

Basic Movements of a Robot

Institution	University of Leon
Disciplina STEAM	Technology
IDD Student Context	Primary students with ASD Level 1/2
Resource used	Cubetto

Description of the step-by-step activity before the project
1. Introducing Cubetto as a friendly robot that follows instructions given by the child and will only move according to the programmed commands. In a group setting, let students pass Cubetto around and interact with it before structured tasks. 2. Introducing the Control Board: Explain that the control board acts as a remote control, demonstrate how to place coding blocks on the board and press the action button to execute a sequence. 3. Introducing the Colour Coding Blocks and functions: Allow students to predict what will happen before running a sequence. 4. Allow Exploration Time and freely explore how Cubetto moves using different block combinations. Model to test and observe the movements. 5. Present the Activity: Use visual schedules and structured steps to introduce the learning objective and provide clear instructions and use story-based prompts to reinforce understanding. 6. Define the STEAM Learning Objective (such as: Basic programming concepts (sequencing, loops, debugging, Spatial reasoning and problem-solving, Storytelling through programmed movement, Art and design (creating paths, visual storytelling, integrating colours and symbols in coding sequences) 7. Set Up the Environment: Arrange a clear workspace with the control board, coding blocks, and play mat and use visual guides or boundary markers to define the movement space. 8. Conduct the Activity through a predefined challenge, such as moving Cubetto to a specific point on the play mat. Reinforce participation with visual cues, prompts, and structured sequences. 9. Encourage Social and Collaborative Learning: Have students work in pairs or small groups to design and test sequences together and use Cubetto to model teamwork and structured turn-taking. 10. Observe and Support Students During the Process: Provide verbal and visual prompts to support problem-solving and ensure instructions are clear and structured to reduce frustration. Offer reinforcement strategies, such as error-free learning, guided scripts, or additional cues if there is a misunderstanding. 11. Wrap Up and Reflect: Summarize key concepts learned and review how Cubetto responded to commands and encourage students to describe what worked and what they might change next time using their AACs. 12. Evaluate Learning Outcomes: Assess student engagement and progress using observation checklists, rubrics, or task completion logs and collect feedback from students to improve future Cubetto-based activities.

Description of the activity step by step (changes in blue)
1. Student Profile and RoboSTEAM Integration. Since the student profile is already established within the RoboSTEAM Project, the methodology directly aligns with their identified strengths, challenges, and educational plan the prior steps are tailored to support structured learning within a STEAM-focused environment. 2. Follow steps 1-12 ensure that future activities and learning experiences consider the student's profile, progress, and previously defined objectives, reinforcing their learning



journey through structured programming experiences. 3. Step 12. Evaluate Learning Outcomes Assess student engagement and progress using observation checklists, rubrics, or task completion logs and collect feedback from students to improve future Cubetto-based activities. Assess how well the activity aligned with the student's profile, strengths, challenges, and educational plan. Update results based on performance and engagement. 4. Step 13. Look for new resources and activities to refine learning outcomes. 5. Step 14. Reflect on how this applies to expanding and creating new challenges in future sessions 6. Step 15. Expand and Create New Challenges Introduce progressive learning activities that build on previous skills. Encourage students to create their own challenges, integrating storytelling or new movement patterns.	
Extra resources	Extra resources
Similar activities	Similar activities



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