

Lesson Plan

NEUROHEADWAY

Neuroscience Into Education

Lesson Plan Sets of numbers with equal sums. Key Stage 2. Kiril Bankov

Aims:

1. Exercise in adding natural numbers. Partition a given set of natural numbers into two subsets with equal sum of the numbers.
2. Exercise in finding unknown term in addition sentence.
3. Visualizing a die.

Sources:

1. Power Point
2. Sheets of paper

Activity 1: Slides 2, 3, and 4 (10 minutes)

Some methodological considerations:

- Leave some time for the children to think after presenting each of the tasks.
- When presenting the answer in slide 2 comment that the arrangement 1-3-2 is the same as 2-3-1.
- Ask several children to talk about the explanation at the end of slide 3.
- Explain the answer of the task in slide 4.

Activity 2: Slides 5, 6, 7, and 8 (15 minutes)

Some methodological considerations:

- Leave some time for the children to think after presenting each of the tasks.
- When presenting the answer in slide 5 comment that: i) it does not matter which couple of numbers are written in the circles and which in the squares; ii) there are also three other arrangements that are considered the same. They can be obtained by cyclically change the numbers in the figures.
- The tasks on slide 7 are important. They ask for explorations and explanations, which are important activities in mathematics.
- The second task on slide 8 is more demanding. If you are running out of time, you may present the solution yourself, which is based on the following idea: There are three possibilities for the required number – it is the least, a middle, and the greatest.

Observation of a die: Slide 9 (3 minutes)

Bring children's attention to the sum of the dots of the opposite sides of the die.

Activity 3: Slides 10 and 11 (7 minutes)

Remind the children that they have to use the observation from the previous slide: the sum of the dots in any two opposite faces of the die equals 7.

Activity 4: Slides 12, 13, 14, and 15 (20 minutes)

Some methodological considerations:

- Leave some time for the children to think after presenting each of the tasks.
- Explain carefully the hint in slide 12 and its application in slide 13.
- Slide 15 presents the most demanding tasks. It becomes very difficult if ask about all possible solutions to the first task. Finding at least one of the numbers is enough. Explain carefully the answer to the second task on slide 15.

What have we learned? Slide 16 (5 minutes)

Class discussion.

Power point Example

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Activity 1

- Draw two circles and a square in a row, like this 
- Write numbers 1, 2, and 3 in the figures in such away that the sum of the numbers in the circles equals to the number in the square.

- Answer: 

- Complete the same task with numbers 5, 7, and 12. 

- Answer: 

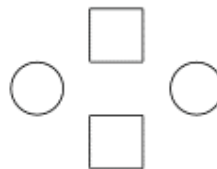
- Complete the same task with numbers 4, 6, and 8. 

- You cannot? Explain why.

- Numbers 4 and 6 are given. Write a number such that you can complete the same task with the three numbers obtained.
- Which are all numbers that are possible solutions to the last assignment?
- Answer: Numbers 2 and 10.

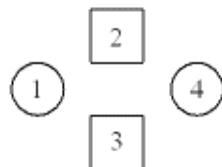
Activity 2

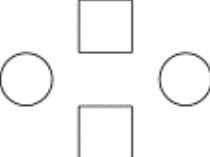
- Draw two circles and two squares, like this

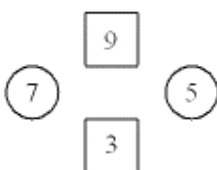


- Write numbers 1, 2, 3, and 4 in the figures in such a way that the sum of the numbers in the circles equals to the sum of the numbers in the squares.

- Answer:



• Complete the same task with numbers 3, 5, 7, and 9. 

• Answer: 

• Complete the same task with numbers 5, 7, 8, and 10.

• Answer: 