



Learning Scenario

Workshop 1: GBL and unplugged activities

Learning Scenario Title	Addition and subtraction to 20 (repetition)
Course/Grade	Mathematics 1st grade of primary school
Learning Outcomes	<p><i>Learning outcomes focused on general subject</i></p> <ul style="list-style-type: none"> • Demonstrate the procedure of adding numbers to 20 • Demonstrate the procedure of subtracting numbers to 20 • Developing speed in addition and subtraction • Compare and distinguish between correct and incorrect results <p><i>Learning outcomes focused on algorithmic thinking</i></p> <ul style="list-style-type: none"> • Accept established, common rules of the game • Specify the steps for moving left-right, up-down • Explain the “algorithm” • Describe and give solutions for achieving a certain goal
Aim, Tasks and Short Description of Activities	<p>In the Mathematics class, the students will repeat and practice the addition and subtraction to 20 by playing the game “Math memory”, solving the maze worksheet, and playing bingo. By playing games with chosen rules, the students repeat the lessons from Mathematics (addition and subtraction to 20).</p> <p>Students will get acquainted with the concept of algorithm as a sequence of commands/rules that need to be performed to achieve the goals.</p>
Keywords	Addition and subtraction to 20, left-right, up-down, algorithm, command
Correlation and Interdisciplinarity	Science (Orientation in space)
Duration of Activities	45 minutes
Learning and Teaching Strategy and Methods	<p>Game Based Learning - game</p> <p>Dialogical method</p> <p>Demonstration method</p> <p>Problem solving method</p>
Teaching Forms	<p>Frontal teaching</p> <p>Pair work</p> <p>Individual work</p> <p>Group work (all students)</p>



Tools	-	
Resources/materials for the Teacher	Canva, Microsoft Word for preparing materials	
Resources/materials for the Students	the maze worksheet, bingo cardboards, Math memory game, colored pencils	
Teaching summary	Motivation-Introduction Introductory conversation between teacher and students about Memory game and its rules, followed by giving the Math memory game cards to students. Students play the game in pairs. Teacher stresses out the importance of following the rules of the games. Teacher introduces the concept of “algorithm” and explains that it represents a sequence of commands or rules that need to be performed to achieve the task.	Duration 10 minutes
	Implementation 1st activity: Solving the maze worksheet (individual work) The student's task is to help the boy find the right way to the ice cream. He/she has to paint the correct fields with a yellow pencil, and if he/she makes a mistake, he/she must return and start from the beginning. It is necessary to reach the goal as fast as possible in order to prevent ice cream melting. After all students finish the game, we check all together the exact path, this time using the terms left-right, up-down. 2nd activity: Bingo (group work) Each student receives a cardboard with numbers. The teacher draws the paper with the task out of the bag (e.g. 12-6, the correct answer is 6). If the student has number 6 on the cardboard, it has to be colored in red. If there are more than one numbers 6 on the cardboard, only one number can be colored. The winner is the student who first colors all the fields.	25 minutes
	Reflection and evaluation Discuss with the students about the game and its rules and repeat the meaning of the term algorithm. Students are encouraged to imagine a task that can be represented by the algorithm and we come to the conclusion that the algorithms are all around us, even crossing of the road itself represents an algorithm. They all list common rules for crossing the road.	10 minutes
Annexes	Math memory game, the maze worksheet, bingo cardboards and tasks	
Examples and game references	Proprietary memory, maze, and bingo games	

2

6

10

10-2

1+1

8

9+1



5-5

5

2+3

0

3+3

CILJ	19	3+16	3	17-14	17				
		16			10+7			18	
		7+12	19	19-10	10	19-9	19	3+16	
19		7				19		3	
7+11	8	16-9	16	6+10		18+2	18	12-9	
7		16		6		18		12	
19-12	19	14+2		18-12		11+7	7	18-6	
		14		18		11		18	
	13	19-3	19	14+3	17	17-12	5	5+13	8
				START					

10		4			
6	5	17	18	13	6
			19		

10					
12	6	12	3	9	16
		5		17	

6	19				
	14	14	3	10	4
			5		18

12		1			
6	5	17	15	13	2
			19		

2					
5	6	7	3	1	16
		5		17	

2	19				
	14	1	3	10	11
			5		18

11		4			
2	5	17	18	1	6
			19		

2					
12	1	12	3	11	16
		5		17	

15	19				
	1	14	2	10	4
			5		18

10		4			
6	1	17	18	13	6
			19		

11					
12	6	12	3	9	16
		5		17	

6	19				
	14	14	3	11	4
			5		18

10		4			
1	5	17	18	2	6
			19		

10					
12	1	12	3	11	16
		5		17	

11	19				
	14	14	3	2	4
			5		18

11		4			
6	5	17	18	2	6
			19		

10					
12	6	12	3	9	16
		5		17	

6	19				
	14	14	3	10	4
			5		18

$17-10$ $17+2$ $8+4$

$16-10$ $11+8$ $5+7$

$13-7$ $7+12$ $8+6$

$12-6$ $9+7$ $7+7$

$11-5$ $16+3$ $19-7$

$19-16$ $13+6$ $19-3$

$18-13$ $8+10$ $8+5$

$19-14$ $14+4$ $9+9$

$17-13$ $16+1$

$20-10$ $17-8$

$13+4$ $17-11$