Cooperative Project: Math Checkers
For use after Chapter 5

Objective
Play a game of math checkers.

Materials
24 checkers, beads or coins for each pair of students, glue, pencil, graph paper, cardboard, ruler

Investigation
Getting Going You will play a game of checkers with a partner. First, copy the board shown below onto your paper. Then glue the paper to a piece of cardboard.

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The movements and starting positions for this game are the same as for regular checkers. However, these new rules apply.

Math Checkers Rules:

1. To move one space, add the fraction on the starting square and the fraction on the landing square.

2. To jump over another game piece, subtract the larger fraction from the smaller fraction.

3. If you make an error in your calculations, your game piece is removed from the game and given to your opponent.

4. The game is over when one player runs out of game pieces.

Once you have finished a game, make a new board. Draw an 8 square by 8 square checkerboard on graph paper. Then fill in each square with a mixed number or improper fraction. Do not use the same fraction twice. Use the Math Checkers Rules above, substituting multiplying for adding and dividing for subtracting.
Teacher’s Notes for Fraction Math

Checkers
For use after Chapter 5

Project Goals
- Add and subtract fractions.
- Multiply and divide fractions.

Managing the Project

Classroom Management  Students should work in pairs to play the game and develop the new checkerboard. One student should copy the checkerboard onto paper. The other student can glue the paper to cardboard to make the first checkerboard. Each pair of students can turn in one completed checkerboard. Each student should perform the calculations on a sheet of paper to turn in. Use the students’ work to see how many moves it took to complete the game, and also prove that they played a complete, fair game.

Alternative Approach  To save time, instead of making a new checkerboard, you can use the given checkerboard and change the rules to practice multiplying and dividing fractions.

Rubric for Project

The following rubric can be used to assess student work.

4 Students worked in a constructive and appropriate manner throughout the activity. Students created a checkerboard that is completely filled in with mixed numbers and improper fractions. Solutions for the addition, subtraction, multiplication, and division problems are complete and correct.

3 Students worked in a constructive and appropriate manner throughout the activity. Students created a checkerboard that is completely filled in but with 1 or 2 errors. Solutions for the addition, subtraction, multiplication, and division problems are mostly complete and correct.

2 Students worked in a constructive and appropriate manner throughout the activity. Students created a checkerboard that is completely filled in but with many errors. Solutions for the addition, subtraction, multiplication, and division problems are mostly incomplete or incorrect.

1 Students did not work in a constructive and appropriate manner throughout the activity. Students created a checkerboard that is mostly filled in but with errors. Solutions for the addition, subtraction, multiplication, and division problems are incomplete or incorrect.