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## Intellectual output 2

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# Mathematical creativity

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4 Creativities Project  
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## INTRODUCTION

The aim of FCREATIVITIES project is to improve the teachers' abilities to generate a creative education, leading to the creation of students who are able to think, analyze and solve daily problems. With the following six activities we aim to equip the teachers with some easy to implement, fun to organize exercises to be used with **10 to 12 year old students**, focusing on enhancing their motivation, logical thinking and **mathematical creativity**. The very nature of mathematics provides a suitable platform for developing creativity. Mathematical creativity could be defined as the process that results in unusual and insightful solutions to a given problem, irrespective of its level of complexity. Mathematical creativity is observed when one generates a non-standard solution for a problem which may not be solved so easily using the conventional methods.



### Title of the activity

## ***Mathematic escape room***



### Description

This activity consists in the elaboration of an Escape Room in the subject of Mathematics. A group of 4-5 students are locked in a classroom and their goal is to get out in a certain time. The students will have to figure out codes, solve puzzles and mathematical operations that will give them the next clue that will lead them to the key to leave the room. If you can lock them (with you inside of course) the escape will be more real, if not, put a key to the door in the last box with and whoever gets the numbers to open it will have won.



## Aims

1. *Succeeds in motivating students*
2. *Achieve better results, as it serves to better absorb some knowledge*
3. *Facilitates the internalization of knowledge in a more fun way, generating a positive user experience.*
4. *Encourages teamwork and coordination between them.*
5. *Improving mathematical skill. Use of logic and mathematical knowledge*



## Steps we must follow

1. Placing the material in the room or class. The teacher will hide the puzzles and mathematical operations in different places in the classroom, e.g. inside books, on the calculator, under a computer keyboard etc.)
2. Once the materials are prepared, you will create groups of 4-5 students.
3. Each group may participate successively
4. Once the groups are done, the teacher will explain that they have to find riddles and mathematical operations that are hidden and solve them. Once solved the mathematical operations will have 4 figures that will have to combine to be able to open the lock of the box where the key is.
5. The teacher will start the Chronometer with the established time. The students will have that time to find and solve the mathematical operations and to be able to open the box where the key is.



## Materials (if needed)

- ✓ Chronometer
- ✓ Materials where you can hide the puzzles and mathematical operations (books, envelopes, calculator, laptop keyboard etc...)
- ✓ 1 sheet with a riddle of horses and horseshoes →  $\begin{array}{l} \text{horse} + \text{horse} + \text{horse} = 30 \\ \text{horse} + \text{horseshoe} + \text{horseshoe} = 18 \\ \text{horseshoe} - \text{horseshoe} = 2 \\ \text{horseshoe} + \text{horse} \times \text{horseshoe} = ?? \end{array}$
- ✓ sheets with mathematical operations
- ✓ 1 box with 4-digit padlock →



## Tips

Teachers can adapt the difficulty of the mathematical escape room, according to the mathematical level of the students. and can do it in such a way that it marks the order to follow or hiding the different mathematical operations that they must solve for the class (for example inside a book, under the keyboard of a computer or of the different elements that there are in the class,) and once they have solved them and have the numbers they will have to look for the combination that opens the lock to accede to the box where the key is.