

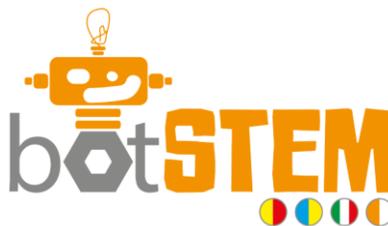


## BotSTEM – Erasms+ KA2 Project

2017-1-ES01-KA201-038204

### Good practice template

<b>1. Title of the activity / practice</b>	<b>Programming movements/directions with Next 1.0: Identify geometrical shapes, colors and sizes</b>
<b>2. Origin of the activity</b>	<p>Sirabun Project is a project for kids 3-5 y.o within Next Robotics Edelvives. It allows children to put into practice the numbers, geometrical shapes, animals kingdom, linguistics, etc., they are learning at that stage and apply those concepts to the robot in order to program movements to achieve a concrete challenge.</p>
<b>3. Age of the students</b>	<p>3-5 y.o.</p>
<b>4. Target group (type of the learners, size of the group)</b>	<p>A Student's class</p>
<b>5. School subjects + topics concerned</b>	<p>Robotics, Programming, Maths</p>
<b>6. Educational goals of the practice</b>	<ul style="list-style-type: none"> <li>• Enhance the development of skills and abilities by fostering research, cooperative work, autonomy, solving challenges or critical analysis.</li> <li>• Generation of strategies, logical understanding of things and abstract thinking.</li> <li>• Acquire programing basic concepts.</li> <li>• Get into programming directional language in a ludic and natural way.</li> </ul>
<b>7. Duration</b>	<p>45 min</p>
<b>8. Place</b>	<p>In the classroom</p>



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### 9. Short description of the activity

Students from 3 to 5 y.o are given the specific mission of identifying geometrical shapes, sizes and colors and programming Next 1.0 to achieve the challenges defined. They will have to understand the concepts of this specific topic and program Next 1.0 commands in order to make Next 1.0 move and reach the correct place for a positive result of the challenge. The teacher has a didactic guide to follow the progression of each challenge.

In order to achieve the defined challenges the students will have to:

- Read the challenge
- Identify, in the mat, Next 1.0 starting and final point.
- Represent Next 1.0 route using the programming cards taking into account the steps Next 1.0 has to follow.
- Put Next 1.0 in the mat and program it using the buttons in its head so that it moves to the specific programmed place.

A Practical example: Identify geometrical shapes, colors and sizes:

- The teacher makes several questions to the students: How many sides has a triangle got? How many sides has a square got? What's the difference between a square and a triangle? Does a circle have two sides or corners?
- From that point on new challenges start. Students will have to identify the different geometrical shapes, colors and sizes in the mat and program Next 1.0 according to the sequences required.

Challenge 1: Put Next 1.0 in the blue square and program it to go to the yellow circle.

Challenge 2: Put Next1.0 in the yellow triangle and program it to go to the blue triangle.

Challenge 3: Put Next 1.0 in the red square and program it to go to the blue circle.

Challenge 4: Put Next 1.0 in the red circle and program it to go to other circles.

Challenge 5: Put Next 1.0 in the blue square and program it to go to other squares.

Challenge 6: Put Next 1.0 in the yellow triangle and program it to go to other triangles.

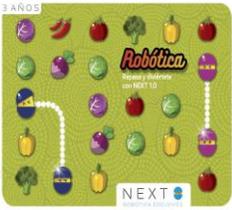
Challenge 7: Put Next 1.0 in the green rectangle and program it to go to other rectangles.

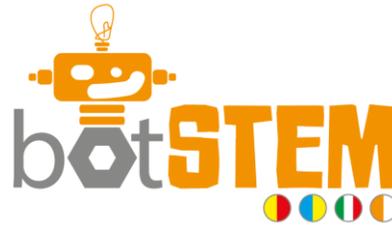
Challenge 8: Make Next 1.0 go from wherever the teachers indicates to:

- Medium-sized blue triangle
- Big yellow non-squared figure
- Small red square
- Medium-sized blue circular figure

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<p><b>10. Evaluation</b></p>	<p>The students have to:</p> <ul style="list-style-type: none"> <li>-Put Next 1.0 in the yellow circle and program it to go to the blue square not passing through any red figure.</li> <li>-Put Next 1.0 in the red circle and program it to go to another red figure not passing through any yellow figure.</li> <li>-Put Next 1.0 in the green square and program it to go to another smaller squared figure. Now make it go to a small circle making sure it doesn't pass through any blue figure.</li> <li>-Program, in teams, a route so that Next 1.0 passes through 3 figures that meet the following requirements. Use the programming cards to create the sequence:             <ol style="list-style-type: none"> <li>1. Small green triangle</li> <li>2. Big circular red figure</li> <li>3. Small yellow non-squared figure</li> <li>4. Big blue square</li> <li>5. Medium-size green square</li> <li>6. Medium-size blue circular figure</li> </ol> </li> </ul>
<p><b>11. Materials / Resources / technical requirements</b></p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Workbook</p>  </div> <div style="text-align: center;"> <p>Programming cards</p>  </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;"> <p>Mat</p>  </div> <div style="text-align: center;"> <p>Next 1.0</p>  </div> </div>



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**12. Tips for educators /  
theoretical  
background (if  
applicable) or  
curriculum context**

As part of the comprehensive Educational Robotics project for Young learners

<https://www.edelvives.com/pr/edelvives/robotica/indexEN.html>

Video where you can see Next 1.0 interacting in a kids class

<https://vimeo.com/162381994>