



# Game On!

## 8 Fraction Game Ideas to Try in Your Classroom

Make fraction time fun with interactive strategies that engage students and reinforce understanding. **Game-based learning** and **gamification** are useful tools for effective instruction, with different benefits and limitations. What's the difference between the two?

**Game-based learning (GBL):** *Students learn by playing a game, not just while playing a game.*

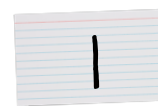
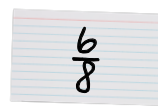
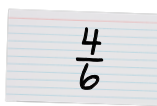
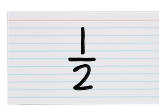
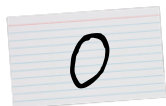
- Integrates the learning content into game elements to promote active engagement, motivation, and deeper exploration.
- Powerful effect on cognitive engagement, deeper conceptual learning, and skill acquisition.
- Self-reinforcing nature: Students learn by playing and become better players by learning!
- Often more suited for a narrow curricular focus—not universally applicable to all concepts.

**Gamification:** *Game elements are layered on top of more traditional instructional practices.*

- Separation between the game and the learning content— learning is “extrinsic” to the game.
- Less time intensive and can provide quicker classroom “wins.”
- Very effective at promoting extrinsic motivation, but not as likely to promote intrinsic motivation.
- Easier to use across a wide spectrum of activities, but gamification has not been demonstrated to have the same impact as GBL.

### Game-based Learning Examples:

1. **Guess the Fraction:** Two students each place a card with a fraction on their forehead so that everyone else can see the number, but they cannot. A third student looks at both fractions and tells the pair the sum (or product) of their two fractions. Each student then tries to figure out their own number by looking at their partner's number and using the given clue (sum or product).
2. **Number Line Teamwork:** Start with a set of cards, each with a fraction between 0 and 1, including benchmarks like  $\frac{1}{2}$ ,  $\frac{4}{6}$ , and  $\frac{6}{8}$ . Each player has a blank number line, and players take turns placing a drawn fraction where they think it belongs. The other player must agree with the placement; if not, they explain why it's incorrect, and the card is returned. Play until all cards are placed or no more moves are possible. The player with the most correctly placed fractions wins.



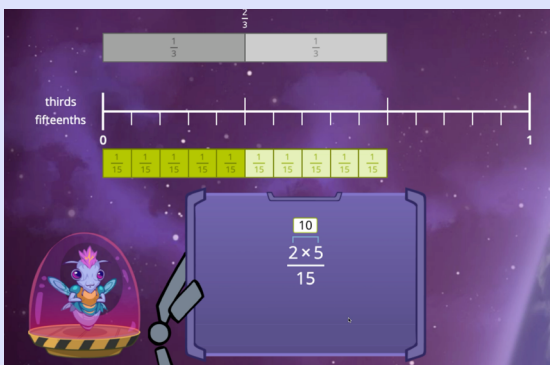
- Greater-Than Showdown:** Place a stack of cards (each with a different fraction) face up in the middle of the table, and have players take turns. One player selects a fraction card, and the other player decides whether the next card must be “greater than” or “less than.” The first player must find a fraction that fits the condition; if they can’t, their turn ends, and the next player starts with a new card. Continue until all cards are used. The player with the most correct matches wins.
- Human Number Line:** Get students moving as they practice placing fractions on a number line with index cards—perfect for quick breaks before dismissal or lunch line-up time.



### Gamification Examples:

- Roll and Represent:** Have students roll dice to generate numerator and denominator values, then model the fraction using manipulatives or a number line on a whiteboard.
- Number Line Race:** Create a large number line on the floor, and split your class into two teams. Give each team a card with a fraction on it, and start the race! The first team to place the fraction in the correct position on the number line wins.
- Fraction Bingo:** Excite your students with a class-wide bingo game as they practice recognizing fractions. Ask students to solve an equation involving fractions. Once done, students can mark off their answer on a [bingo card](#). The first to get a bingo wins.
- Fraction Trashketball:** Split your class into two teams. Display a fraction problem on the board for all students to solve. Call on a player from Team 1 to share the answer. If it’s correct, Team 1 earns 1 point. Teams that get the correct answer can shoot a piece of crumpled paper into a basket (or trash can) for an extra point! Continue until Team 1 answers incorrectly, then pass to Team 2.

## Make fractions fun with Frax



**Frax** stops the fraction struggle by using an adaptive system that helps students build a conceptual understanding of fractions through **game-based learning and gamification**. Frax’s zero-entry program allows all students to improve their fraction knowledge and build confidence as they complete [carefully scaffolded missions](#).

Try Frax

Explore Game-Based Learning