

TITLE: What is a program?

LEARNING SCENARIO

<i>School:</i>	<i>Duration (minutes):</i>	90
<i>Teacher:</i>	<i>Students age:</i>	7

<i>Essential Question:</i>	What is a program?
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Topics:

- Pupils learn step-by-step approach, troubleshooting and the basics of programming.
- Pupils become familiar with algorithms.

Aims:

- Pupils should be instructed to solve tasks independently.
- Every possible solution to solve the task with pupils should be tried so that the pupils will be convinced there is only one possible solution.
- Guide pupils in solving tasks respect gradation, imaging, rotation, or imagining strategy.

Outcomes:

- Pupils can understand and can explain a program.
- Pupils can recognize and explain real-life examples for the sequence algorithm, the repetition algorithm and the branching algorithm.

Work forms:

- individual work
- work in pairs
- group work

Methods:

- presentation
- discussion
- graphic work

ARTICULATION**Course of action****INTRODUCTION**

We make pupils aware of the changing ways of living under the influence of technology.

Let's get to know the computer, the computer program and the ways in which the computer performs actions.

What is a computer?

What does a computer do?

Can a computer think?

Announcement of the goal of the lesson:

Today we will learn what a program is and what types of programs exist.

MAIN PART

The teacher explains and discusses with pupils:

To be able to draw, write, watch movies or play games on a computer you need to have the appropriate program installed on it.

Using a computer can give you the impression that it can think, just like we do, which is not true. A computer can solve only those tasks for which it receives clear instructions.

Those instructions are called an algorithm.

A computer understands and can only execute commands written in a language it understands. Such language is called a programming language. It consists of commands and rules for their use. Such languages are many and by using this handbook you will learn about Scratch.

A program is a sequence of commands that solve a task. The process of writing a program is called programming and the person who programs is called the programmer.

There are three types of algorithms, depending on the arrangement of the instructions:

The sequence algorithm consists of instructions that are executed one by one.

Example:

Fill one glass of water:

Take a glass.

Turn on the tap.

Fill the glass with water.

Turn off the tap.

Pupils think and give their own examples.

Pupils draw a simple example of sequence algorithm in their notebooks.

Repetition algorithms some or all the instructions are repeated.

Example:

Fill 4 glasses of water:

Take a glass x 4.

Turn on the tap.

Fill the glass with water x 4.

Turn off the tap.

Pupils think and give their own examples.

Pupils draw a simple example of repetition algorithm in their notebooks.

The branching algorithm consists of instructions where the action depends on the answer to the given question.

Example:

Fill the blue glasses with water:

Take a glass.

If the glass is blue,

Turn on the tap.

Fill the glass with water.

Turn off the tap.

Pupils think and give their own examples.

Pupils draw a simple example of branching algorithm in their notebooks.

Pupils solve Exercise 1 from the textbook.

They present a solution and discuss it.

CONCLUSION

Teachers and pupils repeat:

A program is a sequence of commands that solve a task.

The process of writing a program is called programming and the person who is programming, the programmer.

An algorithm is a set of instructions that we give to the computer to solve a problem or a task. Types of algorithms are sequence algorithms, repetitions and branching.

The algorithm written in a programming language is called a program.

Methods

presentation
discussion
work on the text
graphic work
interactive exercise /simulation on the computer

interview
demonstration
role playing

Work forms

individual work
work in pairs
group work
frontal work

Material:

Literature

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PERSONAL OBSERVATIONS, COMMENTS AND NOTES