

Case Study Title:

Arduino weather station

Problem Background

Many students lack the motivation for studying STEM objects because they don't relate the theoretical notions taught in the classroom with real life applications and, thus, they don't understand the importance of STEM.

STEM Topics Involved



Physics



Maths



Biology



Chemistry



Technology



Pedagogic Methods Suggested



Lecture



Story Telling



Problem Based Learning



Peer Instruction



Inquiry Based Learning



Simulation



Project Based Learning



Role Playing



Direct Instruction



Debate



Collaborative Based Learning



Flipped Classroom Approach



Game Based Learning

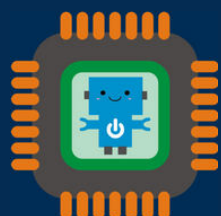
RoboSTEM

Project No. 2019-1-RO01-KA202-063965

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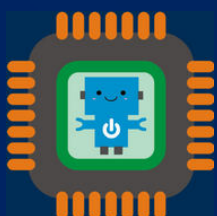


Solution

The proposed solution is a methodology that involves students in engaging activities where they can see directly how STEM skills can be useful and can understand the importance of STEM. The methodology include the development of a weather station based on an Arduino microcontroller and various sensor and the use of it for daily observations. A team of students will collaborate to assembly, install, programme, test and use the weather station.

Equipment & Materials Required

- Arduino board
- Arduino IDE software
- Sensors: humidity, temperature, barometer, rain and soil humidity
- Breadboard, jumpers
- Power supply



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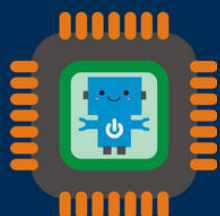
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Assembly Instructions

1. Connect the hardware
2. Arduino Programming
3. Start using the weather station



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