

**Title:** Fraction Reaction

**Grade Ranges:**

   X    K-4

   X    5-8

      9-12

**Subject Tag:**

Math: Basic Math

**Synopsis:**

To close a fractions unit or to keep students' skills sharp, introduce "Fraction Reaction," a card game for two players and a dealer. The object of the game is to identify more pairs of equivalent fractions than the other player.

**Keywords:**

equivalent, dealer, fractions, card games, math games

**Body:**

1. To close a fractions unit or to keep students' skills sharp, ask students to identify five groups of four equivalent fractions on their own paper. Allow students to exchange papers and check each other's work.
2. After making any necessary revisions, each student should make 20 cards — one card for each fraction they have on their piece of paper. These cards will make up a deck necessary to play Fraction Reaction, a card game for two players and a dealer. The object of the game is to identify more equivalent fractions than the other player.
3. Teach students the rules of the game.
  - Setup: In a deck of 20 cards, there should be five groups of four equivalent fractions (ex.  $3/5$ ,  $6/10$ ,  $12/20$ ,  $24/40$ ). Players play four rounds per game. Players likely will need pencils and scrap paper during play.
  - Each round begins with the dealer dealing a single "go card," such as  $3/5$ . During the round, as more cards are dealt one at a time, players look for cards equivalent to the go card. When a player sees a card equivalent to the go card, such as  $6/10$ , the player slaps the equivalent card. The first player to slap the equivalent card wins the card. When a player slaps a card that is not equivalent to the go card, such as  $6/8$ , the player must give a card to the dealer. If the player does not have any cards to give up, the game simply continues.
  - Each round ends after the three cards equivalent to the go card have been slapped. Players may not recognize an equivalent fraction when it comes up; thus, they may go through the entire deck without finding all three equivalent cards. Should this occur, the dealer shuffles the cards and goes through the deck again. Play continues until the dealer has only four cards.

- Although each deck includes enough cards to play five rounds, little sport would come from playing a round in which all the cards are equivalent. Therefore, the game ends when the dealer has four cards.
4. Model a round with volunteers.
  5. Allow groups of three to play independently. Once someone wins, the dealer becomes a player and the last game's loser deals. Because each student makes an entire deck (in Step 2), have groups switch decks for each game and periodically swap decks with other groups. You can also have students combine decks for a greater number of equivalent fraction groups per game.
  6. When time allows, let each group play a six-game Fraction Reaction tournament. (In six games, all three students play four times and deal twice.) One or two students likely will win a majority of the games. If two students win a majority of games, they play a tie-breaking round. If no student wins a majority of games, ask students to draw straws or pick a number between one and 10.
  7. You may want to organize whole-class Fraction Reaction tournaments during which the top winner in each group plays top winners from other groups, until there is a class champion.

**Features:**

- Contains special education tips
- Quick Activity (less than 30 minutes; story starter)
- Requires Internet access for students to complete

**Objective:**

Students will practice making equivalent fractions through playing a card game.

**Standards:**

**NY: 3.2:** Students use number sense and numeration to develop an understanding of the multiple uses of numbers in the real world, the use of numbers to communicate mathematically, and the use of numbers in the development of mathematical ideas.

**NYC: A5a.** Work with others to complete a task. **M1c.** Describes and compares quantities by using concrete and real world models of simple fractions.

**CT: 1.** Number Sense. Students will use numbers to count, measure, compare, order, scale, locate and label, and use a variety of numerical representations to present, interpret, communicate and connect various kinds of numerical information.

**NJ: 4.1:** All Students Will Develop The Ability To Pose And Solve Mathematical Problems In Mathematics, Other Disciplines, And Everyday Experiences. **4.2:** All Students Will Communicate Mathematically Through Written, Oral, Symbolic, And Visual Forms Of Expression. **4.6:** All Students Will Develop Number Sense And An Ability To Represent Numbers In A Variety Of Forms And Use Numbers In Diverse Situations.

**Prerequisite Skills:**

1. knowledge of multiplication and division facts
2. ability to identify numerators and denominators

**Time Required:**

1. Each round of Fraction Reaction should take 3-5 minutes.
2. The card-making activity should take 30-45 minutes.

**Technology and Materials Needed:**

1. large index cards
2. student markers
3. scrap paper
4. pencils

**Assessment Criteria:**

1. Given two fractions, can students identify whether the fractions are equivalent?

**Recommended Lesson Plan Review Date:****Review Comments:**