



BotSTEM – Erasms+ KA2 Project

2017-1-ES01-KA201-038204

Good practice template

1. Title of the activity / practice	Bluebots, physics and mathematics in primary school
2. Origin of the activity	<p>Eva is a grade 1-7 teacher and for the last 20 years she has been working with grade 1-3, in primary school. She came across the Bluebots half a year ago and has since been using them regularly, in combination with a variety of school subjects, including language, maths, biology and physics. She stresses the importance for a teacher to carefully think through the purpose of using the robots, to avoid aimless play that otherwise often take place. In the present exercise, the children work in groups of three and use the bluebots to explore math and the physical phenomenon of friction.</p>
3. Age of the students	<p>7-9 years old</p>
4. Target group (type of the learners, size of the group)	
5. School subjects + topics concerned	<p>Science (friction and features of different material), Mathematics, Engineering in the terms of coding, but also social and democratic aspects of the curriculum, through group activities.</p>
6. Educational goals of the practice	<p>Knowledge of friction and features of different material through exploring different ground material and their influence on an object's speed and distance. Mathematics in terms of speed, distance, time and measuring. The coding aspect of programming.</p>
7. Duration	
8. Place	<p>Classroom / lab / outdoors / at home, etc.</p>



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9. Short description of the activity	<p>The children work in groups of three. The aim of the exercise is for the children to measure and compare how far the bluebot can move forward in a certain time and on different materials. For this, they use a stop-watch and the bare floor, a rug, a ribbed cloth, etc., and a ruler or a measuring tape. They program the bluebot to move forward on different materials and use the stop-watch to measure the desired time for it to move, such as for instance 30 seconds. After the 30 seconds and the stop, the children use the ruler or measuring tape to measure the distance the robot walked. They compare the distance for different materials used and discuss the outcome in relation to the materials. The textures are examined hands-on. How can they make the robot move faster on a certain material? Slower?</p>
10. Evaluation	
11. Materials / Resources / technical requirements	Bluebots, stop-watch, ruler/measuring tape, different ground material such as a rug, a cloth, the bare floor.
12. Tips for educators / theoretical background (if applicable) or curriculum context	