

# EUREKA MATH™ CARD GAMES

Math is everywhere. It's in everything we do, whether we're estimating the money we'll make this summer or the number of stars in the sky. That's why *Eureka Math*™ teaches students to experience math, to understand it conceptually and in application. We feel it's best to teach students math the way they use it in the real world. Our *Eureka Math* card games are intended to help build fluency in math in a fun and engaging way.

Here you will find the rules and instructions for a wide range of mathematics skills games using our *Eureka Math* deck or any standard deck of playing cards. We have assembled 12 games for skill levels from Grades K–12, all with an educational math twist.

For a great counting and numeric table game, try [One More, One Fewer](#). For a game to help students develop efficient addition and subtraction strategies, check out [Make Ten](#). To build fluency with the order of operations, try [Hit the Target](#). And for all kinds of math exercises, look at the many number battle games.

Purchase our exclusive *Eureka Math* playing cards from our manipulatives partner, [Didax](#).

# ONE MORE, ONE FEWER

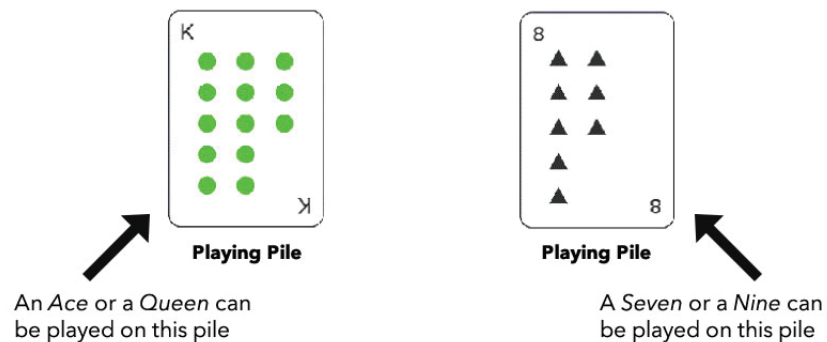
2 Players | Grades K+

Sometimes called Speed, this game helps develop fluency in counting forward and backward. Instead of taking turns, students try to play their cards as quickly as possible, building math fluency as they play.

## PREPARING TO PLAY

- Shuffle a full deck of cards. Place two cards facedown next to each other in the playing area, with at least a card's width between them. Each card should be within equal reach of the two players.
- The suits are not important; only the numbers matter.
- Divide the remaining cards equally between the two players. Players pick five cards from their own pile to hold in their hand and leave the rest of their cards in one pile facedown in front of them.
- To begin, each player turns over one of the two cards in the playing area, so that both cards are faceup. These cards establish the two "playing piles."

## PLAYING THE GAME



- At any time, either player can play a card from his hand on either of the two playing piles in the center. The value of the played card must be either one more or one fewer than the value of the card on top of the pile. For example, if the top cards are a king and an 8, only an ace or a queen can be played on the king, and only a 7 or a 9 can be played on the 8.
- An ace is treated as both greater than a king and less than a 2, so it can be played on either of those cards.
- A player can only play from the five cards in his hand. Each time he plays a card from his hand, he replaces it with the top card in his pile.
- A player can lay down only one card at a time. For example, if a 3 is on top of a playing pile and a player holds two 2's and a 3, she must lay the cards down individually—one 2, the 3, then the other 2—not as a stack of three cards.
- If no one can play, players have two ways to reset the game. Both players can take the top card from their pile and place it faceup on one of the two playing piles, or they can each pick up a playing pile, stack it neatly, place it facedown on the side of the playing area, and draw a card from it to put on the playing piles. They can use this draw pile any time the game stalls.

**WINNING THE GAME** The first player to play all the cards in his pile wins.

# MAKE TEN

2 Players | Grades K+

This game works on students' fluency with identifying number compositions that make 10.

## PREPARING TO PLAY

- Remove the 10's, jacks, queens, and kings from the deck, and shuffle the remaining cards (aces through 9's).
- The suits are not important; only the numbers matter.
- Lay 10 cards faceup in a single row, without overlapping them.

## PLAYING THE GAME

- Players search the row of cards for a pair that combine to make 10. When a player finds such a pair, she says, "*I made 10!*"
- Play pauses while the player pulls the two cards she found, allows the other player to confirm that she has indeed made 10, and places the two cards in front of her.
- Two new cards are dealt, and play resumes.
- Play continues until all the cards have been dealt and all combinations that make 10 have been found.

**WINNING THE GAME** The player who finds the most pairs that make 10 wins.

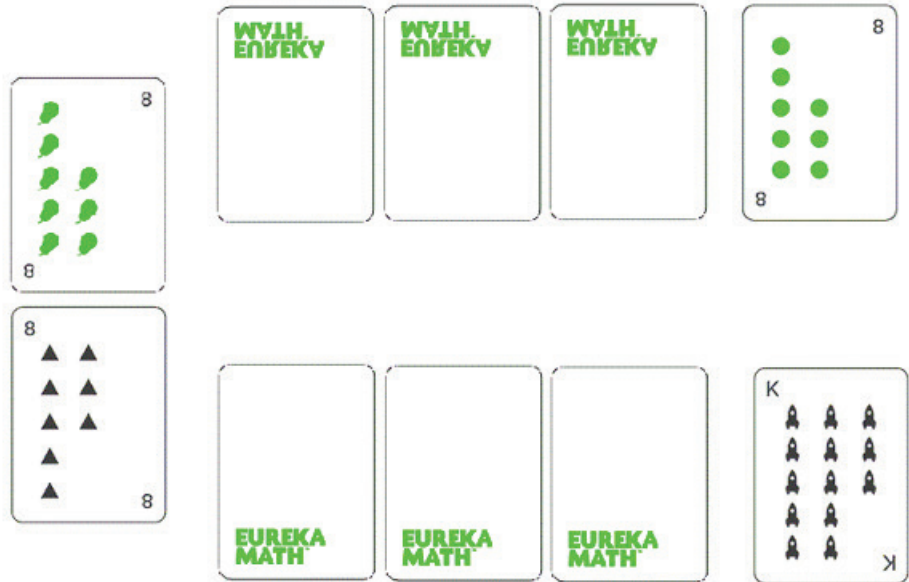
# BASIC NUMBER BATTLE

2 Players | Grades K+

This is the classic card game commonly called War. The game develops student fluency in comparing two numbers.

## PREPARING TO PLAY

- Shuffle a full deck of cards.
- Unnumbered card values are as follows: ace = 1, jack = 11, queen = 12, king = 13. The suits are not important; only the numbers matter.
- Decide how long the game will last and set a timer. Alternatively, play can continue until one player surrenders or until one player holds all the cards.
- Divide the cards evenly between the players. Each player keeps his cards in a single pile, facedown.



## PLAYING THE GAME

- Each player picks a card off the top of his pile and places it faceup in the middle of the playing area. The player with the card of the greatest value takes both the cards played and places them at the bottom of his pile.
- If both cards played have the same value, a battle ensues: Each player places three cards facedown in the playing area, followed by a fourth card faceup. The player whose new faceup card has the greatest value collects all the cards in the playing area, placing them at the bottom of his pile.

**WINNING THE GAME** The player with the most cards at the end of the designated time wins.

# PLACE VALUE NUMBER BATTLE

2 Players | Grades 2+

This variation of Basic Number Battle reinforces understanding of place value, as it calls on students to form the largest number possible with the cards they have played.

## PREPARING TO PLAY

- Remove the 10's, jacks, queens, and kings from the deck, and shuffle the remaining cards (aces through 9's).
- The ace holds a value of 1. The suits are not important; only the numbers matter.
- Decide whether to play the game in the tens, hundreds, or thousands.
- Decide how long the game will last and set a timer. Alternatively, play can continue until one player surrenders or until one player holds all the cards.
- Divide the cards equally between the players. Each player keeps her cards in a single pile, facedown.

## PLAYING THE GAME

- Each player picks the designated number of cards off the top of her pile—three cards if playing in the tens, three for hundreds, four for thousands—and places them faceup in the middle of the playing area.
- Each player arranges her cards in place value order to form a number with the greatest value possible. For example, if the game is in hundreds and a player has a 2, a 3, and a 9, she should form 932. (Optionally, provide each student with a sheet of paper that illustrates place value locations—ones, tens, etc.—to help her arrange her cards.) When players finish arranging their cards and say “ready,” the player who formed the number with the greatest value takes all the cards played and places them at the bottom of her pile.
- If players create numbers with the same value, a battle ensues: Each player places three cards facedown in the playing area, followed by a new set of cards faceup, and works to arrange the new faceup cards to form a number with the greatest possible value. The player whose new number has the greatest value collects all the cards in the playing area, placing them at the bottom of her pile.

**WINNING THE GAME** The player with the most cards at the end of the designated time wins.

# ADDITION NUMBER BATTLE

2 Players | Grades 2+

This variation of Basic Number Battle reinforces addition skills.

## PREPARING TO PLAY

- Shuffle a full deck of cards.
- Unnumbered card values are as follows: ace = 1, jack = 11, queen = 12, king = 13. The suits are not important; only the numbers matter.
- Decide how long the game will last and set a timer. Alternatively, play can continue until one player surrenders or until one player holds all the cards.
- Divide the cards equally between the players. Each player keeps his cards in a single pile, facedown.
- Optionally, give each student scratch paper and a pencil.

## PLAYING THE GAME

- Each player picks two cards off the top of his pile and places them faceup in the middle of the playing area.
- Each player adds the values of his cards to compute their total value and states that number. Each player then checks the other's sum. The player whose cards form the greatest sum takes all the cards played and places them at the bottom of his pile.
- If both players' cards have the same sum, a battle ensues: Each player places three cards facedown in the playing area, followed by a new pair of cards faceup, and adds the values of his two new faceup cards to find their sum. The player whose new cards form the greatest sum collects all the cards in the playing area, placing them at the bottom of his pile.

**WINNING THE GAME** The player with the most cards at the end of the designated time wins.

# MULTIPLICATION NUMBER BATTLE

2 Players | Grades 3+

This variation of Basic Number Battle reinforces multiplication skills.

## PREPARING TO PLAY

- Shuffle a full deck of cards. (For simpler math, remove the highest value cards.)
- Unnumbered card values are as follows: ace = 1, jack = 11, queen = 12, king = 13. The suits are not important; only the numbers matter.
- Decide how long the game will last and set a timer. Alternatively, play can continue until one player surrenders or until one player holds all the cards.
- Divide the cards evenly between the players. Each player keeps her cards in a single pile, facedown.
- Optionally, give each student scratch paper and a pencil.

## PLAYING THE GAME

- Each player picks two cards from the top of her pile and places them faceup in the middle of the playing area.
- Each player multiplies the values of her cards to compute a product and states that number. Each player then checks the other's multiplication. The player whose cards form the greatest product takes all the cards played and places them at the bottom of her pile.
- If both players' cards have the same product, a battle ensues: Each player places three cards facedown in the playing area, followed by a new pair of cards faceup, and multiplies the values of her two new faceup cards to find their product. The player whose new cards form the greatest product collects all the cards in the playing area, placing them at the bottom of her pile.

**WINNING THE GAME** The player with the most cards at the end of the designated time wins.

# FRACTION NUMBER BATTLE— FRACTIONS LESS THAN 1

2 Players | Grades 4+

This variation of Basic Number Battle builds student fluency in comparison of fractions less than 1.

## PREPARING TO PLAY

- Shuffle the deck. (For simpler math, first remove the highest value cards.)
- Unnumbered card values are as follows: ace = 1, jack = 11, queen = 12, king = 13. The suits are not important; only the numbers matter.
- Decide how long the game will last and set a timer. Alternatively, play can continue until one player surrenders or until one player holds all the cards.
- Divide the cards evenly between the players. Each player keeps his cards in a single pile, facedown.
- Give each student scratch paper and a pencil.

## PLAYING THE GAME

- Each player picks two cards off the top of his pile and places them faceup in the middle of the playing area.
- Each player arranges his cards as a fraction, using the smaller of the two cards as the numerator and the larger as the denominator. Each player calls out the value of his fraction. The player whose fraction has the greatest value takes all the cards played and places them at the bottom of his pile.
- If both players' fractions are of equal value, a battle ensues: Each player places three cards facedown in the playing area, followed by a new pair of cards faceup, forming a new fraction with the cards. The player whose new fraction has the greatest value collects all the cards in the playing area, placing them at the bottom of his pile.

**WINNING THE GAME** The player with the most cards at the end of the designated time wins.



# FRACTION NUMBER BATTLE— FRACTIONS GREATER THAN 1

2 Players | Grades 4+

This is a variation of Basic Number Battle that builds student fluency in comparison of fractions greater than 1.

## PREPARING TO PLAY

- Shuffle the deck. (For simpler math, first remove the highest value cards.)
- Unnumbered card values are as follows: ace = 1, jack = 11, queen = 12, king = 13. The suits are not important; only the numbers matter.
- Decide how long the game will last and set a timer. Alternatively, play can continue until one player surrenders or until one player holds all the cards.
- Divide the cards evenly between the players. Each player keeps his cards in a single pile, facedown.
- Give each student scratch paper and a pencil.

## PLAYING THE GAME

- Each player picks two cards off the top of her pile and places them faceup in the middle of the playing area.
- Each player arranges her cards as a fraction. This time, players may use either card as the numerator; the goal is to form a fraction with the greatest possible value. The player whose fraction has the greatest value takes all the cards played and places them at the bottom of her pile.
- If both players' fractions are of equal value, a battle ensues: Each player places three cards facedown in the playing area, followed by a new pair of cards faceup, and arranges the two new cards to form a fraction of the greatest possible value. The player whose new fraction has the greatest value collects all the cards in the playing area, placing them at the bottom of her pile.

**WINNING THE GAME** The player with the most cards at the end of the designated time wins.

# INTEGER ADDITION NUMBER BATTLE

2 Players | Grades 7+

This variation of Basic Number Battle builds student fluency in comparison of fractions greater than 1.

## PREPARING TO PLAY

- Shuffle a full deck of cards.
- Unnumbered card values are as follows: ace = 1, jack = 11, queen = 12, king = 13. Green suits (if using *Eureka Math* cards; red if using a regular deck) represent negative integers, and black suits represent positive integers.
- Decide how long the game will last and set a timer. Alternatively, play can continue until one player surrenders or until one player holds all the cards.
- Divide the cards evenly between the players. Each player keeps his cards in a single pile, facedown.
- Optionally, give each student scratch paper and a pencil.

## PLAYING THE GAME

- Each player picks two cards off the top of his pile and places them faceup in the middle of the playing area.
- Each player adds the values of his cards to compute their total value and states that number. Each player then checks the other's sum. The player whose cards form the greatest sum takes all the cards played and places them at the bottom of his pile.
- If both players' cards have the same sum, a battle ensues: Each player places three cards facedown in the playing area, followed by a new pair of cards faceup, and adds the values of his two new faceup cards to find their sum. The player whose new cards form the greatest sum collects all the cards in the playing area, placing them at the bottom of his pile.

**WINNING THE GAME** The player with the most cards at the end of the designated time wins.

# INTEGER MULTIPLICATION NUMBER BATTLE

2 Players | Grades 7+

This variation of Multiplication Number Battle reinforces multiplication with integers.

## PREPARING TO PLAY

- Shuffle a full deck of cards.
- Unnumbered card values are as follows: ace = 1, jack = 11, queen = 12, king = 13. Green suits (if using *Eureka Math* cards; red if using a regular deck) represent negative integers, and black suits represent positive integers.
- Decide how long the game will last and set a timer. Alternatively, play can continue until one player surrenders or until one player holds all the cards.
- Divide the cards evenly between the players. Each player keeps her cards in a single pile, facedown.
- Optionally, give each student scratch paper and a pencil.

## PLAYING THE GAME

- Each player picks two cards off the top of her pile and places them faceup in the middle of the playing area for all to see.
- Each player multiplies the values of her cards to compute a product and states that number. Each player then checks the other's multiplication. The player whose cards form the greatest product takes all the cards played and places them at the bottom of her pile.
- If both players' cards have the same product, a battle ensues: Each player places three cards facedown in the playing area, followed by a new pair of cards faceup, and multiplies the values of her two new faceup cards to find their product. The player whose new cards form the greatest product collects all the cards in the playing area, placing them at the bottom of her pile.

**WINNING THE GAME** The player with the most cards at the end of the designated time wins.

# OPERATIONS NUMBER BATTLE

2 Players | Grades 8+

This variation of Number Battle builds student fluency in operations with rational numbers, including exponentiation and mathematical reasoning, revealing the relative impact of each operation on positive and negative operands.

## PREPARING TO PLAY

- Shuffle a full deck of cards.
- Unnumbered card values are as follows: ace = 1, jack = 11, queen = 12, king = 13. Green suits (if using *Eureka Math* cards; red if using a regular deck) represent negative integers, and black suits represent positive integers.
- Decide how long the game will last and set a timer. Alternatively, play can continue until one player surrenders or until one player holds all the cards.
- Divide the cards evenly between the players. Each player keeps his cards in a single pile, facedown.
- Consider keeping a calculator nearby for comparisons involving exponentiation with high card values.

## PLAYING THE GAME

- Each player picks two cards off the top of his pile and places them faceup in the middle of the playing area for all to see.
- Each player chooses any operation to use with his two cards—addition, subtraction, multiplication, division, or exponentiation—and computes the resulting value, aiming for the greatest possible value.
- If the two players have created expressions with equal value, a battle ensues: Each player places four (or five) new cards to form a new expression of the greatest possible value. The player whose new expression has the greatest value collects all the cards in the playing area, placing them at the bottom of his own pile.

**WINNING THE GAME** The player with the most cards at the end of the designated time wins.

# HIT THE TARGET

2–4 Players | Grades 4+

This game builds students' fluency with the four basic operations and the order of operations. The game also exercises their mathematical reasoning skills.

## PREPARING TO PLAY

- Shuffle a full deck of cards.
- Unnumbered card values are as follows: ace = 1, jack = 11, queen = 12, king = 13. The suits are not important; only the numbers matter.
- Select a player to be the first dealer.
- Provide the group with a means of timing the game's rounds at 2 minutes each.
- Provide each student with a piece of paper and a pencil to write her expressions and tally her score.
- Decide how the game will end—after a designated number of rounds or after a designated amount of time.

## PLAYING THE GAME

- The dealer selects and announces a target number between 1 and 30, lays out five cards faceup, and sets the timer for 2 minutes.
- Using those five cards, each player works to form expressions that equal the target number, writing each expression down and calling it out as it is found. The more cards a player uses in her expression, the more points she earns: 1 card = 1 point, 2 cards = 2 points, etc. Once a player has used an expression, other players cannot use it in the same round.
- At the end of the round, players tally their scores for that round. The player with the highest score from the round is the dealer for the next round, choosing the new target number, dealing the next five cards, and setting the timer.

**WINNING THE GAME** At the end of the game, players tally their scores from each round. The player with the highest total score wins.