

## MATHEMATICS AND PLAYING GAMES

Math games are a useful way to learn or practice mathematical concepts in a natural and enjoyable manner. A good math game is one that is challenging enough for the child but not so challenging that it will fail to hold their interest. Below are a few simple games and apps.

### Games & Apps:

Mathbreakers <https://www.mathbreakers.com>

Motion Math <http://motionmathgames.com/>

Dragon Box <http://www.dragonboxapp.com/>

Refraction <http://play.centerforgamescience.org/refraction/site/>

Wuzzit Trouble <http://innertubegames.net>

Mancala <http://www.coolmath-games.com/0-mancala/>

Set <http://www.setgame.com/set>

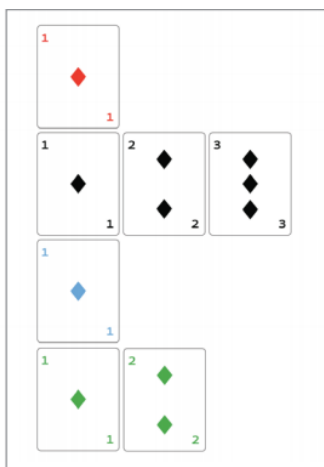
Muggins! <http://www.mugginsmath.com/store.asp>

### Card Games:

**Card Dominoes** No. of players: 3 or 4

Materials: Use playing cards Ace-10 or make up cards with numerals and pictures

1. Deal all the cards to the players.
2. The players who have ones put them down in a column in the middle of the table.



3. Decide who will go first, second and third.
4. Players take turns putting down one card at a time to continue each line as above with the next number in the sequence.
5. Anyone who does not have a card, can pass.
6. The first player to lose all his/her cards wins.
7. Modification: Start the game at 10 and work backwards (10, 9, 8...)

**12 Tens Concentration** No. of players: 2-4

Materials: Deck of cards with 6 of each number from Ace through 9

How to play:

1. Place 16 cards in the middle of the table, face down in a 4X4 arrangement.
2. Players take turns turning over 2 cards trying to turn over a pair that totals 10.
3. If a pair can be made, the player keeps those cards and continues to try and turn over another pair. If the player is not successful, they return the cards they turned over to their original position, face down and they replace any cards that they took to make a pair with new ones from the deck.

4. The person who collects the greatest number of pairs is the winner.

Variations: For younger children, use only small numbers that add up to 5 (e.g., all the cards from Ace to 4). For older children, the pairs could be multiplied and points given as follows: if the answer is under 20, they get one point; if the answer is 20-40 they get two points; if it is over 40 they get three points.

**Making Fifteen** No. of players: 2-4

Materials: Deck of cards, counters

How to play:

1. The object of the game is to get as close to a total of 15 as possible without going over.
2. One player deals two cards face down to each player.
3. The player to the left of the dealer goes first. If their cards add up to less than 15, they can ask the dealer for another card, trying to get their cards to total a number as close to 15 as possible without going over.
4. If the player goes over 15, they are out for that round.
5. Each player takes a turn asking for more cards.
6. After each player has had a turn, everyone turns over their cards and compares totals. The player with the total closest to 15 wins that round and takes a counter from the pile in the centre of the table.
7. If there is a tie, no one gets a counter.
8. The game ends when one player has collected 10 counters.
9. Variations: Instead of 15, use other totals such as 21, 30, 50, and deal out three cards to begin.

**Go Fish Five** No. of players: 2-4

Materials: Deck of cards

How to play:

1. Deal out 5 cards to each player. The rest of the cards are put in a pile face down in the centre.
2. If a player can make a pair that adds to 5, they place their cards down in front of them face up.
3. Every player should check each other's pairs.
4. The dealer then starts by asking any other player for a card that would help them to make a pair that adds to 5.
5. If they get a card that gives them a pair they put the pair down face up.
6. If the other player does not have the card asked for, they say "GO FISH" and that player must pick up a card from the centre. It is then the next player's turn.
7. The game ends when one player has no cards left.

8. The players then count up their pairs and the player with the largest number of pairs wins.  
Variations: Go Fish Ten, Go Fish Fifteen. Use a higher target number with the same rules.

**War** No. of players: 2-4

Materials: Deck of cards How to play:

1. All the cards are dealt so that each player has one stack placed face down.
2. Without looking, each player turns up the top card in their pile.
3. The player whose total is the highest takes all cards played.
4. If the sums are equal, players keep their own cards.
5. The player who has the most cards in the end is the winner.

**Double War to Ten** No. of players: 2-4

Materials: Deck of cards

How to play:

1. All the cards are dealt so that each player has two stacks placed face down.
2. Without looking, each player turns up the top two cards in their pile.
3. The player whose total is the highest takes all cards played.
4. If the sums are equal, players keep their own cards.
5. All players must agree on the totals before anyone takes the cards for that round.
6. The player who has the most cards in the end is the winner.

**Salute!** No. of players: 3

Materials: Deck of cards

How to play:

1. The cards are dealt to two of the three players.
2. The two players dealt cards sit facing each other and place their stacks of cards face down in front of them.
3. At the same time, these two players take their top card and say "Salute!" as they hold the card on their forehead (you are not allowed to look at your own card, only the other player's card).
4. The third player (with no cards) announces the total of the two cards showing.
5. Each of the players guess the number on their card by subtracting the other player's card from the total that was announced.
6. The third player is the referee and decides which player announced their card's value first. That player takes both cards.
7. The player with the most cards wins.