

Math Card Games

This is a collection of 11 games to use with students grades 1 through 5. The intent of all the games is to promote computational fluency with single and two digit numbers. Subtopics include counting, making tens, partitioning numbers, the “Up and Over” strategy, 1-9 addition facts strategies, missing addends, and multiples of ten.

Most of the games only require playing cards. Some of the games also require dice and paper and pencil.

Not all of the games are suitable for 1st grade.

Game #1 *Sums & Addends* 2-4 players

Materials: Double deck of 1-9 playing cards (72 cards)

Goal: The player who makes the most 3 card combinations wins.

Rules:

1. Each player is dealt 6 cards.
2. Turn up the top card (D) on the remaining deck of cards.
3. Player A plays 2 cards (T&W) from hand if one of these three problems exist: $T+W=D$, $D+W=T$, or $D+T=W$. If player A has such a combination, player A takes and keeps all 3 cards, having made one 3 card combination.
4. If player A has made a combination, player A turns over the top card from the deck to make a new "D" and can attempt to make a new combination. Player A's turn continues until no new combinations can be made. At that point, player A ends turn by drawing as many cards as needed from the deck to get hand back to 6 cards.
5. Player B plays.

6. If players go one complete circuit with none of the players able to make a combination, a new “D” card is turned up and play resumes.

7. Play ends when all the deck cards are used up.



Game #2 *Go Fish for Tens* 3-4 players

Materials: Double deck of 1-9 playing cards (72 cards)

Goal: To make the most 2 card “10” combinations.

Rules:

1. Deal each player 5 cards.
2. Player A looks in hand for any pair of cards whose sum is ten and lays each pair down. Player A asks one of the other players for a specific card that can be paired to make a “10” with one of the remaining cards in hand. If player A gets the desired card, the new 10 pair is laid down and player A’s turn is over. If the requested card is not in the addressed player’s hand, player A is told to “Go fish.” Player A then draws one card from the deck. If player A draws a card that can make a ten pair, player may lay that pair down, but the turn is still over.
3. Player B plays.
4. Game ends when a player gets rid of all cards during play.
5. When the game ends, each player counts their ten pairs. The player with the most ten pairs wins.

Game #3 *Rummy Tens* 3-4 players

Materials: Double deck of 1-9 playing cards (72 cards)

Goal: To make the most 2 card "10" combinations.

Rules:

1. Each player is dealt 7 cards.
2. Turn up the top card (D) on the remaining deck.
3. Player A lays down all 2 card pairs whose sum is 10 from hand. Player A may also use "D" in making pair(s).
4. If player A uses "D," a new "D" is turned up from the deck which player A can also use if it is an addend of ten with one of the remaining cards in player A's hand.
When player A can make no new tens, the turn is over and player A draws as many replacement cards from deck as needed to get back to a hand of 7 cards.
5. Player B plays.
6. Game ends when a player uses up all the cards in hand during a turn.
7. The winner is the player who has made the most ten pairs during the course of play.

Game #4 *Multiple Max* 2-4 players

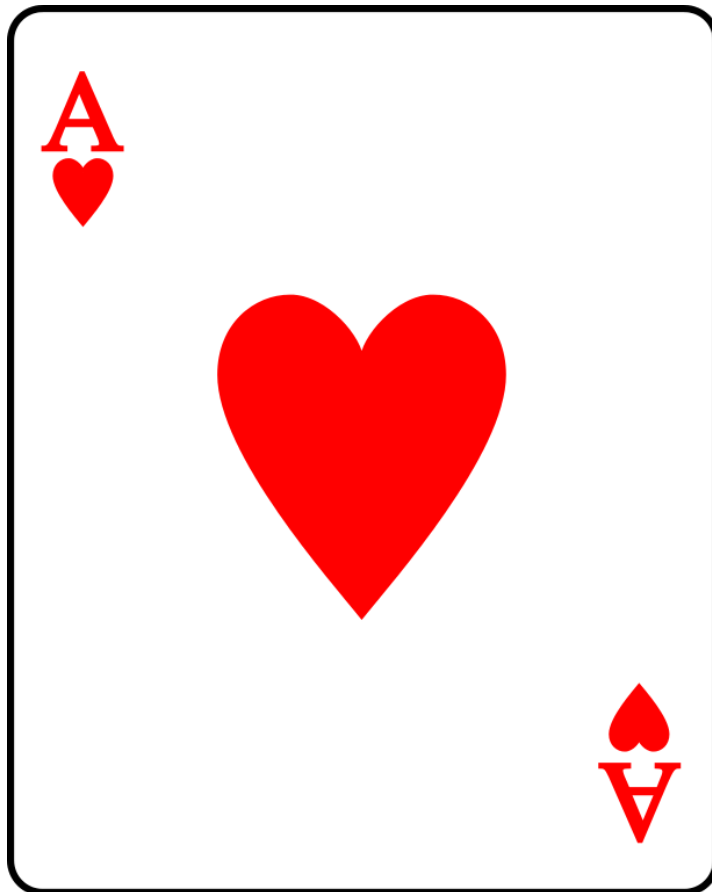
Materials: Double deck of 1-9 playing cards (72 cards)

Goal: To accumulate the most multiple points.

Rules:

1. Deal each player 5 cards.
2. Turn up 2 cards from the deck to create a two digit number (D).
3. Player A examines cards in hand trying to find a card that can either be added to or subtracted from D to equal the multiple of 10 that precedes or follows D. If player A is able to add or subtract to one of those multiples, player A takes those cards and records the multiple as points (If D is 57 the player can play +3 and get 60 points or -7 and get 50 points. If D is 19, the player can play +1 and get 20 points or -9 and get 10 points). If a play is made, player A turns up 2 new cards from the deck to create a new number D and continues to make plays until unable to do so. At that point, player A draws as many cards from the deck as needed to get hand back to 5 cards.

4. Player B plays.
5. If players go a full round without making a play for D, players turn up 2 new cards from the deck to create a new D and resume play.
6. Play ends when the deck cards are used up.
7. Points are totaled to determine winner.



Game #5 *Shut the Door* 2-3 players

Materials: 22 playing cards, 2 cards for each number 1-10 (aces are 1). 2 dice.

Goal: To collect the most cards.

Rules:

1. Lay out the cards in a row, in order, 1 through 10. The duplicate cards for each number should be stacked on top of each other.
2. Player A rolls both dice and calculates the sum (S) of the two numbers on the dice.
3. Player A looks for 2 cards whose sum equals S . The player takes those 2 cards and places them face down in his/her pile. Player A may also make a play if a single card that equals S is on the board and collect that card, but since the goal is to accumulate as many cards as possible, a player should first look for a 2 card combination that equals S . If there are no 2 card combinations or single card that equal S , player A takes the bottom card from his/her pile and puts it back in play.

4. Player B rolls and plays.
5. Play continues until no cards are left in play.
6. The player who has the most cards wins.



Game #6 *Squint* 2-3 players

Materials: Each group of 2 players will need a standard deck of playing cards with 10's and face cards removed. Aces represent 1.

Goal: A player is trying to make as many "tricks" as possible. A trick is defined as a group of cards whose sum is a multiple of 10.

Rules:

1. Deal each player 5 cards. The remaining cards are the "deck." Place the deck between the players, and turn the top card of the deck face up and to the side. This card will be referred to as X.
2. Player A looks at X. If Player A has a card in hand W such that $X + W = 10$, player collects and keeps those two cards and has made a trick. Player A then turns up a new card from the deck to make a new X. Player A will continue until he/she doesn't have a card in hand to make any more tricks. At that point player A will place any card T remaining in hand next to X. Player A will then replenish hand by drawing as many cards from the deck as needed to get back to 5 cards. Player A's turn is over.

3. Player B looks at T and X and calculates their sum. If player B has a card W such that $T + X + W =$ a multiple of ten, player B plays W and collects the trick. Player B then turns over another deck card to create a new X and continues to make tricks if possible. If player B does not have such a card W such that $T + X + W =$ a multiple of ten, player B lays down one of the cards in his/her hand next to T and X. Player B replenishes hand back to 5 cards by drawing from the deck.

4. At some point all the deck cards will be used up. Play continues with these changes. First, players will not be getting replacement cards for ones they have played. Second, if a player makes a trick they will then need to lay down one of the remaining cards in hand to make a new X and that turn will end. If one player uses up all his/her cards that player is finished, and the other player can continue to try to make tricks with cards in hand.

5. A winner can be determined by adding up the value of all the player's tricks.

Game #7 Streak 2-3 players

Materials: 1-9 cards from standard playing card deck.

Paper to record points.

Goal: to be the player that adds a card from his/her hand to the cards already in play such that the sum of all the cards is a multiple of ten.

Rules:

1. Each player plays exactly one card from his/her hand each turn. Each player draws one card from deck to replace played card at the end of each player's turn. Deal each player three cards. Turn face up the top card of the remaining deck of cards.
2. Player A looks at the upturned card (T) next to the deck. If player A has a card (W) such $T + W = 10$, player A places W next to T, takes both cards, records 10 points, turns over a new card (T), and draws a replacement card from the deck. If player doesn't have a card that when added to T equals 10, player A places any of his/her 3 cards (G) next to T, draws a replacement card from the deck, and the turn is over.

3. Player B plays. Player B looks at upturned card T or the sum of cards T + G, and attempts to find a card in his/her hand that when added to the sum of the cards currently in play equals 10 or a multiple of ten. If player B has such a card, player B plays it, takes the cards, turns up a new card from the deck, records the points, and draws a replacement card. If player B doesn't have such a card, player B selects any card from hand to place next to T and G, thereby creating a new sum for the next player to use. Player B ends turn by drawing replacement card.

4. Play ends when all the cards have been used up.

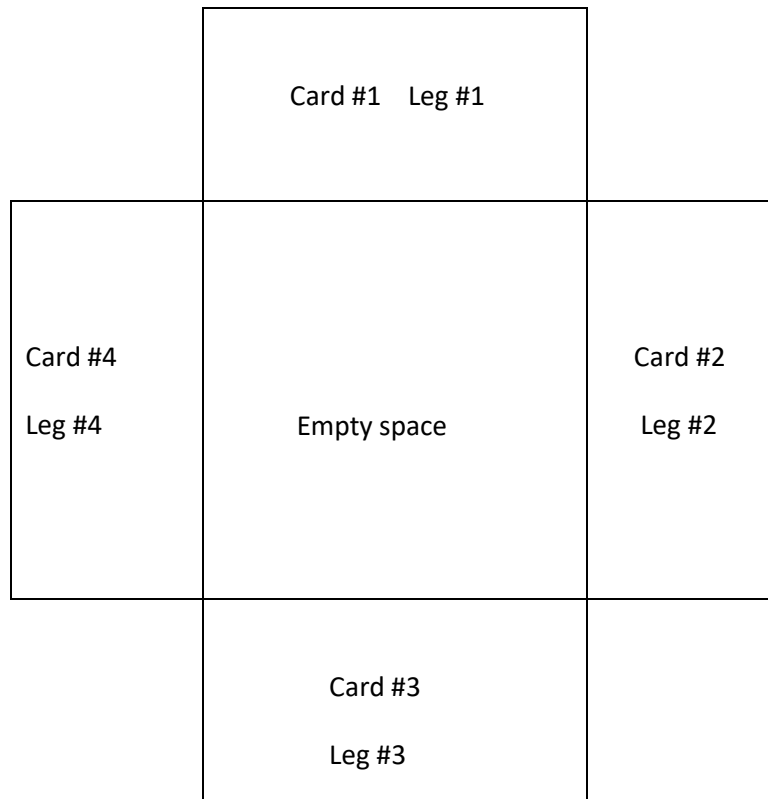
5. Players total points to determine winner.



Game #8 *Smear* 2-4 players

Materials: playing cards 1-9 (36 cards)

Goal: To make the most 10's



Rules:

1. Place 4 cards from the deck face up in the pattern shown above. Place the rest of the deck off to the side, face down on the table. Each player draws one card from the deck on every turn and places that same card face up on one of four possible positions on the pattern.

2. When play begins, player A draws a card. Suppose he/she has drawn a 6, and there are the following cards on the pattern: Card #1 is a 3, card #2 is a 9, card #3 is a 2, and card #4 is 4. Player A would place the 6 next to the 4 because $6 + 4$ is a multiple of 10. Player A would then pick up both of those cards and keep them, recording 10 points. Suppose instead that player A had drawn a 5 from the deck. Since there is no card on the pattern whose sum when added to 5 is a multiple of 10, the player must choose to lay it down next to one of the four cards already there. For example, if the player lays it down above card #1 which is a 3, that leg of the pattern now becomes 8 (because $3 + 5 = 8$) for future plays.

3. Player B then draws a card. If Player A has collected the cards in a leg on the previous turn (because the sum of those cards was a multiple of ten), there will be an empty spot in the original four card pattern. If that is the case, player B must place his/her card in that position, and the turn is over. If, however, all four of the original spots in the pattern have cards, Player B may add his/her card to any of the four legs trying to create 2 or more

cards in that leg whose sum is a multiple of ten. If player B can do that, Player B collects all the cards in that leg and records the points. Turn ends. If a multiple of 10 can't be made, Player B selects one of the four legs on which to leave the card. Turn is over.

4. Play continues until the deck is consumed. Calculate points to determine a winner. Note: If a player adds a card to a leg to make a sum of 20, that player would get 20 points, etc.



Game #9 *Number Scrabble* 2-4 players

Materials: playing cards 1-9 (36 cards)

Goal: To collect the most points by making multiples of 10.

Rules:

1. Deal each player 3 cards. Each player will play one of his/her cards per turn. Each player will draw one replacement card from the deck at the end of turn. After the first player places a card down, all additional cards played must be placed to the right, left, above, or below a card that has already been placed.

2. Players are attempting to add a card either vertically or horizontally to cards already on the board so that all the cards in that row or column add up to a multiple of ten. When such a card is placed, that player gets the sum of all the cards in that row or column as points. Players must record points earned during the course of play. If a player has to play a card that does not create a multiple of ten, no points are awarded. If a player places a card that simultaneously creates both a horizontal and vertical multiple of 10, that player gets points from both.

3. After the deck is exhausted, play continues until all players have played all cards. Points are then totaled to determine a winner.



Game #10 *Addition Mat* 1-2 players

Materials: playing cards 1-9 (36 cards)

Goal: to find the sum of 16 single digit addends.

Rules:

1. Turn face up 16 cards on table in a 4 card by 4 card grid.
2. Player A examines the 16 cards and selects 2 whose sum is 10. The player takes those 2 cards off the board and places them face down in a pile to be counted later.
3. Player B then takes a turn, looking for another 2 cards on the board that make 10. Play continues until all 2 card combinations are exhausted.
4. At this point, a second strategy for making 10's is employed. A player mentally selects 2 cards left on the board. For example, suppose an 8 card and a 7 card are on the board. The player looks through the deck of unused cards for 2 cards (a & b) that partition 7 such that $a+b = 7$ and either $a+8$ or $b+8 = 10$. The player makes the ten by exchanging the 7 for the 2 and the 5, and then combining and keeping the 2 and the 8. The 5 card is left

on the board. Note that when exchanges are made using this “up and over” strategy, it may be possible for a player during a turn to find a new 2 card combination that didn’t appear on the board previously. If that happens a player may make that play during a turn.

5. Continue play until there are no more cards on the board, the sum of the remaining upright cards is < 10 , or there is no way to partition the remaining cards to make more tens. When that point is reached, the players can add up any remaining cards (if any) on the board and count up the number of tens that have been made during the course of play. Combining those 2 amounts will give them the sum of the original 16 cards placed on the board.



Game #11 *Making 20 Blackjack* 2-3 players

Materials: playing cards 1-9 (36 cards)

Goal: To collect the most cards.

Rules:

1. Each player must turn up at least 1 card per turn.
2. Player A turns up a card from the deck. For the sake of explanation let's say a 5 is turned up. Player A has a choice: (1) end turn and pass the turn to the player on the left or (2) turn up a second card and add it to the 5. If player A chooses to turn up a card (a 6 in this example), the number in play is 11 (5+6). Player A again has the same choice: pass or turn up another card and add that card to the 11. If player A turns over a card that when added to the other turned up cards has a sum of twenty, player A collects and keeps all those cards. If player A turns up a card that when added to the other cards produces a sum greater than 20, player A must give all those cards to the person on the left.
3. Player B plays either continuing with the cards the previous player has passed on or starting a new set if the previous player has hit or exceeded 20.

4. When the deck is exhausted, play stops and the players count up their cards to determine winner.

