

MATH GAMES WITH PLAYING CARDS
FOR CHILDREN IN GRADES K-3

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Kindergarten

1. Lining Up the 5s

Number of players: 2 or 3, preferably 3*

Three suits of cards A-10 are used. All 30 cards are dealt to the 3 players. Each player aligns the 10 cards received, face up, in front of himself.** The players who have 5s put them down in a column in the middle of the table.

The children decide who will go first. (The turns then go clock-wise.)

The players take turns putting one card down at a time. They make a matrix by extending each suit to the right or left, without skipping any number (for example, the 6 of spades followed by the 7 of spades, or the 4 of spades followed by the 3 of spades.)

Anyone who does not have a card that can be played must pass. Each time a player passes, he takes a counter. Players can pass only 3 times***. When a player with 3 counters must pass a 4th time, that player is out of the game. He puts down in the matrix all the cards remaining in his hand. In this situation it is often necessary to skip one or more numbers, leaving blank spaces in the matrix between cards that are not consecutive.

The first player to use up all his cards wins.

By playing this game, most kindergartners learn to read numerals without a single lesson on how to read numerals.

*If there are more than 3 players in a game, children have to wait longer to get a turn. Having to wait is a waste of time that could be spent thinking.

** "He" and "she" are used alternately throughout this paper. "He" is used in the first, third, and fifth games, etc., and "she" is used in the second, fourth, and sixth games.

***We introduced this rule because (a) many children were passing without systematically examining all their cards for possible use, and (b) the more advanced players passed just to prevent others from using their cards.



2. Before or After

Number of players: 2 or 3

All the numeral cards from one deck (A-10) are used. The cards are dealt to all the players, but the last card is turned up in the middle of the table. The players keep their cards in face-down stacks. The first player turns over the top card of her stack and tries to make a pair with the number that comes immediately before or after the number that is up. (For example, if a 5 is up, a pair can be made with either a 4 or a 6.) If a pair can be made, the player can take both cards and keep them. If not, the card turned over stays in the middle of the table and gets covered up by the next player (or the player after the next player, or the player after her, etc.).

Play continues until pairs cannot be made any more. The winner is the person who collects more cards than anybody else.

3. War (for 2 players)

Number of players: 2

All the number cards from one deck (A-10) are dealt to the 2 players. Without looking at them, each player puts his pile in front of himself, face down. The two players then simultaneously turn over the top cards of their respective piles. The person who turned over the larger number takes both cards. The winner is the person who collected more cards than the other.

If there is a tie, each player turns over the next card, and the person who turned up the larger number takes all 4 of them. (This is a modification of the conventional rule.)

Modification into a fast addition game. The person who announced the correct sum first wins both cards.

4. Find Five (also known as Piggy Bank)

Number of players: 2 or 3

Eight cards each of numbers 1 through 4 (from 2 decks) are used. The object of the game is to make 5 with 2 cards (4+1 or 2+3).

All the cards are dealt. Without looking at them, each player makes a face-down stack with the cards received. On her turn, each player turns over the top card of her stack. The first player always has to discard the card turned over in the middle of the table. If the first player discards a 3, and the second player turns over a 4, she, too, has to discard this card. If, on the other hand, the second player turns over a 2, this 2 can be taken with the 3 on the table. The person who collects more cards than anybody else is the winner.

1st Grade

5. Double War

Number of players: 2

This game is played like War except that the cards are dealt so that each player will have 2 stacks. Each player turns over the top cards of both stacks, and the person who announces the larger total first takes all 4 cards.

6. Tens with Nine Cards****

Number of players: 2 or 3

Thirty-six cards, 4 each of A (1) through 9, are used. Nine cards are randomly arranged as shown in the figure. The first player takes pairs of cards that make 10 (such as 6+4, 5+5, and 7+3). She then fills the empty spaces with cards from the deck. The second player continues the game in the same way.

6	2	3
5	1	4
5	7	2

The person who collects the most cards is the winner.

7. Find Ten**** (or Find Seven, Eight, Nine, Eleven, etc.)

Number of players: 2 or 3

This game is played like Find Fives, but cards 1 through 9 are used (a total of 36 cards), and the object of the game is to find 2 cards that make 10 (9+1, 8+2, etc.).

In Find Seven, cards 1 through 6 are used. In Find Eight, cards 1 through 7 are used, etc.

8. Draw Ten****

Number of players: 3

This game is played like Old Maid, but cards 1-9 are used, and the object of the game is to find 2 cards that make 10. One card is removed from the deck at random, so that there will be a card without a mate at the end of the game. All the other cards are dealt.

Each player goes through the cards received and puts in front of herself all the pairs that make 10 (6+4, for example).

The players then hold their cards like a fan and take turns letting the person to the left draw one of them at random. If the person who drew a card can use it to make 10 with one of her cards, the pair is added to her collection of 10s. If a pair cannot be made, the card drawn is kept, and the next person draws a card.

****Becoming able to make 10 with 2 cards facilitates children's changing $8 + 4$ to $(8 + 2) + 2$, for example, and $7 + 5$ to $(7 + 3) + 2$. Having to make 10 with 2 cards thus helps children construct tens. It is therefore important not to let children make 10 with 3 cards.

Play continues until one person is left holding the odd card and loses the game.

9. Shut the Box

Number of players: 2 or 3

Two dice and 11 cards numbered 1 through J are used. The 11 cards are arranged in a line in sequence from 1 to 11 (J), face up. The players take turns rolling the dice and turning down as many cards as they wish to make the same total. For example, if a 6 and a 2 were rolled, a player can turn down the 8; the 1 and the 7; the 2 and the 6; the 3 and the 5; or the 1, the 3, and the 4. The player keeps playing until it is impossible to make a total with the remaining numbers. The numbers left unused are added and recorded, and the next player takes a turn.

The points left at the end of each turn are added to the player's previous total. The player who reaches 45 points first is the loser (or the one who has the smallest total is the winner).

2nd Grade

10. Go Ten****

Number of players: 3

This game is like Go Fish, but cards 1-9 are used, and the object of the game is to make 10 with 2 cards. All the cards are dealt. (There is no "pond" in this game.) The players first put down all the pairs that make 10. They then ask specific people for specific numbers. For example, John may say to Katie, "Do you have a 5?" If Katie has a 5, she has to give it to John. John then lays this 5 and his 5 in front of himself, face up.

A player can continue to ask for cards as long as she gets the number requested. If a player is told "I don't have any," the turn passes to the person who said, "I don't have any."

The person who makes the greatest number of pairs is the winner.

11. Tens Concentration****

Number of players: 2 or 3

Cards 1-9 are used, and the object of the game is to find 2 cards that make 10. All the cards are arranged face down in neat rows. The players take turns turning up 2 cards, trying to make a total of 10. When a player succeeds in making 10, he can keep the 2 cards and continue playing. Otherwise, he must turn the 2 cards over so that they are face down again, and the turn passes to the person to the left.

The game continues until all the pairs have been found. The person who makes the greatest number of pairs is the winner.

12. Salute!

Number of players: 3

Cards 1-10 can be used, but cards going up to 5 might be used at the beginning, when children are not sure about subtraction. The cards are dealt to 2 of the 3 players. The 2 players hold the cards received in a face-down stack. Simultaneously, both take the top cards of their respective piles saying "Salute!" and holding the cards up next to their ears in such a way that each player can see the opponent's card but not her own.

The third player announces the sum of the 2 cards, and each of the other 2 players tries to figure out the number on her own card (by subtracting the opponent's number from the sum that has been announced). The one who announces the difference correctly first takes both cards.

The winner is the person who collected more cards than the other person.

13. Quince

Number of players: 2 or 3

Cards 1-10 are used, and the object of the game is to get as close as possible to a total of 15 without going over it.

The dealer deals 2 cards to each player, including himself, one at a time, face down. Each player looks at the cards received without letting the others see them. The player to the dealer's left begins the game. If his cards add up to less than 15, he may ask the dealer for another card, hoping to get one that will bring his total closer to 15. A player may keep asking for another card every time his turn comes, until he is satisfied with the total and says, "I stand pat," or until he goes over 15 and is out.

For example, in a two-player game, let's say a player receives a 6 and an ace. He asks for another card because $6+1$ is too low to win. If the card received is a 2, the total is only 9. If the dealer receives a 9 and a 3, he could stop here but decides to ask for a card, gets a 5, and is out of the game. The other player automatically wins the round and gets a tally mark.

If there are 3 players, the one who has the highest total without going over 15 is the winner of the round and gets a tally mark. The winner of the game is the person who has the most tally marks (or is the first person to get 10 tally marks).

14. Twenty-Twenty

Number of players: 2 or 3

Cards 1-10 and 18 counters are used. The object of the game is to make a total of 20. Each player takes 6 counters and is dealt 5 cards. The remaining cards are placed on the table in a face-down stack. The players take turns putting one card down at a time next to one that is already on the table (see the figure). After putting down a card, each

○
5

4

3

○ 3 2 7 8 ○
○

player takes the top card of the stack to have 5 cards again.

When a player puts a card down that makes a total of 20, either vertically or horizontally, she closes the line with 2 counters as shown in the figure. The person who uses up her 6 counters first is the winner.

15. Knock-Knock

Number of players: 2 or 3

A deck of 52 cards is used with the following values: A=1, 2 through 10 are worth the values shown, and the face cards are each worth 10 points. The object of the game is to make the largest total value (or the smallest).

Each player is dealt 4 cards, and the remaining cards make up the drawing pile. The players take turns taking the top card of the drawing pile and discarding one. When a player thinks he has the largest total, he says "Knock-knock," and everybody else has one more turn. The person who has the greatest (or smallest) total is the winner.

3rd Grade

16. Multiplication Salute!

Number of players: 3

This game is played just like Salute! (No. 12 above), except that multiplication and division are used instead of addition and subtraction. When multiplication is still unfamiliar, it is best to use cards going up only to 5. Larger numbers can then be added as small factors become too easy.

17. O'NO 99

Number of players: 2 or 3

The cards have the following values:

All the aces: 99 points

2 through 10: All the spades are "minus" cards. For example, the 2 of spades is worth -2.

All the other suits are "plus" cards worth the numbers shown.

Face cards: All the spades are worth -10 points.

All the other face cards are worth 10 points.

Five cards are dealt to each player, and the rest of the cards constitute the drawing pile. The object of the game is to avoid making a total of 99 or more.

The first player puts a card down calling out the number (such as “Ten”). He then takes a card from the drawing pile to have 5 cards again. The second player puts down one of his 5 cards announcing the new total (such as “Fifteen”), and draws a card to replace the one used. This procedure is followed around the table. The person who reaches 99 or more loses the round.

The first person to lose 3 rounds is the loser.

Modification into a subtraction game. The same game can be played with subtraction, and the count starts at 99. (The spades become “plus” cards; all the other suits become “minus” cards. The person who reaches zero or less loses the round.)

18. Close to 100 (taken from *Landmarks in the Thousands*, by S. J. Russell & A. Rubin. Palo Alto, CA: Dale Seymour, 1995, p. 109)

Number of players: 2 or 3

Cards 1-9 from one deck are used with a score sheet. Each player is dealt 6 cards. With 4 of the 6 cards, each player makes two numbers that, when added, make a total as close to 100 as possible. For example, a 6 and a 5 can make either 56 or 65. If a 6, a 5, a 4, a 3, a 2, and a 1 are received, $65 + 34 = 99$ is as close to 100 as possible. These numbers are written on the score sheet, as well as the difference between the total (99) and 100.

The cards used are discarded, and the 2 unused cards are kept by each player. Four new cards are then dealt to each player so that there will be 6 cards for the next round. When no more cards are available, the discard pile is mixed up and used again. Five rounds are played in this way, and the person with the lowest total score wins.

Close-to-100 Score Sheet

Name: _____

Diff. from 100

Round 1: _____ + _____ = _____

Round 2: _____ + _____ = _____

Round 3: _____ + _____ = _____

Round 4: _____ + _____ = _____

Round 5: _____ + _____ = _____
