MONTH 8

Collaborative Math Games & Strategy

Monthly Learning Goals

Month 8 uses card and dice games to strengthen number sense, place value, mental arithmetic, probability, and strategic decision-making. Students practice mathematics in an active setting where they must calculate efficiently, compare options, and respond to changing results.

The games can be adapted for different ages and skill levels. Their short rounds and flexible rules create repeated opportunities to test ideas, revise a strategy, explain choices, and learn from teammates and opponents.

AFTER THE COMPETITION SEASON

This month is designed primarily as a collaborative group activity after the competition season, giving students a relaxed and social way to keep practicing mathematical thinking together.

By the End of This Month, Students Should Be Able To:

- Use mental addition and subtraction efficiently during play.
- Build and compare multi-digit numbers using place value.
- Recognize runs, doubles, and useful numerical combinations.
- Estimate outcomes and choose among possible moves.
- Adapt a strategy as cards, dice, or conditions change.
- Explain a mathematical choice to a partner or group.
- Participate cooperatively and follow agreed-upon rules.

Skills We Will Practice

Number Sense
Comparing quantities and recognizing useful numerical relationships.

Mental Arithmetic
Adding and subtracting accurately during active play.

Place Value
Constructing the greatest or most useful multi-digit number.

Probability & Strategy
Considering likely outcomes before choosing a move.

Collaboration
Discussing rules, decisions, and strategies respectfully.

This Month's Activities

- Close Call addition game
- Triple Digit Dare place-value game
- Dice Wars arithmetic game
- Passage probability game
- Run for It sequence game
- Knock-Out dice activity

Connection to the Rest of the Year

Month 8 provides a collaborative reset after competition season while reinforcing the flexible calculation and strategic reasoning developed in earlier months. Students continue building confidence before moving into later investigations and open-ended challenges.

2) Close Call: Addicting 2-Digit Addition Card Game

How to Play Close Call:

The object of this game is to accumulate the highest score by coming closer to the goal than your opponent.

Start with a complete deck of cards. Ace = 1, Joker = 0 and all tens and other face cards are removed. Shuffle the deck and deal each player 6 cards.

Players then select 4 of the cards to create two 2-digit numbers. The object is to create two numbers that when added together come as close to 100 as possible, without going over.



For example, in this hand cards 2,3,4, and 5 were selected.

Can then create the numbers 53 and 42, which when added together total 95.

How to Win Close Call:

The player with the total closest to 100 wins the round and 1 point. In the event of a tie, each player receives a point.

After playing 5 rounds, the player with the most points wins.

Variations to the Game:

If you'd like to play this with younger kids, deal 4 cards to each and select 2 cards to get as close to ten as possible, without going over.

Or to practice subtraction instead, change the rules to subtract 2 numbers to get as close to zero as possible.

Or for a greater challenge for older kids, practice with integer operations. Make black cards positive and red cards negative, and again, challenge kids to combine numbers to get as close to zero as possible.

❖ **This game idea comes from *Math Geek Mama***
https://mathgeekmama.com/

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7) Triple Digit Dare: Engaging Place Value Card Game

Basic Version

1. Use a standard deck of playing cards with the 10s, Jacks, Queens, and Kings removed. Aces count as 1.
Note: I recently played with Queens as zeros, and Maggie keeps the Jokers in as Wild cards that can be used for any digit.

2. Deal each player 3 cards.

3. Players use the cards to create the largest 3-digit number possible.

4. Players show their cards, and the player with the greatest 3-digit number takes all the cards.

5. Play continues with 3 more cards for each player.

You could easily vary this game to use 2-digit, 4-digit, or even larger numbers.

Advanced Version

Once the students master the basic version, Maggie introduces a new version of the game, this one with an added twist of strategy.

1. Same standard deck of cards with the same cards removed.

2. Each player still gets 3 cards.

3. Remaining cards are placed face down in the middle of the table.

4. After each player looks at their cards and determines their greatest 3-digit number, the fun starts! Taking turns, each player has the option to…

- Stick–keep their 3 cards
- Swap–remove one card from their hand and take a new card from the pile in the middle of the table
- Steal–trade a card from their hand for a card from any other player's hand (without looking at what card they are picking)

5. After all players have had a turn to adjust their cards, players show their cards and the greatest 3-digit number wins.

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3) Dice Wars



Materials Needed:

- 2-4 dice
- 10 small counters (can use things like pebbles, pennies, buttons, Goldfish crackers, etc.

Directions:

- Each player starts with 2 dice and 5 rocks (or other counters).
- The objective of the game is to capture all of the other player's rocks.
- On the count of three, both players roll their dice. Each player adds up the sum of his/her two dice, and whoever has a higher number gets to "steal" a rock from the other player.
- Continue playing until one player has ALL 10 rocks. In our experience, it took 10-15 minutes for each game. If that's too long for your child's attention span, you can set a timer and declare the winner to be the person with the most rocks when it goes off.

Variations:

- We decided that getting doubles trumps any other number, and you get to steal TWO rocks from the other player (This rule helps the game go faster, I think).
- For younger kids, you can just use one die each and focus on number identification instead of addition. For older kids, try using three!
- You could practice subtraction instead of addition skills. Subtract the smaller number from the bigger number, and the player with the larger difference gets to steal a rock from the other player.

❖ **This game idea comes from *The Many Little Joys***
http://www.themanylittlejoys.com/

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4) Passage

What you need:

- 2 dice
- 2 or more players

Objective: to be the first player to reach 11 points.

Instructions:

To set up the game each player rolls a die. The highest scoring roll will be the player who begins the game. The player who rolled the lowest number will now roll a second time and the number on the die becomes the "point number."

Starting with the first player, players take turns rolling two dice. If he/she rolls the point number, he/she gets one point. If he/she rolls doubles of the point number, he /she gets two points. Each player gets only one roll per turn.

The first player to get 11 points wins.

Watch Video - https://www.youtube.com/watch?v=xGnZENoV1-I

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5) Run for It

What you need:

- 6 dice
- 2 or more players

Objective: to be the first to reach 100

Instructions:

Alternating turns, each player rolls 6 dice. Looking at the dice, the player attempts to organize them into runs. A run is a sequence of numbers, such as 1-2-3-4-5-6. For each number used in a run, the player scores 5 points. Dice may only be used once when creating a run. Runs must begin with the number 1.

For example, a roll of 1-2-4-5-6-6 scores 10 points for the run 1-2.

For example, a roll of 1-2-1-2-3-4 scores 10 points for the run 1-2, and 20 points for the run 1-2-3-4 for a total of 30 points.

If there is no run, no score is recorded. For example, a roll of 1-3-4-4-5-6 scores zero points.

Play continues until one player has reached 100 points.

Watch video: https://www.youtube.com/watch?v=W678XKYllqc

- **These game ideas come from *What Do we Do All Day***
  https://www.whatdowedoallday.com/

6) Knock-out

What you'll need:
A small dry erase board (or paper and pencil)
A dry erase marker
2 dice



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