SCENARIO		
Title	**First steps in Scratch**	
Summery	Students will be introduces to the basic concepts of programming, Scratch. Students will create first project.	
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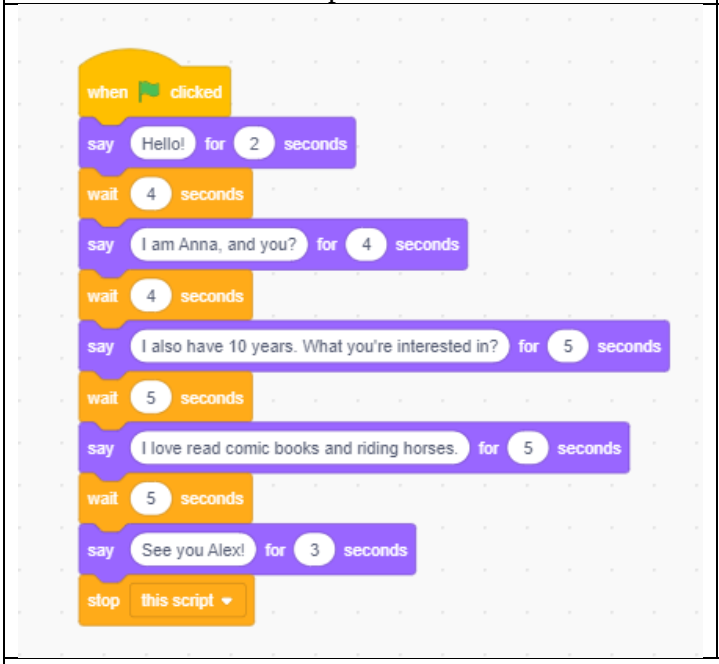
Didactic objectives
General objectives: - learning the basuc concepts – algorithm, script - introduction to the Scratch - use of basic program function **Specific objectives:** - examples of algorithms - adding new sprites - saving projects - creating simple scripts for sprites - introduction to loop
Physics☐ Mathematics☐ Information Technology☒ Robotics☐ Programming☒
Education Level: 10-12 years☒ 12-14 years☐
Problem Statement
Where are the algorithms found? Are the algorithms also applicable to other areas? What functions are in Scratch? In what order should the commands be placed to achieve the desired effect? What is a loop? What is it used for?
BOM (Bill Of Materials needed)
- computer for each student - Scratch environment installed - multimedia board with a projector for presentation - Internet access
Activity description
The scenario is planned for 3 lessons. Course of class: 1. Organization in the classroom, assigning computer workstations to students, creating a folder on the computer disk for saving projects named student's name_class, for example Adam_IIA.

2. Questions for students: what is a recipe? Searching sample recipes and instructions on the Internet, giving real-life examples. Conversation with students about the instruction of operation, introducing the concept of algorithm, program.
3. Presenting the Scratch environment to students - scene, icons, tools, saving projects, sprite properties, adding a background, changing the view mode, presenting groups of Scratch blocks.
4. Exercise 1. Dialogue of sprites
    a. change the scene background,
    b. adding sprites (there should be 2 sprites on the stage),
    c. modification of sprite parameters - name, size,
    d. inserting blocks - for the exercise, students will need two types of blocks: say ... for ... second and wait ... second,
    e. students should find suitable blocks by themselves,
    f. first, students should enter one message, then discuss the event, the components of the block (text and time) and the beginning of the green flag event - discuss other options for starting the program and ended the script,
    g. creating a script for the second sprite, paying attention to the blue frame with an active sprite - present the possibility of creating a new script from scratch, as well as copying the script of the first sprite,
    h. inserting the block wait so that the ghosts don't speak at the same time,
    i. the students should create a short dialogue between sprites by themselves, for example: introducing, age, interests,
    j. saving a project as a project 1.
5. Exercise 2. Moving sprites
    a. background selection (underwater1),
    b. selection of two sprites that will move on the underwater background (for example fish and crab),
    c. describe and show students blocks from the Motion category,
    d. the students set the sequence of movements for two sprites, then present the created algorithm by themselves,
    e. question to students: What is a loop?
    f. introducing the concept of a loop,
    g. presentation of the use of loops when moving sprites,
    h. use of loops by students in their algorithm,
    i. the final position of the sprites should be set using blocks set x to ... and set y to ...,
    j. saving the project as a project2.
6. Summary. Self-evaluation of students.

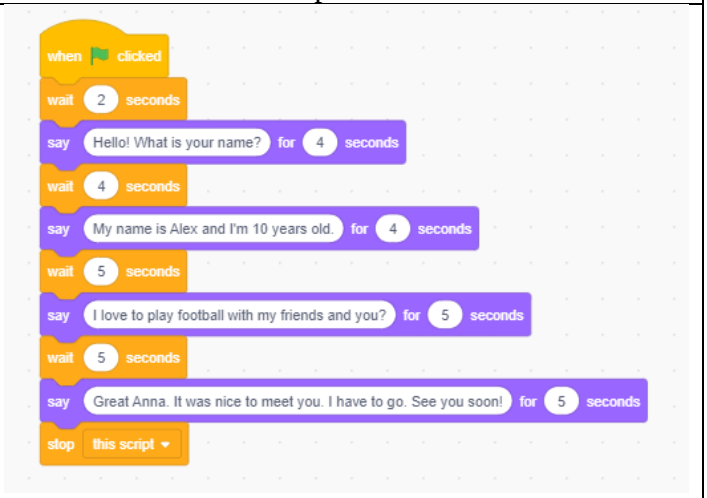
Resources

Exercise 1 - Implementation

Sprite 1



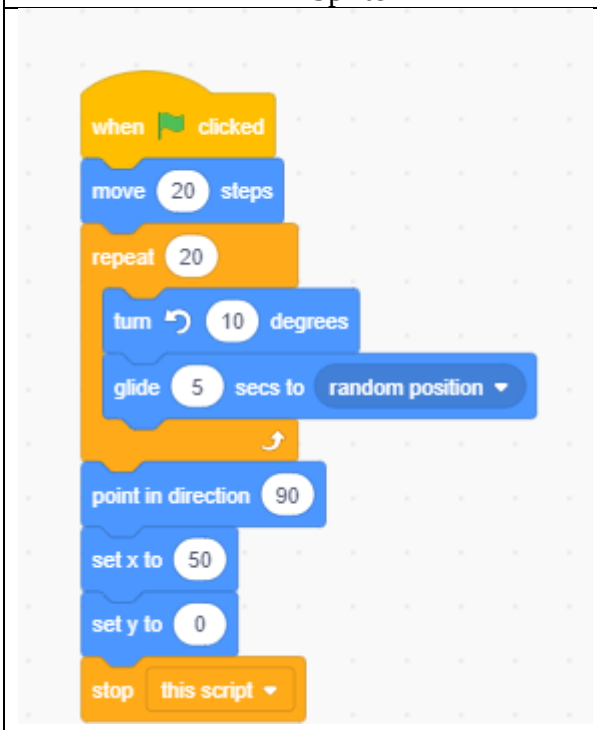
Sprite 2



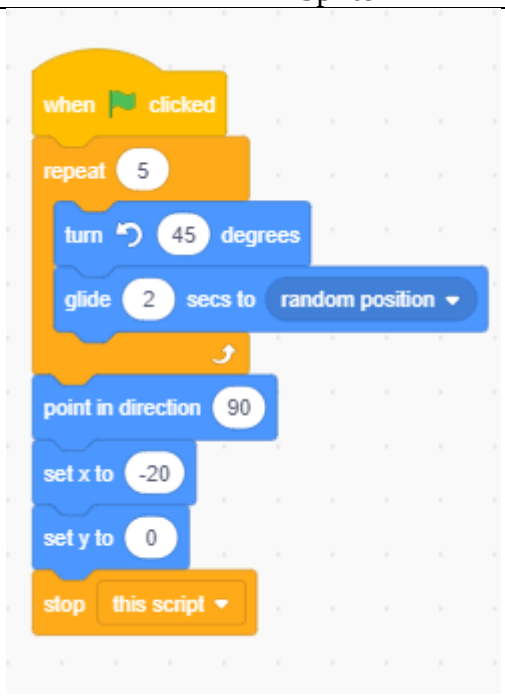
Video

Exercide 2 – Implementation

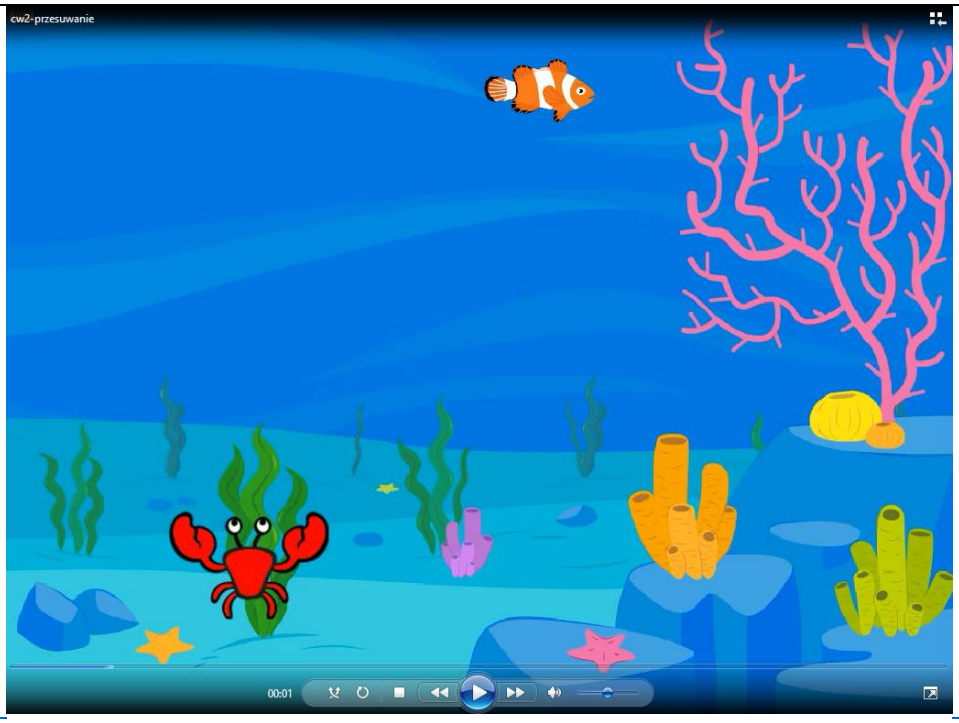
Sprite 1



Sprite 2



Video



Students' Evaluation
Evaluation tools: - observation of students' work and their activities, - students' self-assessment - what I have learned, what I can, what I would like to know, what algorithm I can create, - program feasibility.
Bibliography
https://scratch.mit.edu/ R. Kulesza, S. Langa, D. Leśniakiewicz, P. Pełka „Młodzi giganci programowania. Scratch" wyd. Helion
Scalability
As exercise 3, you can propose to create an algorithm that will combine both blocks from the Motion and Looks category, for example dialogue of two sprites and movement on the stage. In addition, you can extend Exercise 1 to include animation elements, so that the characters are animated by changing the costumes.
More information
Scenario was created as part of the project "InnoExperiment - Innovative Approach to Teaching through Experiment" carried out under Key Action 2. Erasmus +. The scenario will be made available on the project platform.