# No Limit Texas Hold'Em
Quick Reference

ACT IN TURN

Poker is a turn-based game. Players take turns in a clockwise order. Everyone at the table gets a chance to go first, with the dealer button indicating who goes first, second, third, etc.
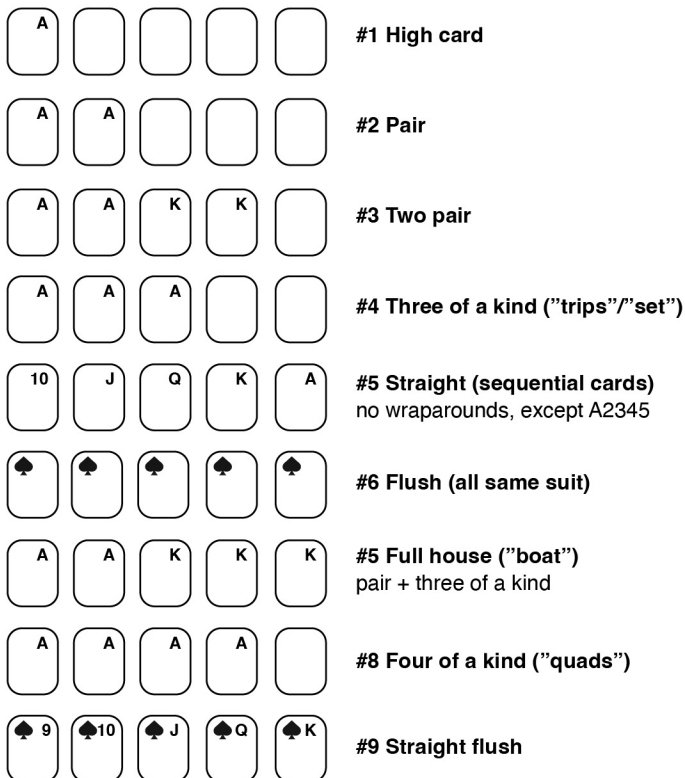
MAKE THE BEST HAND

The cards in poker are ranked like so, with 2 being the worst and A being the best. There is no "better" suit; all suits are treated the same.

2	3	4	5	6	7	8
9	10	J	Q	K	A	
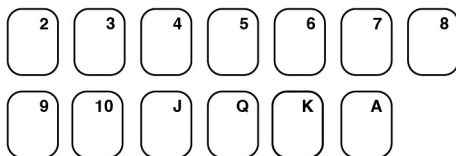
Each player is dealt two private "hole cards." Look at your cards and take care not to show them to anyone else.

There will be five "community cards" that will eventually be revealed. Your objective is to make the best five-card hand, using any combination of the seven (5+2) cards that you are able to see.

Your best five-card hand may use both, one, or none of your hole cards. Each five-card hand is ranked below; the hand you play is automatically the best one you're able to make.

| A | | | | | **#1 High card** |

| A | A | | | | **#2 Pair** |

| A | A | K | K | | **#3 Two pair** |

| A | A | A | | | **#4 Three of a kind ("trips"/"set")** |

| 10 | J | Q | K | A | **#5 Straight (sequential cards)** no wraparounds, except A2345 |

| ♠ | ♠ | ♠ | ♠ | ♠ | **#6 Flush (all same suit)** |

| A | A | K | K | K | **#5 Full house ("boat")** pair + three of a kind |

| A | A | A | A | | **#8 Four of a kind ("quads")** |

| ♠9 | ♠10 | ♠J | ♠Q | ♠K | **#9 Straight flush** |

Ties are broken by number, usually first by the special cards (i.e. the ones in the pair, trips, etc), then by the kickers (all the other cards, in descending order).

Ex. AA345 > AA234 > KK9JQ

There are scenarios in which players have hands of exactly equal strength, in which case the pot is split in half ("chopped"). Remember, only five cards in a hand!

Ex. Player who can see AAKK765 plays the hand AAKK7; "chops" with player who can see AAKK732 playing AAKK7.

THE FIRST ROUND: PRE-FLOP

Blinds: the person sitting to the left of the dealer button must put in a small blind (1/200th of the buy-in) before looking at their cards. The person sitting to the left of the small blind must put in a big blind (1/100th of the buy-in) before looking at their cards.

Action: the person to the left of the big blind, the UTG, acts first. They can either call, fold, or raise.

Call: match the existing bet (the big blind)
Fold: forfeit (push your cards face-down to the middle)
Raise: match the existing bet, and add more money to the pot

After the UTG acts, the next person to the left goes. They can **call** the current bet (including whatever the UTG raised), **fold**, or **raise**.

Play continues until action reaches the last person to raise. If you raised, and someone re-raised you, you can raise again. Otherwise you do not have the option to raise again.

Note that the small blind and big blind only have to put in whatever additional money is required to *match* any raises. If no one raised, the big blind has the *option* to **check** (put in no money) or **raise**.

FLOP, TURN, RIVER

After pre-flop betting is complete, one card is discarded ("burned"), and three community cards ("the flop") are revealed. Action starts with the small blind player. They may check or raise.

Check: add no money (tap the table)
Raise: add more money to the pot

Players can continue to check until the first person raises, at which point players can **call**, **fold**, or **raise**.

After post-flop betting is complete, one card is burned and one community card ("the turn") is revealed. Another round of betting occurs.

After turn betting is complete, the last community card ("the river") is revealed. A final round of betting occurs.

WIN THE CHIPS

If everyone but one player folds, the last player standing automatically wins the hand. Nobody needs to reveal their hole cards.

If more than one player is in the game post-turn, all players reveal their hole cards ("showdown"), and the player with the best hand wins the money in the pot.

START PLAYING

Sit down at a table. Yale Poker Club has tables ranging from free (play-money) to $200 buy-in.

If your table is using online banking, please add your name to the ledger using the QR code below.

Scan to join a table
play.yalepokerclub.com

No Limit Texas Hold'Em Elementary Strategy

WHAT DO MY OPPONENTS HAVE?

Don't just think about what five-card hand you can make; think about what hands your opponents can make with the community cards! Based on the way your opponent bets, try to guess what hole cards they might have (their "range").

Note that your hole cards may "block" your opponents' hole cards. So if you have an A, your opponent is less likely to also have an A since there are only four A's in a deck.

COUNTING OUTS

"Outs" are cards that, if revealed as a community card, would make your hand the (likely) winning hand.

Ex. If my hole cards are 45 and flop is 36K, my outs are 2 (x4) and 7 (x4) because that would make a straight. I have 8 outs.

Trick for rough estimation:
(# outs) * 2 = % chance an out arrives on next card
(# outs) * 4 = % chance an out arrives in next two cards

Ex. If I have 8 outs, there's an approximately 32% chance one will arrive in the next two cards (and I will likely win).

POT ODDS

If the pot is $100, then your opponent bets $20, and you're deciding whether to call the $20, you can calculate:

Potential earnings: $100 + $20 + $20 = $140
Must pay $20 to stay in a $140 pot = 20 ÷ 140 = 14% pot odds

If your chance of winning ("showdown equity") is greater than the pot odds, call. Otherwise fold!

IMPLIED ODDS

If you don't have a good hand now, but hitting an out would likely make your hand the best, you're on a "draw." If you do end up hitting your out, you'll have the best hand and will be able to extract more money from your opponents once your hand is "made."

Due to this possibility, you should err on the side of calling/raising when you calculate your equity vs. pot odds. If you don't hit, you fold and lose little, but if you hit, you win big!

BETTING STRATEGIES

Always bet based on a percentage of the current pot, since your opponents are also calculating pot odds!

30%: small-size bet
50%: medium-size bet / value bet
100%: overbet / polarizing

Value bet: when you think you have the best hand, bet small to milk your opponents for money, and prevent them from folding. Make worse hands call and better hands fold!

Polarizing: sometimes you can bet large to "polarize" your range, i.e. your opponent thinks you're either bluffing or have a really good hand, but can't tell which.

Trap check: if you immediately make a good hand when the flop comes out, you can try checking so your opponent doesn't get information about your hand.

Switch it up: game theory-optimal play recommends you switch up your gameplay so your opponents can't detect patterns and "exploit" you.

REPRESENT!

If you bet big pre-flop, others will think you're likely to have premium hands like AK, KQ, pocket pairs, etc. (these hands are "in your range").

Be conscious of how the board connects with your perceived range; e.g. if a 246 flop comes out when you bet big pre-flop, the flop is "not in your range" and it would be suspicious to bet big post-flop.

PRE-FLOP RANGE

You should fold most (~80%) hands pre-flop. You can play more hands ("have a wider range") if:
- You are playing with less players at your table
- You are "in position"—i.e. you are one of the last to act

A selection of range tables, specifying how to play each hand pre-flop, are to follow.

QUANTITATIVE FALLACIES

Gambler's fallacy: previous outcomes do not affect present outcomes. "I haven't been dealt an A in so long, one must be coming!" or "She just got dealt AA, there's no way she has it again."
*note that this doesn't apply within one hand, since a deck only contains 4 As, 13 spades, etc.

Sunk cost fallacy: don't stay in a hand because "I already put so much money in!" Make decisions at the margin.

Outcome bias: if you folded a bad hand, and ended up randomly hitting a flush/straight/trips after you folded, you still made the correct action with the information you had at the time.

Loss aversion: Failing to win $10 is just as bad as losing $10, but the latter psychologically feels worse. Don't start playing loose when you're up!

RANGE TABLES

A handy guide on what hands to play pre-flop. Assumes you're playing at a table with 7 opponents, and no one has raised yet.

Your pre-flop range should vary based on what "position" you are relative to the dealer button, since acting later gives you more information.

Red means raise! Professional players almost never "limp", i.e. just call the big blind. White means fold.

Left: Pre-flop 8-handed range table for UTG (first to act)
Right: Pre-flop 8-handed range table for small blind–although action will rarely limp around to the SB.

You can interpolate the ranges for other positions in your head.

UTG Open — 9.3%

AA	AK	AQ	AJ	AT	A9	A8	A7	A6	A5	A4	A3	A2
AK	KK	KQ	KJ	KT	K9	K8	K7	K6	K5	K4	K3	K2
AQ	KQ	QQ	QJ	QT	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2
AJ	KJ	QJ	JJ	JT	J9	J8	J7	J6	J5	J4	J3	J2
AT	KT	QT	JT	TT	T9	T8	T7	T6	T5	T4	T3	T2
A9	K9	Q9	J9	T9	99	98	97	96	95	94	93	92
A8	K8	Q8	J8	T8	98	88	87	86	85	84	83	82
A7	K7	Q7	J7	T7	97	87	77	76	75	74	73	72
A6	K6	Q6	J6	T6	96	86	76	66	65	64	63	62
A5	K5	Q5	J5	T5	95	85	75	65	55	54	53	52
A4	K4	Q4	J4	T4	94	84	74	64	54	44	43	42
A3	K3	Q3	J3	T3	93	83	73	63	53	43	33	32
A2	K2	Q2	J2	T2	92	82	72	62	52	42	32	22

Raise

SB Open — 40.4%

AA	AK	AQ	AJ	AT	A9	A8	A7	A6	A5	A4	A3	A2
AK	KK	KQ	KJ	KT	K9	K8	K7	K6	K5	K4	K3	K2
AQ	KQ	QQ	QJ	QT	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2
AJ	KJ	QJ	JJ	JT	J9	J8	J7	J6	J5	J4	J3	J2
AT	KT	QT	JT	TT	T9	T8	T7	T6	T5	T4	T3	T2
A9	K9	Q9	J9	T9	99	98	97	96	95	94	93	92
A8	K8	Q8	J8	T8	98	88	87	86	85	84	83	82
A7	K7	Q7	J7	T7	97	87	77	76	75	74	73	72
A6	K6	Q6	J6	T6	96	86	76	66	65	64	63	62
A5	K5	Q5	J5	T5	95	85	75	65	55	54	53	52
A4	K4	Q4	J4	T4	94	84	74	64	54	44	43	42
A3	K3	Q3	J3	T3	93	83	73	63	53	43	33	32
A2	K2	Q2	J2	T2	92	82	72	62	52	42	32	22

Raise