24: A Mental Math Game

A Simple, Effective, Low-Cost Activity to Use in Your Classroom

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The activity

This game has proven to be an effective way for students to practice and increase their fluency and understanding of basic math skills. It seems to be much more effective and engaging than daily multiplication/division drills, plus the game includes addition and subtraction. “24” develops friendly competition in which the students are curious as to see other students’ outcomes.

This activity is great for building classroom culture, rituals and routine, community building, thinking routines, and basic math (addition, subtraction, multiplication, and division)

Students will learn

• Automaticity and fluency of arithmetic skills
• Mental math skills and mental math stamina

• Classroom routines
• Community and culture as a result of friendly competition

Here’s what you do

Resources needed:

• Mini white boards or pencils and paper
• The game “24” needs to be purchased. I bought my version online at http://www.24game.com/. The cost is $21.95.

Visit https://youthbuild.org/my/education to access more classroom activity ideas
NO calculators!

The time required depends upon the students. For some classes, I need to give a time limit to complete the given card. I give no more than 4 minutes per card and depending upon the class, we may do one or two cards as a warm up.

**Instructions**

**Rules**

- Each card has 4 numbers on it
- You can add, subtract, multiply, or divide the numbers in any way to get 24
- You must use all four numbers
- Each number may only be used once

1) Do not allow students to see card until it is posted somewhere visible to all students.

2) Mini white boards work very well because they are quick and easy for students to erase. If students use pencil and paper, they frustrate easily because they don’t like to erase mistakes.

3) Instruct students to not reveal their answers until the end (they “hide” their answers).

4) At the end of 4 minutes, students reveal our answers. The students who found answers first go to the board and write their answer. All cards have more than one solution, so all solutions found are displayed on the board.

5) The teacher plays along with the students! The students are thrilled if they find an answer before the teacher or if their answer is different from the teacher’s.

6) If a student finds an answer quickly, he or she is to keep looking for another solution.
**Success Tips**

- Some students struggled at first and gave push back over the game. This was because they were not used to problem solving in their heads. The weaker a student’s foundational math skills were, the more they seemed to dislike the game. It took time for them to get the hang of the game and become accustomed to performing mental math.

- With the game, non-participation is NOT an option. You will definitely need to provide supports and encouragement for the struggling students. You may have the student play with you or work as a team for a while. However, it did not take long for all students to catch on and enjoy the game.

- It is beneficial to allow students who are not the usual ones to find a solution to have the opportunity to display their answer on the board even if they weren’t the first to find it.