your hands on your head each time you would say an even number, *and* put your hands on your shoulders (or say "Bang") when you say a number that you would say when counting by 3s.
- Here is what it looks like: 1 hands on head, hands on shoulders, hands on head, 5, hands on head and then hands on shoulders (because 6 is a number you say when counting by both 2s and 3s), 7 hands on head, hands on shoulders, hands on head, 11, and so on.
- Be sure to count forwards and backwards, starting and stopping at different numbers.
- Add in other rules to increase the challenge.

Counting

2. Catch!

Catch!
Materials: None
Grade: Any

- Choose a number between 1 and 100, for example 8.
- Use a tossing motion to “throw” the invisible number 8 to your child.
- Your child “catches” the number in one hand, closing their fist around the number. When closing their fist, your child should say the number that they caught out loud, for example “8”.
- Once your child has mastered catching numbers, ask them to count forward, or backwards from the number they have caught a set number of times.
- For example, throw the number 8, and have your child count forward 3 times, while raising one finger at a time starting with their thumb.
- It looks like this: 8 (fist closed), 9 (thumb raised), 10 (thumb and index finger raised, 11 (middle finger raised).
- Play this game, starting and stopping at different numbers, and counting forwards and backwards.

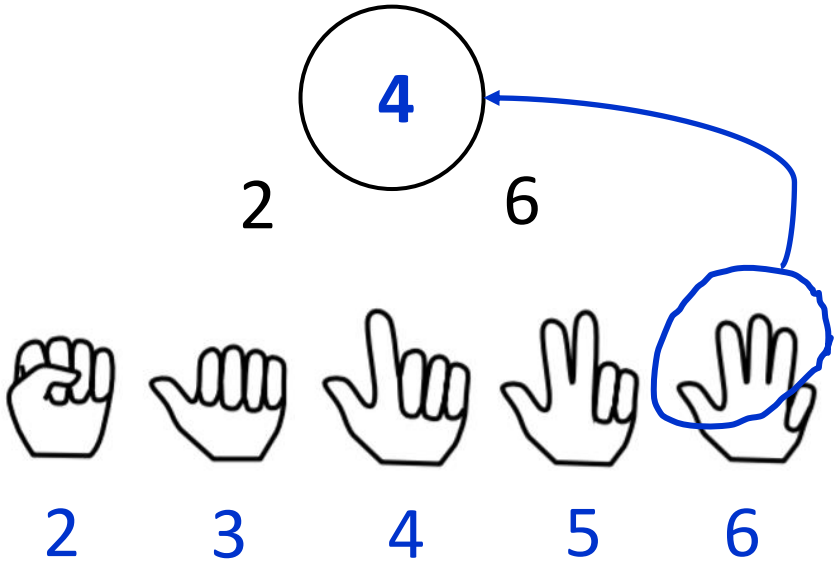
Counting

Find the gap between two numbers

2 ◯ 6

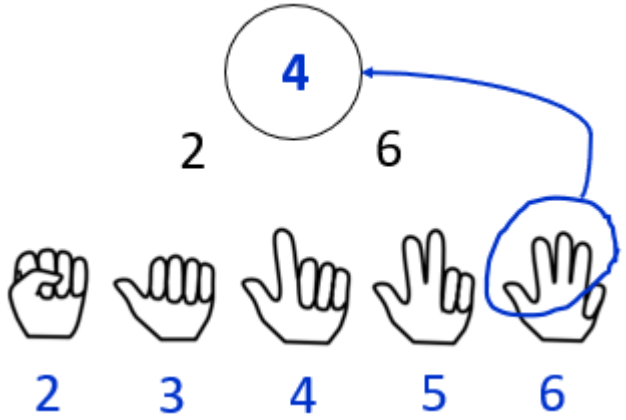
Counting

Find the gap between two numbers



Find the Gap
Materials: None
Grade: Any

- To find the gap between two numbers, first “Catch” the lower number in your hand and count forward, raising one finger at a time, until you say the higher number.
- The number of fingers raised when counting, is the gap (number of times you counted forward) between the two numbers.
- For example, “catch” 2 with your fist closed, and say 2 out loud. Then count 3 (raise thumb), count 4 (raise index finger), count 5 (raise middle finger), count 6 (raised ring finger). You have 4 fingers raised, which means the gap between 2 and 6 is 4.
- This also means that 2 + 4 = 6



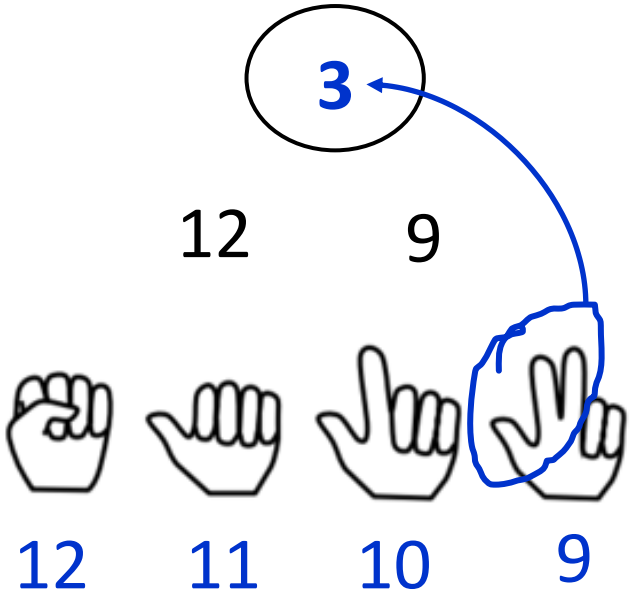
Counting

Find the gap by counting backwards

12 9

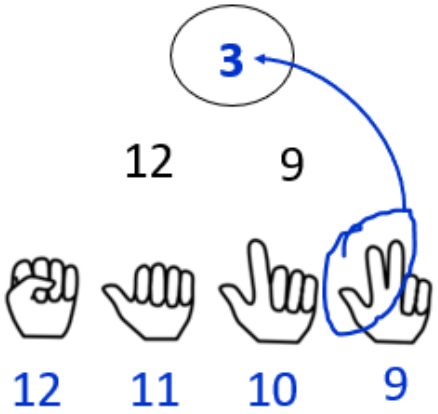
Counting

Find the gap by counting backwards



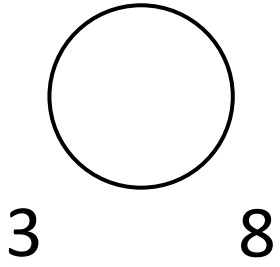
Find the Gap
Materials: None
Grade: Any

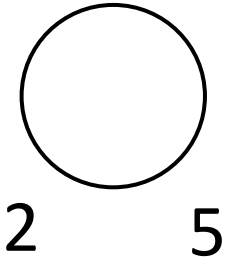
- You can find the gap between two numbers, by counting backwards as well.
- “Catch” the higher number in your hand and count backward, raising one finger at a time, until you say the lower number.
- The number of fingers raised when counting, is the gap (number of times you counted forward) between the two numbers.
- For example, “catch” 12 with your fist closed, and say 12 out loud. Then count back 11 (raise thumb), count 10 (raise index finger), count 9 (raise middle finger), You have 3 fingers raised, which means the gap between 12 and 9 is 3.
- This also means that 12 - 9 = 3

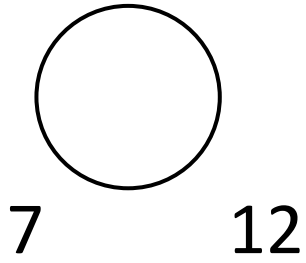


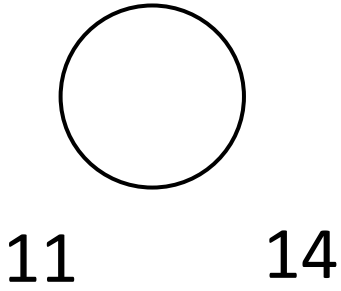
Counting

Find the gap between the two numbers



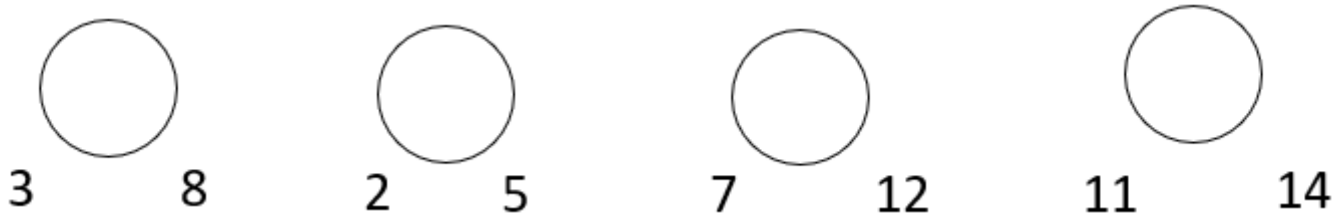






Find the Gap
Materials: None
Grade: Any

- Find the gap between any two numbers, by counting forwards or backwards.
- Try “Catching” the lower number in your hand, and count forward, raising one finger at a time, until you say the higher number.
- Then “catch” the higher number in your hand, and count backward, raising one finger at a time until you say the lower number.
- Try focusing on one pair of numbers at a time, counting both forward and backward. What do you notice each time? (the gap is the same, which means that you have two strategies for finding the gap between two numbers.



Guess My Number

1	2	3	4	5	6	7	8	9	10

Ask “Yes” or “No” questions:

- Is your number less than 5?
- Is your number equal to 6?
- Is your number greater than 2?
- Is your number odd?

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

Guess My Number
Materials: Hundreds Chart, or Number Lines
Grade: Any

- Tell your child that you are thinking of a number between 1 and 10 (or any other grouping of numbers, but for new players, start with a smaller range of numbers).
- The game proceeds when your child asks you questions about your number as a means of eliminating possibilities. Only "yes", or "no" may be answered to the questions, and each question needs to be different from the previous question.
- For example, your child may ask, "Is your number less than 5?" If you answer "yes", then your child should realize that they need not ask about any number 5 or greater. They could then ask, "Is your number an even number?" If you say "yes", then your child need only focus on the numbers 2 and 4. So they could ask, "Is your number equal to 2?"
- Eventually your child can ask about number of digits, place value, divisible by, factor of…, and anything else they are studying in math class.

1	2	3	4	5	6	7	8	9	10

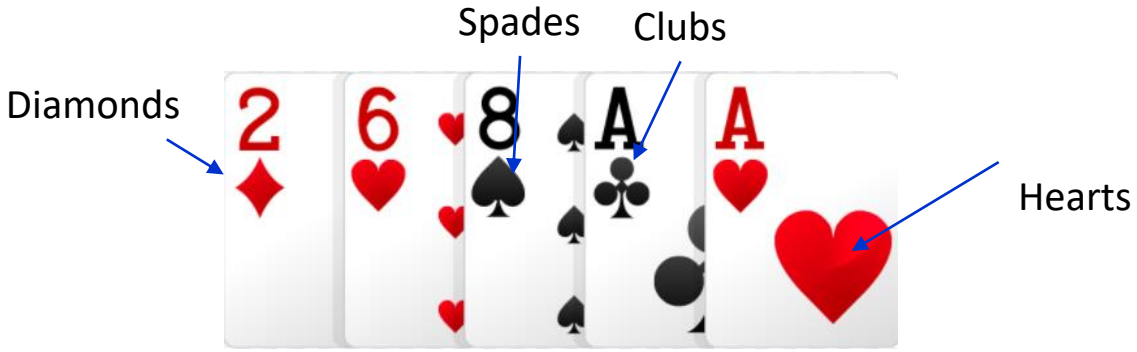
Card Games - Sorting

Sort by:

- Colour
- Shape
- Number

Card Sort (by Attribute)
Materials: Playing cards
Grade: Any

- Explore a deck of cards with your child, by showing them that each card contains a number, and a series of four different shapes that are either red or black.
- Have your child sort the cards into groups by colour, number, and shape, getting them to describe the sorting rule that they used.
- For example, they could sort their cards into two groups, one is black and the other is red. Or they can sort the cards into groups by shape.
- For a challenge, they sort their cards according to a rule that satisfies more than one attribute, for example the cards are both red, and display even numbers.



Card Games - Memory

Memory

Materials: Playing cards

Grade: Any

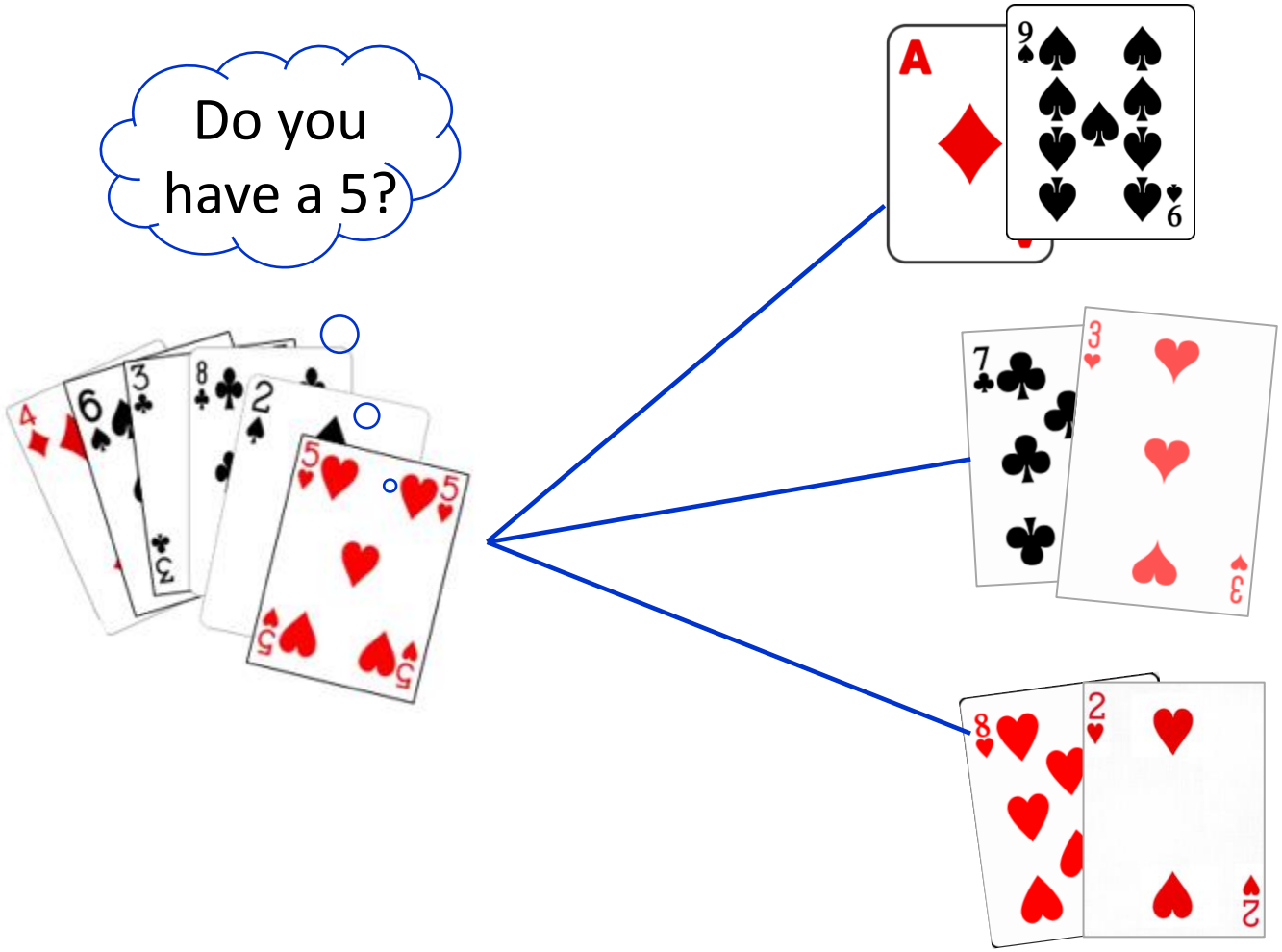
Note: Aces count as 1. Children can play in pairs or individually. The description below is for pairs. Use this game to find matching pairs of numbers, to add, subtract, or to multiply.

Prep: **Choose** a target number, and remove all cards that are equal to, or higher than that number, and set them aside. They are not needed. For example, if practicing addition to five, remove the cards 5 and up.) **Shuffle** and arrange the cards face down in 3 rows of 4, or 4 rows of 6.

Play: The first player turns over two cards. If the number on the cards match, or if the numbers add to the target number, the player removes them and sets them aside. If the cards do not match, or do not add to the target number, the player turns them over, and the next player takes their turn.

Object of the game: The goal is to match all of the cards, and to remember where cards lie in the rows and columns.

Card Games – Modified Go Fish!



Modified Go Fish!

Materials: Playing cards

Grade: Any

Note: Aces count as 1. It is best to play this game in groups of 3 or more.

Prep: Choose a target number, and remove all cards that are equal to, or higher than that number, and set them aside. They are not needed. For example, if practicing making pairs of 10, remove all 10s, Jacks, Queens, and Kings.

Shuffle cards, and a minimum of 3 (but better to play with 5) cards to each player. Play begins with the player to the left of the dealer starting.

Place the remaining cards in the middle of the players. This is the "Fish Pond", where players select one card each time they do not receive a card that they ask for during play.

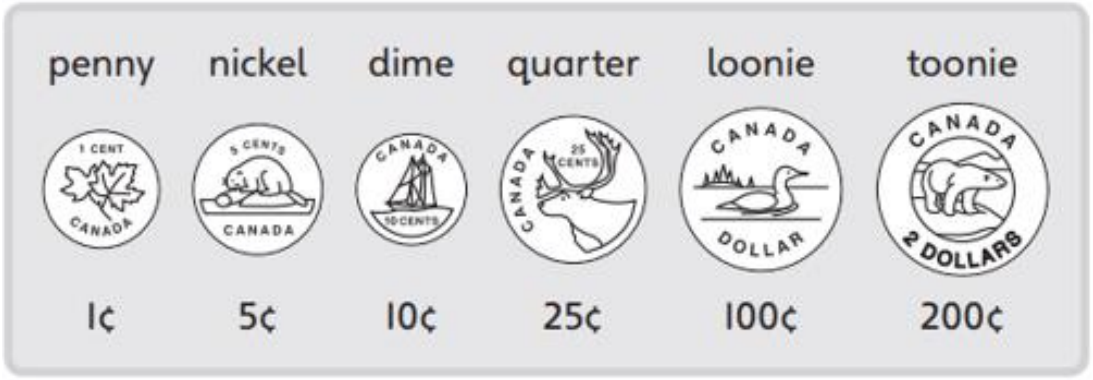
Modified Go Fish!

Play: Player 1 looks at their hand and selects one number to make a pair of 10. For example, they have a 5 in their hand so they can ask *one* other player if they have a 5, by saying "Bill, do you have a 5?". If the player has a 5, they must hand it over to the asking player, who sets the pair of cards beside them. Player 1 may continue asking other players for cards, until they are not able to make a pair that add to 10. When a player does not have the requested card, they say "Go fish". The player who asked for the card, then selects a card from the "fish pond" and adds it to the cards in their hand. Their turn is over, so the next player begins their play.

Object of the game: The goal is to match all of the cards into pairs. The player with the most pairs of cards, wins the game.

Coins – Trading Activity

- Each player needs 20 pennies and 8 nickels.
- Trade coins so that each player has the same amount of money all the time.
- The game ends when one player has 20 coins, and the other player has 36.



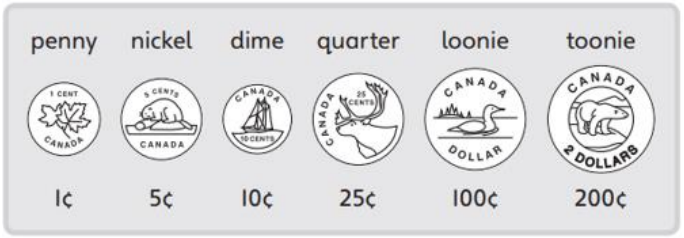
Coin Activities
Materials: real or play coins
Grade: Any

Activity 1

- Remove loonies and toonies, and set aside. This activity does not require them.
- Distribute coins to pairs of children.
- Player 1 takes a handful of coins, while Player 2 places them in order from greatest to least value. Player 1 checks the work.
- Repeat and switch roles each time with different groups of coins.

Activity 2

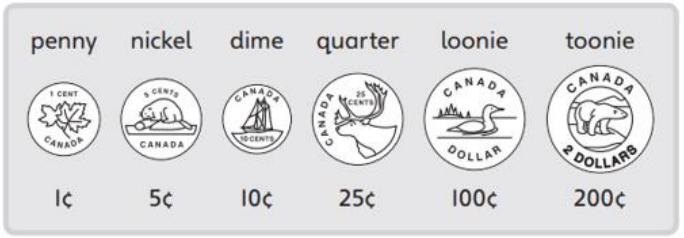
- Distribute nickels and dimes.
- Each player takes turns creating as many different combinations of dimes and nickels to create a target value, such as 25 or 40 cents.



Coin Activities

Activity 3

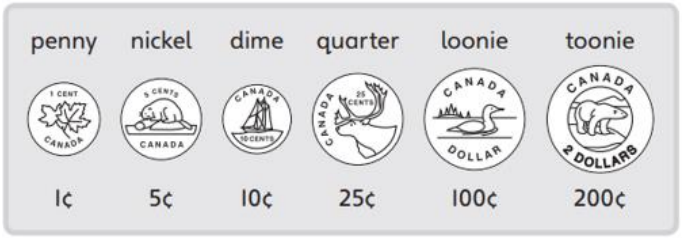
- Children work in pairs.
- Player 1 randomly selects at least 7 coins.
- Player 2 estimates the total value of the coins.
- Both players sort the coins from lowest to highest value, and then count the actual value of the selected coins.
- Repeat, several times, changing roles each time.



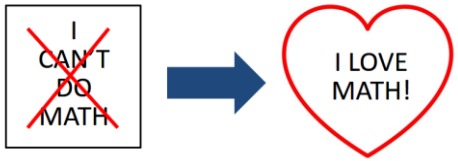
Coin Activities

Activity 4 Trading Coins

- Distribute the same number of pennies and nickels as listed below.
- Have each pair trade coins worth the same amount (e.g. 5 pennies for 1 nickel) so that each player's amount of money does not change as the number of coins changes.
- Encourage each player to count their money after each trade to verify that their amounts have not changed.
- Players each have a separate goal for number of coins, but they will have to work together to achieve their goals.
    a. Give each player 20 pennies, and 8 nickels. Player 1's goal is to collect 20 coins, while Player 2's goal is 36 coins.
    b. Give each player 17 pennies, and 3 nickels. Player 1's goal is to collect 12 coins, while Player 2's goal is 28 coins.
    c. Make up your own number and variety of coins, and player goals.



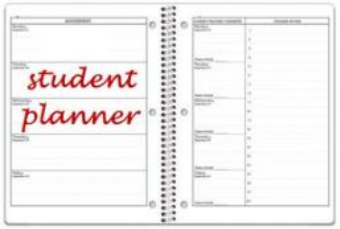
Wrap Up



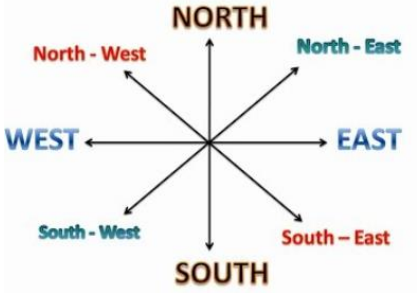
- Change your message

- Use paper maps, calendars, and planners

- Use coins and dollar bills

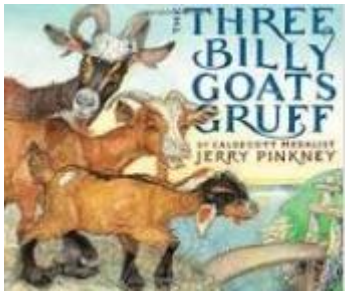


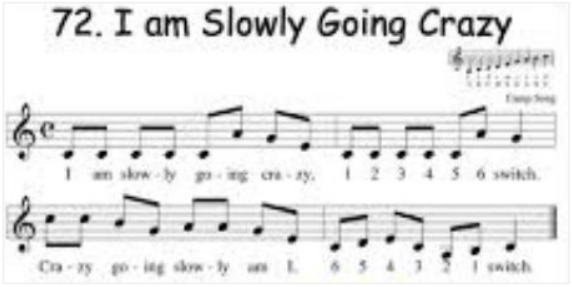
- Use directional language

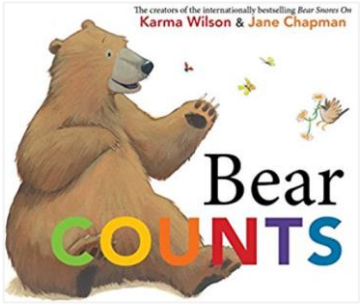


Further suggestions

- Count out other objects
- Read aloud
- Sing







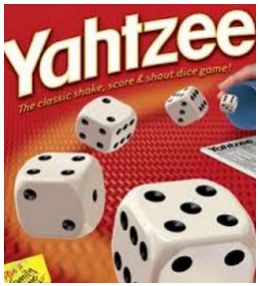
Play Games


Blokus

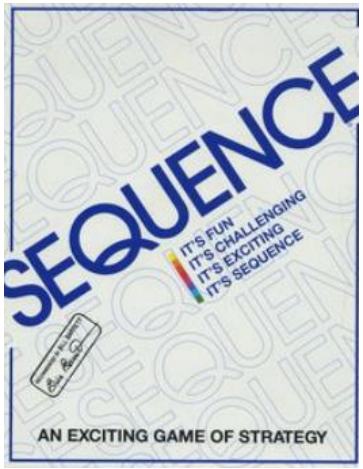

FLASH!
THE LIGHTNING FAST GAME!


SOLID WOOD
CRIBBAGE

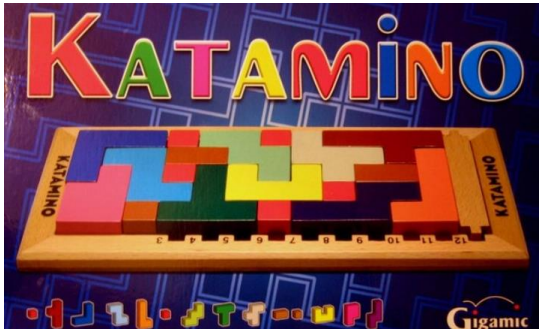

sumoku
sumoku


Yahtzee
The classic shake, score & shout dice game!


MONOPOLY


SEQUENCE
IT'S FUN
IT'S CHALLENGING
IT'S EXCITING
IT'S SEQUENCE
AN EXCITING GAME OF STRATEGY


MASTERMIND
5 PLAYERS


KATAMINO
KATAMINO
KATAMINO
Gigamic

Thank you!

@JUMP_Math
#JUMPMath

www.facebook.com/JUMPMath

www.jumpmath.org