

MATHEMATICS



Basic Arithmetic

SEQUENCE 1

Age group	6-9 y.o.
Prior knowledge	Pupils know what left and right means. Can add up to 10.
Material needed	Basic Arithmetics box, number line, dice, +/- signs, set of 50 wooden cubes
Subjects	Basic Arithmetics
Skills involved	Pupils can add and subtract
Time to carry out the sequence	2 h

Step 1: Introduction

Discussion about adding and subtracting with everyday examples. Meaning left and right in the context of adding and subtracting. Use the number line for that.



Step 2: Storytelling

The teacher read a story about Everyone on the train. After reading the story, let students discuss what they have heard. Pupils give ideas about characters they want to add to the story. The pupils can add/subtract the characters that they have



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imagined throughout all 10 stations and see who reaches the Fox at the end. Pupils can even visually modify it, or can name each station.

Step 3: Discovering the content of the box. Playing with the characters
Pupils should have enough time to discover the content of the box. Pupils decorate their own characters they used to add to the content. Based on the story, pupils add and subtract characters in the train.

Step 4: Manipulation

Here is a possibility to use the wooden cubes (100x100x100) to manipulate even greater numbers. You may ask your pupils to add small numbers (with a sum below 10) and progressively have them add two numbers greater than 10. You may then do the same with subtractions.

Step 5: Playing the game

Pupils in groups (2 - 3) play the game. Game idea:

1. Roll the dice to put the character on the number line.
2. The labels of the +/- signs should be placed face up on the table.
3. Pupils roll the dice and choose the correct sign depending on the possible result.
4. Pupils give comments in a voice like this: I am going to the left 3 steps, the operation is $7-3$, the result is 4.

Step 6: Physical Activity

Hop Along: There should be a large number line on the classroom floor.

Let pupils physically hop along it to solve various math problems. For example, if the problem is $3-1$, they start at 3 and make one hop to the left.

NB! It is better to do this activity outside on the playground.



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SEQUENCE 2

Age group	6-9 y.o
Prior knowledge	Pupils can add and subtract with positive numbers.
Material needed	Basic Arithmetics box, number line, A4 sheets, a set of 50 wooden cubes
Subjects	Basic Arithmetics
Skills involved	Pupils can add and subtract
Time to carry out the sequence	2 h

Step 1: Introduction

You can start by asking them when they need to add or subtract in everyday life (in the supermarket, etc.).

Step 2: Storytelling

The teacher read a story about Everyone on the train. After reading the story, let students discuss what they have heard.

Step 3: Discovering the content of the box

Pupils should have enough time to discover the box's content. Give them time to make the train and characters. Let students put the "train" they have made on the number line.

Have them consider subtraction (the characters they played leaving the train) as adding a negative number.



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Step 4: Manipulation

Ask your pupils to write the story of the temperature during the day. To do this, ask your pupils to imagine the temperatures at night, in the morning, in the middle of the day and in the afternoon.

To help pupils with difficulty, use the cubes again to create a small tower. They can count how many cubes they added or removed and look at the final number of cubes they have.

Step 5: Presentation of created stories

In some minutes, all pairs present their stories.

References:

<https://classplayground.com/number-line/>



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