



Math game

- *The Operations Detective*



Educational Goals

- ❖ Highlight the playful potential of mathematics
- ❖ Increase the amount of additions and subtractions memorized
- ❖ Develop the calculation processes

Key Features of the Targeted Competency

- ❖ To mobilize mathematical concepts and processes appropriate to the situation (C2)
- ❖ To apply mathematical processes appropriate to the situation (C2)

Concepts Used

- ❖ Arithmetic (additions and subtractions)
- ❖ Counting points

Materials

- ❖ Appendix 1
- ❖ Blank sheet
- ❖ Two crayons of different colours
- ❖ Chips
- ❖ One die
- ❖ Chronometer

Targeted Academic Level
Grades 1 to 3

Targeted Competency



Mathematical Field Concerned



Suggested Teaching Formula



Time Required
Approximately 15 minutes



Suggested Process



Step 1: Introduction

Place the students in teams of 2. Explain the rules to them. Provide them with a copy of appendix 1, a blank sheet and two crayons of different colours. Each player chooses the colour he will use for the game.

Step 2: The game (15 minutes)

The goal of the game is to make as many points as possible by colouring the squares with your colour.

During the game, player 1 will draw a circle of his colour in each one of his squares while player 2 will draw an X with the other colour (see below).

The students throw a die to know who will start, then they play in turns. Player 1 observes the grid and has to find 3 consecutive squares that form a mathematical operation. This operation can be an addition or a subtraction. It can be read horizontally or vertically. For example, player 1 can find the squares 3, 6 and 9 which form the following subtraction: $9 - 6 = 3$. Once he found his operation, he must say it aloud. Player 2 makes sure that the operation is accurate. If it is the case, player 1 draws circles with his crayon in each of the three squares. If the operation is not accurate, player 1 cannot draw circles and it is player 2's turn. Each square identified by a player gives him one point. The players must add the points on the blank sheet after each turn.

Each player has 2 minutes to find his operation. Once the player found his operation, it is the other player's turn. If the student has not found an operation in the grid once the time has passed, it is his opponent's turn.

The same square can be used twice during the game. A square that has been used by player 1 can be used again by player 2 to form another operation. It can also be used twice by the same player. Here is an example of the same square used by both players: $9 - 6 = 3$ and $6 + 4 = 10$.

When a square is used by 2 players, it does not give any point, it is worth zero. If it is used twice by the same player, it counts for 2.

The Operations Detective					
3	X	9	2	7	6
2	X	6	10	4	14
5	X	15	12	3	20

The game ends when the two players, one after the other, did not manage to find an operation in the grid. The player who has the most points wins the game.



Variants to make the game harder

- Change the grid by adding greater numbers.
- Create a bigger grid.
- Allow the students to choose operations that are read diagonally in addition to horizontally and vertically.
- Remove the right to use the same square more than once.



Appendix 1: Numbered Grid



	The Operations Detective				
3	6	9	2	7	6
2	4	6	10	4	14
5	10	15	12	3	20
10	9	1	8	7	15
2	1	3	4	10	5
8	5	13	3	17	20
8	6	9	2	7	9
16	11	4	5	6	11