

QUIKCOMP

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It is 1:30 on a Friday afternoon. The bell rings, signaling class change for the final period of the day. Moments later, thirty excited sixth-graders rush into your classroom and plead, "Please, Mrs. Johnson, please let us spend the whole period multiplying and dividing fractions!" Unrealistic? Undoubtedly! Yet it is not at all unusual to hear students beg, "Let's play QuikComp!"

QuikComp was developed to motivate the rapid, accurate solving of problems involving fractions. It is a fast-paced game that involves the whole class and generates a lot of excitement, even on Friday afternoons!

Materials

- A laminated page containing problems involving fractional operations (see Figure 1).
- Two sets (one yellow, one blue) of index cards, each card containing the answer to a different problem on the problem page.
- A transparency pen (like Vis-a-Vis) to check off completed problems.
- A small bell.
- A tall stool on which to place the bell.

Pre-Game Preparations

Divide the class into two teams, ideally of heterogeneous ability. If there are an odd number of pupils, select one to keep score on the chalkboard. Instruct the students to move half of the desks and chairs against one wall and half against the opposite wall. Students should sit as close to their team's wall as possible, either on the chairs or on the floor. Place the stool in the middle of the room between the two teams. Following a discussion of the rules of the game, distribute the cards equally among the players. Students can volunteer to receive any extra cards.

Game Instructions

Stand in the front of the room, and read the first problem to the class. (Limit the number of times you repeat each problem in order to encourage careful listening.) Two students (on opposite teams) each hold a card containing the correct answer to the problem. The first of these students to ring the bell earns a point for his or her team. (Award 2 or 3 points for more difficult problems.) Verify that the student indeed has the correct answer. An incorrect response results in the opposing team receiving 15 additional seconds to produce the correct answer. If no one from this team scores, move to a different problem. The team with the most points at the end of the allotted time is the winner.

Player Rules

1. Keep the value of your cards private.
2. Don't share solutions to the problems.
3. Be a good sport! Support your team, but don't boo the other team.
4. Don't ask for problems to be repeated; they will be read exactly 2 (or 3) times.
5. Don't talk while the problems are being read.

If a player breaks one of these rules, his or her team will be penalized one point.

Conclusions

Following the game, the more difficult problems can be worked on the chalkboard. Similar problems can be assigned for homework. Knowledge that QuikComp will be played again may motivate "sluggish scholars" to practice and perfect their computational skills.

Comments

There are two problems (one addition/subtraction, one multiplication/division) for each answer. You may wish to ask the second of the two if neither team gets the first problem correct. If the second problem is answered correctly, you will know the identity of at least one of the students who experienced difficulty with the first problem.

QuikComp can be modified in a number of ways to adapt to special classroom needs and curricula. Try it with whole number, decimal, integer, and even simple algebraic problems.

(Figure 1.)

= QuikComp =

<p>✓</p> <hr/> $\frac{1}{2} + \frac{1}{2} + \frac{1}{2} = \frac{1\frac{1}{2}}$ <hr/> $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} = \frac{1\frac{1}{12}}$ <hr/> $\frac{1}{3} + \frac{1}{4} + \frac{1}{5} = \frac{47}{60}$ <hr/> $\frac{2}{3} + \frac{4}{5} + \frac{1}{2} = \frac{1\frac{29}{30}}$ <hr/> $\frac{2}{5} + \frac{1}{2} + \frac{1}{10} = 1$ <hr/> $\frac{5}{6} + \frac{1}{2} + \frac{1}{3} = \frac{1\frac{2}{3}}$ <hr/> $\frac{2}{5} + \frac{5}{6} + \frac{1}{3} = \frac{1\frac{7}{30}}$ <hr/> $1\frac{1}{2} + 2\frac{1}{4} - 3 = \frac{3}{4}$ <hr/> $1\frac{1}{5} + 1\frac{2}{5} - 2\frac{3}{10} = \frac{3}{10}$ <hr/> $2\frac{1}{3} - 1\frac{1}{2} = \frac{5}{6}$ <hr/> $2\frac{1}{2} - 1\frac{1}{4} = 1\frac{1}{4}$ <hr/> $\frac{1}{4} + \frac{2}{3} + \frac{5}{12} = 1\frac{1}{3}$ <hr/> $\frac{5}{6} + \frac{1}{2} + \frac{2}{3} = 2$ <hr/> $\frac{1}{4} + \frac{2}{3} = \frac{11}{12}$ <hr/> $\frac{1}{5} + \frac{1}{4} + \frac{1}{10} = \frac{11}{20}$ <hr/> $5\frac{1}{7} + 2\frac{2}{21} + \frac{1}{3} = 1\frac{1}{7}$ <hr/> $\frac{1}{3} + \frac{2}{5} + \frac{1}{15} = \frac{4}{5}$ <hr/> $5 - 4\frac{1}{8} = \frac{7}{8}$ <hr/> $1\frac{1}{8} + \frac{1}{4} = 1\frac{3}{8}$ <hr/> $\frac{5}{6} + \frac{1}{2} + \frac{3}{4} = 2\frac{1}{12}$ <hr/> $\frac{1}{5} + \frac{1}{10} + \frac{1}{6} + \frac{1}{2} + \frac{1}{3} = 1\frac{3}{10}$ <hr/> $1\frac{1}{4} - 3\frac{3}{4} = \frac{1}{2}$ <hr/> $3\frac{5}{6} - 2\frac{2}{3} = 1\frac{1}{6}$ <hr/> $\frac{3}{5} + \frac{5}{8} - 7\frac{1}{10} = \frac{21}{40}$ <hr/> $2\frac{5}{32} - \frac{5}{8} = \frac{5}{32}$ <hr/> $\frac{5}{8} - \frac{1}{3} = \frac{7}{24}$ <hr/> $\frac{2}{5} + \frac{7}{15} + \frac{1}{3} = 1\frac{1}{5}$ <hr/> $\frac{2}{3} + 1\frac{1}{5} = 1\frac{13}{15}$ <hr/> $5\frac{1}{2} - 2\frac{5}{6} = 2\frac{2}{3}$ <hr/> $6\frac{1}{4} - 5\frac{5}{8} = \frac{5}{8}$	<p>✓</p> <hr/> $3 \times \frac{1}{2} = 1\frac{1}{2}$ <hr/> $\frac{2}{3} \times 1\frac{5}{8} = \frac{17}{12}$ <hr/> $2\frac{7}{20} \times \frac{1}{3} = \frac{47}{60}$ <hr/> $\frac{1}{2} \times 3\frac{14}{15} = \frac{1\frac{29}{30}}$ <hr/> $\frac{1}{2} \div \frac{4}{5} \times 1\frac{3}{5} = 1$ <hr/> $10 \times \frac{1}{6} = \frac{1\frac{2}{3}}$ <hr/> $\frac{1}{2} \div \frac{5}{4} \times 7 = \frac{1\frac{7}{30}}$ <hr/> $\frac{2}{3} \div \frac{8}{9} = \frac{3}{4}$ <hr/> $\frac{2}{3} \div 2\frac{2}{9} = \frac{3}{10}$ <hr/> $1\frac{1}{4} \times \frac{2}{3} = \frac{5}{6}$ <hr/> $\frac{4}{5} \div \frac{16}{25} = 1\frac{1}{4}$ <hr/> $\frac{1}{3} \times 4 = 1\frac{1}{3}$ <hr/> $1\frac{1}{3} \times 1\frac{1}{2} = 2$ <hr/> $\frac{1}{6} \div \frac{2}{11} = \frac{11}{12}$ <hr/> $\frac{1}{10} \times 5\frac{1}{2} = \frac{11}{20}$ <hr/> $\frac{4}{7} \div \frac{1}{2} = 1\frac{1}{7}$ <hr/> $2 \div 2\frac{1}{2} = \frac{4}{5}$ <hr/> $1\frac{3}{4} \times \frac{1}{2} = \frac{7}{8}$ <hr/> $\frac{1}{2} \div \frac{4}{11} = \frac{11}{8}$ <hr/> $\frac{1}{2} \div \frac{6}{25} = \frac{2\frac{1}{12}}$ <hr/> $3\frac{1}{3} \times 3\frac{9}{100} = \frac{1\frac{3}{10}}$ <hr/> $\frac{2}{5} \div \frac{4}{5} = \frac{1}{2}$ <hr/> $2 \times \frac{7}{12} = 1\frac{1}{6}$ <hr/> $7\frac{1}{20} \div \frac{2}{3} = \frac{21}{40}$ <hr/> $\frac{1}{2} \times \frac{5}{16} = \frac{5}{32}$ <hr/> $\frac{1}{14} \times 4\frac{1}{2} = \frac{7}{24}$ <hr/> $\frac{1}{3} \times 3\frac{3}{5} = 1\frac{1}{5}$ <hr/> $2\frac{1}{3} \times \frac{4}{5} = 1\frac{13}{15}$ <hr/> $2 \times 1\frac{1}{3} = 2\frac{2}{3}$ <hr/> $1\frac{1}{4} \times \frac{1}{2} = \frac{5}{8}$
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