



STEM for inclusive schools
Project number:
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STEM for inclusive Schools

WP2 – Activities Worksheet

Robotics in School

Physics / Technology (*August 2024*)

Paderborn University

Project Title: STEM for inclusive Schools

Acronym: STEMInSCH

Reference number: 2023-1-DE02-KA220-000000

Project partners:

- P1 University Paderborn (UPB), DE
- P2 Universitatea Dunarea de Jos din Galati (UDG), RO
- P3 Scoala Gimnaziala Nr. 7 Galati, RO
- P4 Siec Badawcza Lukasiewicz - Instytut Technologii Eksploatacji, PL
- P5 Inovatif ve Girisimci Toplum Dernegi, TR
- P6 Sucessos Criativos, Lda, PT



Worksheet for the Activity:

Robotics in School

name of the activity

Task description:

Time to finish the task: 90 minutes

As part of the Robotics in School teaching unit, a station work with three stations is prepared. The station work ensures an inclusive approach that takes the pupils' needs into account. There is one station for beginners, one for advanced learners and one for experts.

- At the first station (for beginners), the students create a Tiny Speed Car
- At the second station (for advanced), the students create a hydraulic robot arm.
- At the third station (for experts), the students construct a robot using Lego Mindstorms.

At the end, the teacher compares the results within the station. Just as a jury evaluates performance, authenticity, presentation and precision, the teacher also has a catalogue of criteria for this.

Supplies:



Three stations, laptops / tablets for using YouTube

- **Station 1 - Material box:**
for YouTube research, bottle caps, rubber bands, hot glue gun, battery, ice lolly sticks, Mikado sticks
- **Station 2 - Material box:**
Cardboard template, plastic syringes, liquid
- **Station 3 - Material box:**
Access to Lego Mindstorms via PC / Laptop



Method:

Station work with final jury assessment

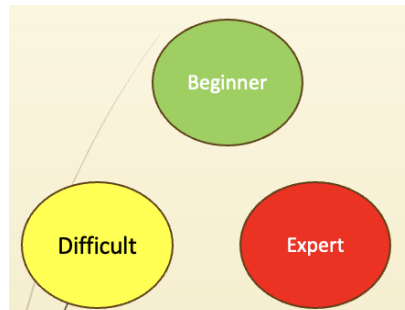


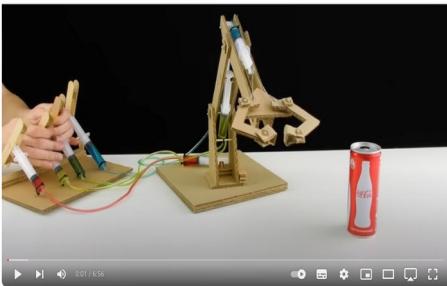
Instructions:

- **Plan and design the robot according to competition rules.**
- **Build and program the robot, testing and refining its performance.**
- **Compete in the robotics competition, analyzing performance and iterating on design.**



Graphics and Tables: (if necessary)



Station 1: Tiny Speed Car	
	
Station 2: Hydraulic Robotarm	
	
Station 3: Virtual Robotics Toolkit	
