

Fraction Card Games

Common Core Standard:

Extend understanding of fraction equivalence and ordering.

4.NF.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.

Additional/Supporting Standards:

4.NF.1 Extend understanding of fraction equivalence and ordering

Standards for Mathematical Practice:

2. Reason abstractly and quantitatively
6. Attend to precision
7. Look for and make use of structure

Student Outcomes:

- I can compare two fractions with different numerators and/or denominators
- I can recognize equivalent fractions

Materials:

- Fraction Cards sets (1 set/pair) 38 cards in the set

Advance Preparation:

- Copy Fraction Cards on cardstock
- Consider how you will group students
- Students need to be familiar with fraction benchmarks such as $\frac{1}{2}$
- Students need to understand fractions as parts of whole
- Students need to be familiar with finding equivalent fractions
- Students need to understand the larger the denominator, the smaller the parts

Directions:

Game 1: Concentration (2-3 students)

- Deal cards face down in five rows
- Players take turns turning over two cards at a time
- If the fractions are equivalent, the student keeps the pair
- The winner is the person with the most cards

Game 2: Go Fish (2-3 students)

- Deal five cards to each player, stack the rest of the cards in the middle of the table
- The object is to get pairs of equivalent fractions
- At each turn players may ask others in the group for a certain fraction
- As long as someone gives the person a card, the player may keep asking

- When no one has an equivalent fraction to give the player, the person ‘goes fishing’ by drawing from the deck
- At end of game, the player with the most pairs wins

Game 3: War (2 students)

- Cards are divided between two players
- Each player lays down 1 card
- Players decide which fraction is greatest
 - Players may create common denominators
 - Compare to a benchmark fraction such as 0, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1
- Player with the largest fraction picks up both cards
- If fractions are equivalent, players lay down a second card and compare
- At the end of the game the player with the most cards wins

Questions to Pose:

As students are playing games:

- What strategies are you going to use to figure out the value of the fraction?
- How might drawing a picture be helpful
- Give me an example of a fraction that is less than... greater than... equivalent to...?
- Describe the method you used to compare the fraction? Explain why it works?
- Is your fraction close to a benchmark? How can you tell?
- What are the benefits of using a common denominator to compare fractions?

Possible Misconceptions/Suggestions:

Possible Misconceptions	Suggestions
Students have difficulty seeing equivalent fractions	Students work with models such as pattern blocks, fraction strips, fraction circles and number lines to explore equivalent fractions, 1 blue parallelogram is $\frac{1}{3}$ and 2 triangles are $\frac{1}{3}$ of a hexagon
Students do not use benchmark fractions when comparing fractions	As teacher circulates to monitor student understanding, ask: Is your fraction close to a benchmark number? How can you tell? Give student different lengths of paper strips. Student folds in half then fourths. Student labels strips with 0, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1
Students have difficulty comparing fractions with different denominators	Work with student to find common denominators when comparing fractions

Special Notes:

Games need to be played multiple times. Classroom discussions after students play games should focus on strategies for efficiently comparing fractions using common denominators and benchmarks.

Solutions: N/A

$$\frac{2}{8}$$

$$\frac{3}{12}$$

$$\frac{6}{12}$$

$$\frac{4}{6}$$

$$\frac{8}{12}$$

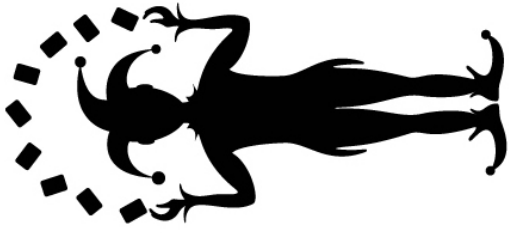
$$\frac{4}{12}$$

$$\frac{2}{6}$$

$$\frac{5}{10}$$

$$\frac{2}{10}$$





$$1 \frac{\quad}{10}$$

$$1 \frac{\quad}{8}$$

$$3 \frac{\quad}{4}$$

$$9 \frac{\quad}{12}$$

$$6 \frac{\quad}{8}$$

$$2 \frac{\quad}{5}$$

$$1 \frac{\quad}{6}$$

$$7 \frac{\quad}{8}$$

$$2 \frac{\quad}{12}$$

$$\frac{1}{12}$$

$$\frac{1}{2}$$

$$\frac{1}{3}$$

$$\frac{1}{4}$$

$$\frac{2}{3}$$

$$\frac{1}{5}$$

$$\frac{4}{10}$$

