



Digits and Decimals

Strands:

Number & Quantity	X
Algebra	
Functions	
Geometry	
Statistics & Probability	

Materials:

- Two sets of playing cards with Kings, Jacks, Tens, and Jokers removed
- Three circular playing chips (e.g. penny) per player
- One six-sided die
- Writing utensils and surfaces for each player

Where:

Outside	
Inside	X
On-line	
On-site	

Be the player whose final number is closest to the target number by using addition or subtraction and the rearrangement of your digits.

Set-Up:

- Separate the black cards from the red cards into 2 playing decks. Remove the Kings, Jokers, Jacks, and Tens. Black cards represent positive numbers, red cards represent negative numbers, Aces = 1, Queens = 0.
- Distribute 3 pennies or chips to each player.

Object of the Activity: Given a set amount of digits, rearrange the digits to create different numbers, and add and subtract multi-digit numbers.

Playing the Game:

1. From the black playing cards, turn over the first 5 cards and place them from left to right in the middle of the playing surface so all players can see. This is the target number.
2. Roll the die. The number on the die determines the position of the decimal in the target number, with 1 being the far left, 6 being the far right.
3. Deal 5 black cards to each player.
4. Using a chip or penny as a decimal point, players rearrange their 5 black cards to obtain a number as close as possible to the target number formed in Step 1. Each player may choose where to place the decimal point in the number.
5. The winner of the round collects one penny or chip from each of the other players.
6. Repeat as time allows. The player who collects the most pennies or chips is the winner.

Variations:

Intermediate: Play in the same way as above with these exceptions:

- Deal each player 7 black cards and 7 red cards. Black cards represent positive integers and red cards represent negative integers.
- Create a positive number using black cards and a negative number using red cards. Add the two numbers to get as close as possible to the target number.

Advanced: Play as in the intermediate level with these exceptions:

- The dealer draws 5 black cards and 5 red cards then rolls the die twice. The first roll determines the location of the decimal point in the positive number. The second roll determines the location of the decimal point in the negative number.
- The target number is the sum of the positive number and the negative number. Players must calculate this number as the first step of the game.