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LESSON PLAN

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from Romania

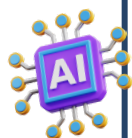
TITLE: ROBOTICS THROUGH STEM
activities in middle and secondary
SCHOOL

Grade level: 5th Grade to 9th Grade

STEAM AREAS: technology, arts,
engineering

Materials Needed:

- A BLUE-BOT ROBOT;
- TABLET (ESPECIALLY USEFUL FOR INCLUDING STUDENTS WITH VISUAL AND HEARING DISABILITIES), OR ANDROID PHONES;
- PENS, PENCILS, MARKERS
- SCISSORS, RUBBER, SCOTCH TAPE
- RECYCLABLE MATERIALS - CARDBOARD.



OBJECTIVES:

- IDENTIFYING STRATEGIES TO COUNT AND DEVELOP LOGICAL REASONING;
- THE CONCEPTUALIZATION OF WAYS TO BUILD AND TO VISUALIZE PATHWAYS;
- CREATING GAMES FOR ANY DISCIPLINE, THE LEARNING BASIC ELEMENTS OF PROGRAMMING;
- DEVELOPING COLLABORATIVE SKILLS WHILE LEARNING HOW TO USE THE BLUE-BOT ROBOT.



Procedure:

Introduction (10 min)

- THE TEACHER PRESENTS SOME INFORMATION ABOUT THE ROBOT, THE IMPORTANCE OF LEARNING ABOUT THE CONSTRUCTION AND PROGRAMMING OF ROBOTS;
- ACTIVITIES AND ROLES - 270 MINUTES;
- INSTRUCTIONS;
- STUDENTS WILL WORK IN TEAMS OF 4;
- EACH TEAM WILL HAVE A SET OF MATERIALS AND A ROBOT;
- THE ACTIONS THAT THE STUDENTS NEED TO CARRY OUT WILL BE FROM THE SIMPLEST TO THE MOST COMPLICATED, SO THAT THEY BECOME MORE AND MORE DIFFICULT, TO STRENGTHEN THEIR CONCENTRATION AND ATTENTION, TO HELP THEM PLAN THEIR OWN TASKS AND TO PRACTICE LOGICAL AND INDUCTIVE REASONING;
- ALL THE ACTIVITY HAS SIX STEPS:

DETAILS BELOW:

<https://docs.google.com/document/d/1LM7PQKD20Qe7XKD6nKWnt9XLaQQ4mV7K/ediC?usp=sharing&ouid=114583933251721278227&rcpof=true&sd=true>



Procedure:

Discussion (10 minutes)

- After the students finished assembling their robots, they participated in discussions about what worked and what was complicated;
- The teacher asked some questions about:
 1. The component parts of a robot?
 2. What controls did you use for travel?
 3. What materials did you use to create the rugs?

Assessment:

The importance of using robots in the classroom, what does it help?

The students will complete a puzzle created in the Educaplay application about identifying the different parts of a robot.

<https://www.educaplay.com/resource>

References:

Creating your own mat by students using recyclable cardboard or you can download some from this website:

- <https://www.bee-bot.us/mat-downloads.html>



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