

## POKER HANDS WITH DUAL VALUE PLAYING CARDS

Clever Playing Cards publishes two decks of Dual Value Playing Cards, the “Blue” deck and the “Red” deck. Additionally, a “Green” deck is available in the High and Low Poker iPad App<sup>1</sup>. The difference between the decks is the pairing of the primary suits and values to the secondary suits and values. For example, the 9 of Spades is paired with the 10 of Diamonds in the Red deck, the 2 of Clubs in the Blue deck, and the 6 of Hearts in the Green deck.

Since there are different pairings in the various decks, the likelihood of being dealt certain poker hands changes depending on which deck is used. As can be seen in the table below, all of the Dual Value Playing Card decks yield a higher likelihood of getting a better hand than a normal Single Value card deck. This is due to the player being able to choose either value to play on each card. This makes for a more exciting game. There are relatively few hands (1% to 2% of the hands) where you’re stuck with just a High Card as your hand if you are using Dual Value Playing Cards, as compared to approximately 50% if you are using a Single Value card deck.

5-Card Stud Hand Combinations Counts<sup>2</sup>

Hand	Single Value	641 - Blue	137 - Red	016 - Green
Royal Straight Flush	4	96	120	128
Five of a Kind	0	658	728	763
Straight Flush	36	870	992	846
Four of a Kind	624	36985	40024	40865
Full House	3744	154706	169660	175286
Flush	5108	113394	161306	109384
Straight	10200	180399	198286	200411
Three of a kind	54912	418239	421863	439995
Two Pair	123552	847828	887784	922589
One Pair	1098240	792454	685139	679308
High Card	1302540	53331	33058	29385
TOTAL: 2598960	2598960	2598960	2598960	2598960

<sup>1</sup> Three different decks of Dual Value Playing Cards have been created so far. Officially, they are Series 137, Series 641, and Series 016. They are more commonly referred to as the Red deck, the Blue deck, and the Green deck, respectively, based on the color of their backs. The Red deck ships with the Think Ahead game, and the Blue deck ships with the High and Low Poker game. The printed decks are of high quality with a linen finish. The Red deck is used in the iPad/iPhone App [Think Ahead!](#), and the Blue deck is used in the iPad App [High and Low Poker](#). The Red deck and the Green deck are both also available within the High and Low Poker App as well.

<sup>2</sup> Even though hands are usually ranked highest to lowest based on increasing likelihood of achieving that hand, the hand rankings for the Blue, Red and Green decks follow the normal Single value deck hand rankings.

With regard to our High and Low Poker App for the iPad, the number pairings have a more direct impact on the low hand, in particular, the occurrence of duplicate number pairings. For example, in the Blue deck, there are two different cards that have a K as the primary value and a 4 as the secondary value. There are also three different cards that have a 9 as the primary value and a 6 as the secondary value. In total, there are 11 such sets of cards that exhibit this trait in the Blue deck. The Red deck was constructed with fewer such pairings, and there are only seven such pairs of cards with this trait. For example, the 8 of Spades / 5 of Hearts, and the 8 of Clubs / 5 of Spades have this trait in the Red deck. The Green deck was specifically put together so that there would be NO such pairings; every card has a different combination of numeric values.

The end result of duplicate number pairings is a stronger low poker hand than is normally desired. To use the Blue deck example again, arranging your cards to make a Three of a kind in 9's in your high hand gives you an unusually strong low hand with a Three of a kind in 6's. The player must decide if they want to try to rearrange cards to balance their odds of winning both the high and low hands or to leave the high and low hands as they are.