

## [Illustrative Mathematics](#)

### K.CC Five by Two

#### [Alignment 1: K.CC.A](#)

#### Materials

The students will need a deck of playing cards including some of the face cards. It is a good idea to remove the extra symbols from the 2-10 cards with whiteout and change the Ace to a 1. Alternatively, the teacher can make cards 1-10 using 3 by 5 index cards; four of each numeral will be needed.

#### Rules of play

- Player One passes out 10 cards to each player; the remaining cards go face down in the middle of the table for a draw pile.
- Without looking at the cards, each student arranges their 10 cards face down in two rows of five cards, one above the other (in a 5 by 2 array).
- Player One draws a card from the draw pile. If it is a face card, the student discards it next to the draw pile. If it is a number card from 1-10, they replace one of the cards in their array of cards by placing it in the correct sequential place. The card that was removed from the array is placed face-up in the discard pile.

1	2	3	4	5
6	7	8	9	10

From that point on, that player is collecting whatever color of card (red or black) they drew in the first pick.

- The student turns over the card he or she just replaced and plays it in the correct sequential place (if that space is available) or discards it next to the draw pile. The student continues trying to place cards until he or she can't, and then it is the next player's turn.
- Player Two draws a card or picks one up from the discard pile and places that card if possible, that card tells the color they are now collecting. Player Two continues placing cards in the same way as Player One did until he/she cannot. Play continues on until one player has all ten cards in order with the correct color face up in front of them.

This game is best played with 2-3 players and only 2 people can select red or 2 people can select black. With 3 players two can be red and one can be black or vice versa.

Commentary:

- This game will reinforce number before and after as well as reading and sequencing numbers.
- This is good to do initially as a committee activity in a small group until students get the hang of the set up and rules. It is also fun to teach to parents or siblings so it can be played at home.
- Another version of this game is to lay the cards out in a line like a number line instead of a ten-frame.
- For an extended version the teacher can make cards 10-20 using 3 by 5 index cards; four of each numeral will be needed.

Solution: Solution

One player will have either all red or all black cards in order from 1-10 in two rows (1-5, 6-10), face up in front of them.

For example, suppose three students are playing the game. Player One draws a red 5 and places it in the 5th spot in his first row of cards. The card he picks up from that spot is a red 3 so he places it in the 3rd spot of his first row of cards. The card he picks up from that spot is a red Queen so he places that face up in a discard pile next to the draw pile and his turn is over. Player Two draws a card and gets a red 8 so places it in the eighth spot in her second row of cards. The card she picks up is a black 9 so she discards the 9 and her turn is over. Player Three can draw a card or pick up the black 9. Both other players are already red so the third person will have to be black. Player Three picks up the black 9 from the discard pile and places it in the 9th spot of the second row of her cards. The card she picks up is a black 4 so she places it in the fourth spot of her first row of cards. The card she picks up is a red 2 so she places it in the discard pile. Play continues until one player has all ten cards of one color in the correct order.



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