

Playing Card Math for Middle School

1. Multiplication War

This game is played with two players and a full deck of cards.

- Ace is worth 11
- Jack is worth 12
- Queen is worth 13
- King is worth 14

This game works with number recognition, positive & negative integers, and multiplication.

How to Play:

- Black cards are positive numbers
- Red cards are negative numbers

Deal out cards evenly between the two players. (Each player should have 26 cards)

This game is played similarly to War. Begin by simultaneously flipping over top two cards. (Instead of one like in War)

Remember that two negative numbers make a positive product (a negative times a negative equals a positive) and that -3 is greater than -8.

The highest product wins all four cards. (Similarly in War the highest number takes both cards)

If the cards products have the same value, the cards are placed in a center pile (or set to the side). The next hand is played normally and will determine the winner of the previously set aside cards plus the current hand.

Play continues until one person holds all the cards or until a set amount of time has passed and then the person holding the most cards wins the game.

2. Exponent War

This game is played with two players and a full deck of cards.

- face cards = 10
- Ace = 1 or 10 (decide before beginning the game)

This game works with multiplication, base, and exponents.

How to Play:

Deal out cards evenly between the two players. (Each player should have 26 cards)

This game is played similarly to War. Begin by simultaneously flipping over top two cards. (Instead of one like in War) The first card is the base and the second card is the exponent. The player with the highest product wins all four cards.

If the cards products have the same value, the cards are placed in a center pile (or set to the side). The next hand is played normally and will determine the winner of the previously set aside cards plus the current hand.

Play continues until one person holds all the cards or until a set amount of time has passed and then the person holding the most cards wins the game.

3. Hit The Target Number

This game can be played with 2-5 players and one deck of cards.

- Ace = 1 or 11
- Jack = 12

- Queen = 13
- King = 14

This game works with multiplication/division, addition/subtraction, order of operations, and mathematical reasoning.

How to Play:

The group of 2 – 5 players selects a target number from 1-30. One of the players will turn five cards from the deck face up and the object is to make a number sentence using all five cards with

any operations to reach the target number.

For example, suppose the target number is 20 and the cards in play are 5, 5, 6, 2, and Ace (in the case making the Ace worth 1). One winning combination is: $5 \times 2 + 5 + 6 - 1 = 20$. Another is $(6 \times 5) - (2 \times 5 \times 1)$. Also, $(6 \div 2) \times 5 + (5 \times 1)$ works, as do many more.

The first player to find a winning combination keeps the cards and chooses the next target number. If no combination is found in about a minute, flip over another card and try to make a combination using six cards.

If playing with players of different abilities, instate a rule that says, if a player hasn't made a combination in three rounds, he or she may make combinations using four of the five cards until they make a winning combination; other players must use five.

4. Collaborative Fractions

This game can be played in four variations, with two people working together. You will need a deck of cards and some scratch paper and pencil.

- face cards = 10
- Ace = 1 or 11 (decide before you begin)

This game works with adding, subtracting, and multiplying fractions as well as numerator and denominator.

How to Play:

Decide if you are going to add, subtract, or multiply with the cards you turn up, or maybe you do all of them with each set of cards you turn up!

Deal out four cards and place them face up. Using these four cards create two fractions. To do this make the two largest cards denominators, and the other two become numerators. Use scratch paper to work out the problem you have created (don't forget about common denominators!).

Be sure to reduce answers into simplest form!