Fifth Grade Math Card Games

◆**Percent Flash**
Topics: Decimals & Multiplication

◆**Simplify It!**
A Fraction Card Game

◆**Power Play**
Topics: Algebra & Functions

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Percent Flash

by William L. Gaslin, Charles Lund, & Martin M. Gaslin
Topics: Decimals, Multiplication

Practice percentages in this competitive card game! Race to calculate the answer as cards are flipped over. For each correct answer you give, you'll earn a card. Whoever earns the most cards, wins!

You may work out percentages with a calculator or with pencil and paper. A calculator is a great tool for understanding the process of finding percent, whereas the pencil and paper method will help with computation practice. You can decide which method suits you best.

Math Review:

When calculating percent, keep in mind that a percentage is a fraction, or part, of a whole. For example, 50% is equal to 0.50, and %17 is equal to 0.17. In order to find the percent of a number, you will first need to convert the percentage you are using into decimal form, then multiply it by that number. For example, 50% of 4 is 0.50 x 4.

What You Need:

- One deck of playing cards
- Calculator *or* pencil and paper (for every player)

What You Do:

1. Shuffle the cards and place the deck face down in the center of the playing area. Distribute paper and pencils (or calculators) to every player.
2. Decide on a percent for the first game. For our example, we'll use 50%. (For first time players, 50%, 10% or 1% are good choices, as they can be simpler to solve with.)
3. Turn over the top card. Players race to find the given percentage (e.g. 50%) of the value of the card. (Let's say it is a four of hearts.)
4. The first player that can give a correct answer wins the card. (In our example, 50% of 4, the answer would be "2".)
5. Play until the deck is depleted or time runs out. The player with the most cards wins.

Variations:

- Allow the winner of each round to determine the percent used for the next round.
- Remove the face cards from the deck in order to simplify the solving process.
- Create a challenge. Distribute the cards evenly among the players. All players must keep their cards face down in a pack. Players simultaneously turn over one card from their pack and place it in the center of the playing area. The first player that can find the sum of the cards and then find the given percent takes all of the cards.

Simplify It!: A Fraction Card Game

by William L. Gaslin, Charles Lund, & Martin M. Gaslin
Topics: Fractions
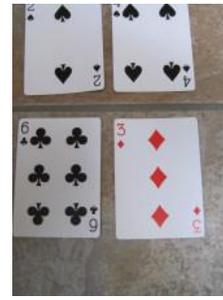
Race to simplify fractions in this fast-paced, two-player game! All you need to play is a deck of cards, paper and pencils. Shuffle the cards, and you're ready to get started. You'll work with your partner to create fractions. Find the simplest form first to earn cards and win the game.

Simplifying fractions is an essential skill for every math student in the fifth grade or higher. Students need continued practice with simplification in order to successfully add, subtract, multiply and divide fractions. Play this game again and again and work towards mastering this important concept!

Terms to Know:

- *numerator*: the number above the line in a fraction; indicates the number of parts being considered
- *denominator*: the number below the line in a fraction; indicates the total number of parts in the whole
- *simplest form*: the form of a fraction in which the numbers used are as small as possible; found by dividing both the numerator and denominator by the same number

What You Need:

- Deck of playing cards
- 1 game board (a piece of paper with a horizontal line drawn across the center, to represent a fraction bar)
- Scratch paper and pencils (optional)

What You Do:

1. Remove all of the face cards from the deck, then shuffle it.
2. Distribute the deck evenly between two players. Players should place their mini-decks face down in front of themselves.
3. Play begins by having the players simultaneously turn over two cards each and place them on the game board. Each player should place one card above the fraction bar, to represent the *numerator*, and one card below the fraction bar, to represent the *denominator*. There should be two cards above and two cards below - four cards total.
4. The first player to correctly simplify the fraction shown by the cards wins all four cards. If a tie results, split the cards evenly.
5. Play continues until one player has accumulated all of the cards or time is up. The player with the most cards wins.

Power Play

by William L. Gaslin, Charles Lund, & Martin M. Gaslin
Topics: Algebra & Functions

Exponents can be tricky at first, and this game provides plenty of practice! Draw from a deck of cards to find your numbers. Create a problem using exponents, then use a calculator or scratch paper to work out the answers. Help one another out if someone gets stuck. Try to create problems that result in the largest products. If you do well, you'll win! You'll be working on multiplication and improving your understanding of exponents at the same time!

Term to Know:

exponent: shows how many times the number is to be used in multiplication; it is written as a small number at the upper right of a base number (e.g. 3^4 = 3 x 3 x 3 x 3, which computes to 81.)

What You Need:

- One deck of cards
- Calculator or scratch paper and pencil
- Paper and pencil (for recording scores)

What You Do:

1. Players take turns drawing cards from a well-shuffled deck. Then, they use the two numbers they've drawn to create a problem with exponents. (For example, if they drew a 3 and a 4, they could create the problem 3^4 or 4^3.) Keep in mind, aces = 1, jacks = 11, queens = 12, and kings = 13.
2. Players may solve these problems using a calculator or scratch paper. (A calculator will put the focus on the skill, whereas scratch paper puts the focus on the computation.)
3. Record totals for each round. At the end of 5 rounds, add the totals up to see who's won!

Variations:

- Require players to use the smaller number as the exponent, or the larger.
- Play for the smallest total.

Choosing the Best Average

by William L. Gaslin, Charles Lund, & Martin M. Gaslin
Topics: Probability & Statistics,

Practice finding the *mean,* or average, of different data sets in this math card game. It's a great way to work on division and improve your fifth grader's understanding of statistics. All you need is a deck of cards, a score sheet, and a pencil, and you'll be ready to play! You'll find that, through practice, your child will become comfortable with finding the mean of a set of numbers. Check out the variations at the bottom of the page for ideas on how to adapt this game to practice other statistics concepts.

Term to Know:

mean: the average of a set of numerical data; found by finding the sum of the elements, then dividing by the number of elements (For example, in a data set of 1, 4, 3, 6, and 1, the mean would be 1 + 4 + 3 + 6 + 1 = 15 / 5 = 3.)

What You Need:

- One deck of playing cards
- *Choosing the Best Average* record sheets
- Pencil
- Calculator (optional)

What You Do:

1. Shuffle the deck and deal 7 cards to each player.
2. Players record the value of their cards. For the purposes of this game, aces = 1, jacks = 11, queens = 12, and kings = 13.
3. Next, players find the *mean* of their cards. This is done by adding up the values of all 7 cards, then dividing by 7. (You may use a calculator for this step, if you'd like.)
4. Players record their mean on the record sheet.
5. Play continues for 10 rounds. At the end of 10 rounds, players should add up all of their means, then find its mean by dividing by ten.
6. The player with the highest final score wins.

Variations:

- Simplify the scoring. Award a player either 1 or 0 points for each round, depending on whether or not they had the highest mean.
- Change the number of cards used in each round.
- Calculate *median*, or the number that falls exactly in the middle when the data is arranged in numerical order, instead of mean.
- Calculate *mode*, or the number that occurs the most. If there are multiple modes in a data set, the mean, or average, is taken from the total of the modes.
- Allow players to choose either the mean, median, or mode as their score for each round.
- Change the scoring so that each round is worth a letter in the word AVERAGE. In this variation, the first player to spell the entire word wins.

Choosing The Best Average

Name_____

Round	Score
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Final Score	

Name_____

Round	Score
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Final Score	

Name_____

Round	Score
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Final Score	

Name_____

Round	Score
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Final Score	

Name_____

Round	Score
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Final Score	

Name_____

Round	Score
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Final Score	

Card Pick Up

by William L. Gaslin, Charles Lund, & Martin M. Gaslin
Topics: Probability & Statistics

Use a deck of playing cards to improve math reasoning skills! This two-player game requires logic and critical thinking. If your child likes puzzles, this activity will be a big hit!

The goal of *Card Pick Up* is to try to control the outcome of a game through simple decisions. You will need to assess all of your possible moves along with the other player's strategy in order to win. This is a wonderful way to hone reasoning skills with elementary school learners, and have fun doing it.

What You Need:

- One deck of cards

What You Do:

1. Remove one suit, ace through jack only, from the deck. Lay out the cards, face up, in order, in a row (ace on one end, jack on the other).
2. Players take turns removing 1-2 cards each time. Cards must be removed from least to greatest, in order. (For example, the first player could take the ace and 1, the second player could take the 2, the first player could then take the 3, and so on.)
3. The player who takes the last card wins!

Want to add some challenge? Add a card or two to the line-up by playing with the ace through queen, or ace through king of a suite. Or, for an even more complex game, use all four suits and line them up separately, allowing players to take 1-2 cards from any line-up on each turn. It's like playing four games at once!

Whichever version you play, be sure to talk to your child about the outcome. What moves led to her winning or losing? What could a player have done differently to adjust the outcome? Just as in tic-tac-toe, there's strategy and probability involved.