FRACTION WAR

Level	3 (Age group 11-14)
Resources Required	Deck of cards
Alternate Options for the Resources	See images section below for example number cards. To create the number cards, an adult is to: 1. Cut up 10 squares of paper to the size of half their palm 2. On each paper write the numbers 1-10 3. Each player should have 1 set of 10 cards
Strand Covered	Numbers and Operations
Targeted Skills	Comparison of fractions
Inspired by	Julia Robinson Mathematics Festival - Gordon Hamilton
Time Required	30 min (for game) 30 min (setup)
Previous Learning Required	Knowledge of numbers 0-20 Knowledge of the definition of fraction, numerator, and denominator
Support Required	Low supervision

Rules of the Game:

Goal	The player who ends up with all of the cards wins.

Steps	Step 1: The teacher creates a deck of number cards so that there are 10 number cards per player.
	Step 2: The teacher groups all players into pairs.
	Step 3: The teacher gives each player 10 cards face down in a stack. Players should not look at their cards.
	Step 4: Once all of the materials are handed out, pairs can start playing the game.
	Step 5: In each pair, both players flip the top two cards of their decks face-up.
	Step 6: Players create a fraction out of the two numbers they flipped over (e.g. 5 / 6) . The numerator should be smaller than the denominator. In the case that both numbers are the same, it does not matter which number is the numerator and which is the denominator.
	Step 7: Players compare the fractions they created. The player who has created the larger fraction collects all 4 cards and places them on the bottom of their deck. If both fractions are equal to each other, then both players take back their 2 cards and place them on the bottom of their respective decks.
	Step 8: Repeat Steps 5-7 until one player has all 20 cards. This player is the winner of the game.
	Step 9: Either have players play this game until every pair finishes one round of this game, or have players continue to play for a given amount of time (e.g. 30 minutes). In the latter case, after a player has won a round of this game, repeat Step 3 and Steps 5-8.
Images or Illustrations	Example of number cards:

1	2	3	4	5
6	7	8	9	10

Enrichment	- Have players play this game with more than 10 cards. - Have players play this game with cards with larger numbers. - Have players flip 4 cards face up and create two fractions. The player with the largest fraction takes all 8 cards and places them on the bottom of their deck.
Simplification	- Have players play this game with fewer than 10 cards. - Have players play this game with cards with smaller numbers.