Math game
- Twenty-one -

Educational Goals

- ❖ Highlight the playful potential of mathematics
- ❖ Develop the number of additions, subtractions, multiplications and divisions memorized
- ❖ Develop the mental calculation processes

Key Features of the Targeted Competency

- ❖ To mobilize mathematical concepts and processes appropriate to the given situation (C2)
- ❖ To apply mathematical processes appropriate to the given situation (C2)
- ❖ To justify actions or statements by referring to mathematical concepts and processes (C2)

Concept Used

- ❖ Arithmetic (addition, subtraction, multiplication and division)

Materials

- ❖ 3 dice
- ❖ Sheets of paper
- ❖ Pencils

Targeted Academic Levels

Elem | Cycle Two | Cycle Three

Targeted Competency

C2

Mathematical Field Concerned

Suggested Teaching Formula

Time Required
Approximately 30 minutes

Step 1: Introduction

Place the students in teams of 2, 3 or 4. Give 3 dice per team, a sheet of paper and a pencil.

Step 2: The game (30 minutes)

The goal of the game is to get the number 21 as fast as possible by doing arithmetic operations (addition, subtraction, multiplication and division). One after the other, the students throw the three dice. With the numbers obtained on each of the three dice, they choose which arithmetic operations they will use to get the number closest to 21. It is possible to use two different arithmetic operations in the same turn.

For example, a player who got a 1, a 2 and a 5 could decide to do the following operations:

$$1 + 2 = 3$$
$$3 \times 5 = 15$$

The players have to say aloud the arithmetic operations they are doing so the other players can verify their calculations. Once a player reaches 21, the game is over. The one who got to 21 gets 0 points. The others get the number of points corresponding to the difference between the number they got and the number 21.

The sheet of paper can be used to remember the result obtained for each player during the game. Plus, it can be used to calculate the number of points obtained by each player.

Play five games and add the total number of points. The player who has the least points at the end of the 5 games wins.

To go further!
Change the number to reach. For example, you could use prime numbers or numbers that have several divisors. Set a maximum number of uses for each operation. For example, using a maximum of 5 additions for the whole game.