# War (card game)

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**War** is a card game for two or more players. It uses a standard Western fifty-two-playing card deck. It is most often played as a children's game because of its simplicity.

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War		
Players	2	
Age range	6 +	
Setup time	2 min	
Playing time	10-40 minutes	
Random chance	High	
Skills required	Counting	

# How to play

The cards are divided evenly, with each player's cards remaining face-down. Each player shows his or her top card; whoever has the highest card takes the other cards shown and places them at the bottom of his or her deck. Aces can be high or low, which should be decided before the game begins. In case of a tie, each player plays three face-down cards and one face-up card, and these face-up cards decide who will receive all the cards. This is called a "war". If there is another tie, the process is repeated, etcetera. In all cases of ties, face-down cards are exposed before being collected. In some variations, smaller numbers of face-down cards are played (for example, one card is placed face down, while the second is played face up). In one variation, the number of face-down cards equals the pip value of the cards, with face cards being ten and ace eleven.

The player who gets all the cards is the winner. In one variation, a set number of ties won will decide.

### **Strategy**

War seems to be a game of chance. However, a player with an excellent memory can improve upon its chances of winning by ordering the cards that the player wins in rounds.

This is best demonstrated with an example – suppose Jill is playing to beat Bill. The game begins with Bill beating Jill's six with a ten. Jill notices that Bill collects the two cards and puts them on the bottom of his deck with the ten on top of the six. In the next round, Jill beats Bill's eight with a jack. Jill now collects the two cards and places them at the bottom of her deck with the jack on top of the eight so that the next pass through the deck will begin jack beats ten (Jill collects), eight beats six (Jill collects again). If Jill had instead placed the eight over the jack, the next pass through the deck would go ten beats eight (Bill collects), jack beats six (Jill collects), which is not as beneficial to Jill.

However, over the long-term, as the deck sizes change (as both players collect cards) and as more and more cards are revealed, it becomes extremely difficult—indeed, nearly impossible—to implement this strategy. Only

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a player with an extremely good memory and the ability to visualize extremely quickly card positions in both decks will be able to consistently implement this strategy over the course of a game.

Something analogous to genetic selection occurs in war: if you have fewer cards they tend to be of higher quality. Conversely, as you accumulate cards, they become weaker. The rule for handling ties mitigates against this problem somewhat, however.

# Computer war

There was an Apple II version of this game, contained in the game Little Computer People. In the game, the winner of each trick always put the cards on the bottom of the deck in the same order. Frequently, the game wound up cycling; that is, the same positions would repeat indefinitely with no winner.

A Java version appeared on the web in the late 1990s in which a user could watch the game played automatically at its choice of speeds.

#### **Statistics**

After one million games were run with a computer program, the following results were achieved:

Statistic	Value
Average battles:	248.314
Average wars:	13.0305
Average double wars:	0.756801
Average triple wars:	0.042637
Average quadruple wars:	0.002265
Average quintuple wars:	0.000113
Average sextuple wars:	0.000001
Most battles:	2958
Most wars:	155
Most double wars:	12
Most triple wars:	5
Most quadruple wars:	2
Most quintuple wars:	1
Most sextuple wars:	1
Fewest battles:	9

(Presumably, the "Fewest battles" game was the game with the sextuple war, which would have left the loser with one card. The loser of that war would then win a battle, then lose two in a row to eliminate all its cards.)

### Multiplayer war & variants

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War may be played with more than two players. A war occurs only when the two highest cards tie. The war may involve only those players, or all players.

One common variant while playing War is adding jokers to the deck. If a joker is played, there is an automatic war. Alternatively, the joker becomes the strongest card. This means the joker can beat the ace and king. It is theorized that if 2 jokers were both played simultaneously, a war would occur.

The casino variant of this game is quite popular in many casinos though the rules are slightly different.

Another variation involves beating aces when they are considered the high card. In standard war, if a person has all four aces, then the only hope the other person has of getting an ace is to win it by chance in a war. In this variation, aces still beat all cards except one, the queen of spades. The queen of spades would still provoke a war with another queen, beat all cards lower than a queen, and lose to kings, but would always take an ace when played against one.

#### **External links**

- This site (http://www.pagat.com/invented/war\_vars.html) lists several varieties of variations of the card game War.
- Predictability in the Game of War (http://www.scq.ubc.ca/predictability-in-the-game-of-war/)

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