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INTELLECTUAL OUTPUT 02

MATHEMATICAL CREATIVITY

4 Creativities Project
№2019-1-BG01-KA201-062354

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

The war of numbers

Description

This activity is the mathematical version of the well-known kid card game called War! The rules are simple and easy to follow, and its biggest advantage is that it can be adapted to fit the learning theme, the age and mathematical knowledge of the students. The game provides an opportunity for students to practice their knowledge in a fun and innovative way, and the competitive element maintains their interest and desire to learn new things.

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Aims

1. Practicing theoretical knowledge in different thematic areas (collection and subtraction actions; multiplication and division; Roman numerals; multiplication table; etc.)

2. Recognizing a half, a third, a quarter, and a tenth as parts of a whole

3. Developing problem solving skills

4. Developing fast and precise thinking

5. Improving mathematical skills

Steps we must follow

1. Divide the students in groups of 2-4 players and give each team a deck of flash cards. You can decide on the number of cards each deck will have. It is good each student to have at least 10-15 cards.
2. To begin the game the students have to divide all flash cards evenly among all players in the team. The players are not allowed to see what is written on the card.
3. Then, on the count of three, all students pick a card from the top of their deck and put it on the ground/table. The card with the highest sum or product wins all the cards in play. *This can be modified to lowest difference or quotient.* For the more complex tasks it is allowed to use a paper and pen to make calculations. If two or more students have the same answer, then they play each other again, with the winner capturing all the cards in play.
4. It is advisable for the teacher to supervise the different teams and to check if the players give the correct answers.
5. Students play until all the cards are won. The winner is the student who has the most cards at the end.

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Materials (if needed)

- Flash cards depending on the theme (collection and subtraction actions; multiplication and division; Roman numerals; multiplication table; etc.)
- Paper; pens; pencils

Tips

This game works well in 1st through 5th grade classrooms and is best played in groups of 2-4 students. All that is needed to play are math fact flash cards examples of which could be found as annex to this document. You can use addition, subtraction, multiplication or division cards. You can also create your own cards depending on which specific theoretical knowledge of your students you want to test. It just depends on the math skills level of your students. You could think of this game as "War for the classroom" game, as the exact rules for the traditional card game apply to this math fact version.

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