



WAYS TO FORM STUDENTS' LOGICAL THINKING IN PRIMARY CLASS MATHEMATICS LESSONS

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Abstract: This article describes ways to develop logical thinking skills in elementary school students in math classes.

Keywords: Thinking, thinking processes, analysis, synthesis, logical problem, numerical connection, mathematical puzzle, logical puzzle.

1. INTRODUCTION

In order to form the mathematical thinking of elementary school students, it is appropriate to use interesting mathematical games, puzzles, geometric problems and exercises, difficult arithmetic problems, funny problems, riddles with mathematical content as a tool. Mathematical games help enrich students' knowledge and develop their mental activity. Mathematical games and other terms have their own characteristics, conditions that make students think, and their fun helps students to develop their intellectual and creative abilities. Interesting mathematical games are considered to be a tool that has a comprehensive effect on the development of students' thinking, with the help of which mental and willful development is carried out.

Spatial imagination, goal-oriented mathematical thinking and goal-orientedness, independent search and finding of ways of actions to solve practical tasks, all these together are required for successful mastery of mathematics. As soon as the child steps on the threshold of the school, he does not lose his interest in the game, he will take revenge on the game as before. Even interesting issues arouse activity in children and develop thinking.

2. MATERIALS AND METHODS

We encountered such situations in elementary math classes. In these lessons, students are recommended to solve problems about numbers, mathematical sophisms, puzzles, problems, poems, jokes. Here are some of them:

a) Problems about numbers.

Take three different numbers in a row and form a set of possible two-digit numbers from it. Divide the sum of the resulting numbers by the sum of the given numbers. Your answer will be 22. For example: 3, 4, 5

We get numbers. Let's make a set of possible two-digit numbers: 34, 35, 43, 45, 53, 54.

$$\frac{34+35+43+45+53+54}{3+4+5}=22$$

$$3+4+5$$

b) Favorite number.

One of the students is invited to tell his favorite number.

He said what he wanted, i.e. the number 6.



So, what are its characteristics? - the reader is interested. If you know it's amazing, multiply your favorite number by 9 and write the resulting number (54) as a multiplier of the following numbers 123456789.

$$\begin{array}{r} \times 12345678 \\ 54 \\ \hline 666666666 \end{array}$$

c) Puzzle.

A girl was asked how old she was. His answer was thought-provoking. "Subtract three times our age three years ago from three times my age in three years, and you will get my age," he answered.

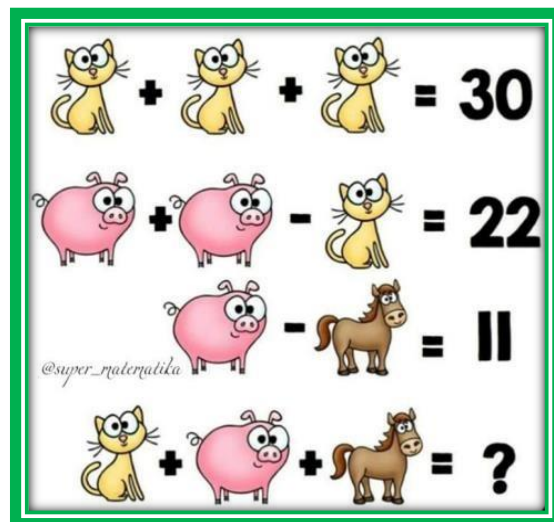
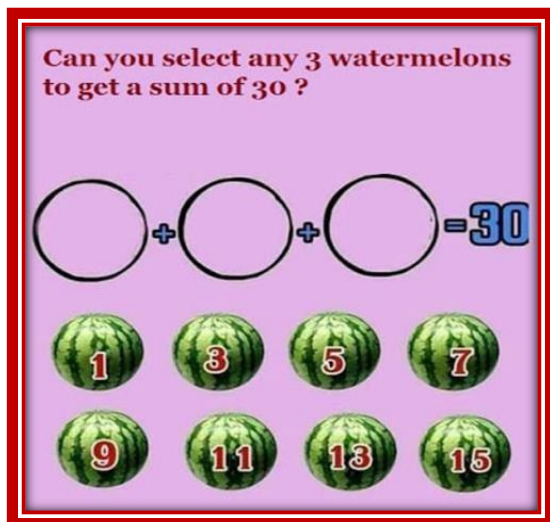
Solution: Denote the sought number by x , then the age after 3 years will be $x+3$ and the age 3 years ago will be $x-3$. As a result, we get the following equation:

$$\begin{aligned} 3(x+3) - 3(x-3) &= x \\ 3x+9 - 3x+9 &= x \\ X &= 18 \end{aligned}$$

So, he is 18 years old.

All mathematical games are based on some mathematical theory. They develop children's thinking and increase their activity in the exercise of studying abstract concepts of students. Because in them, the speed of verbal calculation, the sharpness of the sense of competition, and the desire to reach the goal in the most correct way are clearly visible. In mathematics, the game increases the interest in science, which creates the need for constant serious study. In the words of Pascal, mathematics is such a serious science that one should not miss the opportunity to make it a little interesting.

Below are more mathematical puzzles that develop logical thinking:



$\text{Blueberry} + \text{Blueberry} + \text{Blueberry} = 30$
 $\text{Blueberry} + \text{Fruit Basket} + \text{Fruit Basket} = 18$
 $\text{Fruit Basket} - \text{Apple} = 2$
 $\text{Apple} + \text{Blueberry} + \text{Fruit Basket} = ?$

$\text{Apple} + \text{Apple} + \text{Apple} = 30$
 $\text{Apple} + \text{Banana} + \text{Banana} = 18$
 $\text{Banana} - \text{Coconut} = 2$
 $\text{Coconut} + \text{Apple} + \text{Banana} = ??$

$\text{Wrench} + \text{Wrench} + \text{Wrench} = 15$
 $\text{Wrench} + \text{Gear} + \text{Gear} = 25$
 $\text{Gear} - \text{Nuts} = 8$
 $\text{Nuts} + \text{Wrench} \times \text{Gear} = ?$

$\text{Apple} * \text{Apple} = 49$
 $\text{Grape} = \text{Apple} + \text{Apple} + \text{Apple}$
 $\text{Grape} + \text{Apple} = 2 + \text{Banana}$
 $\text{Grape} + \text{Banana} * \text{Apple} - \text{Banana} = ?$

The puzzle is given to 3 groups at the same time. Which group will do it quickly and correctly will be the winner.

3. RESULTS AND DISCUSSIONS

Through these given examples and puzzles, students' logical thinking is formed.

General purpose of summative lessons in elementary mathematics course is to repeat the main concepts of the mathematics course, to deepen them, to systematize the students' knowledge of this subject, and to form the mathematical logical thinking of the students through examples and problems.

4. CONCLUSIONS

In conclusion, we can say that the above-mentioned materials are close to children with their interestingness and structure. Puzzles, geometrical mathematical problems put students in such conditions that they are forced to think.

The positive feelings created by students during the lesson are one of the main conditions for the formation of mental abilities. A positive result of systematic work aimed at forming the mathematical thinking of elementary school students leads to the formation of logical thinking.



We recommend this article to primary school teachers and graduate students of higher education.

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