

Module 2

**From the Robotics to Culinary Arts
15-21 Teacher Version**

**ROBOTICS THROUGH SIGN LANGUAGE: ENSURING ACCESS
AND ENGAGEMENT OF STUDENTS WITH DISABILITIES
(DEAF OR WITH HEARING IMPAIRMENT) TO THE DIGITAL WORLD
OF CODING AND ROBOTICS – ROBOTICS4DEAF**

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Erasmus+

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Title:

From the Robotics to Culinary Arts

Description:

In this scenario, pupils will acquire the basics skills of a successful cooker. Finally, they will discuss issues related to culinary art, the difficulties, food waste, healthy meals and healthy lifestyle.

Relevant Subject:

Gastronomy

Target Group:

This scenario addresses pupils that are 15-21 years old

Other Relevant Competencies / Soft Skills:

Creativity, Team Work, Problem-Solving

Facilities/Equipment Needed:

For this scenario, you will need 3-4 Lego Boost kits and compatible tablets. Pupils will be divided into groups and instructions will be given to them.

Pre-Requisites:

There are no cognitive prerequisites.

Learning Objectives:

Pupils will:

- Develop knowledge about the Culinary Arts
- Develop knowledge about Food Science
- Develop knowledge about the issue of food waste

- Assemble a working robot
- Learn simple movement commands
- Familiarize themselves with simple "one start method" programs

Duration:

Estimated Time: 5-6 Teaching hours

- 1 teaching hour, starting point (introduction), presentation of Culinary arts, discussion.
- 2-3 teaching hours, construction of the robot.
- 2 teaching hours, programming, project analysis.

Theoretical Questions:

Watch the following videos and answer the following questions:

https://www.youtube.com/watch?v=Gmh_xMMJ2Pw

<https://www.youtube.com/watch?v=ZJy1ajvMU1k>



1. How many inches is the plate we should use for children and how much for adults?

2. Which are the two different types of vegetables? Give two examples for each one of them.

3. What percentage of our plate should include starchy vegetables and what percentage should include non-starchy vegetables?

4. If we want to include a bread or a tortilla in our meal, which vegetables' percentage should we reduce? Why do you think we should reduce that part of our meal?

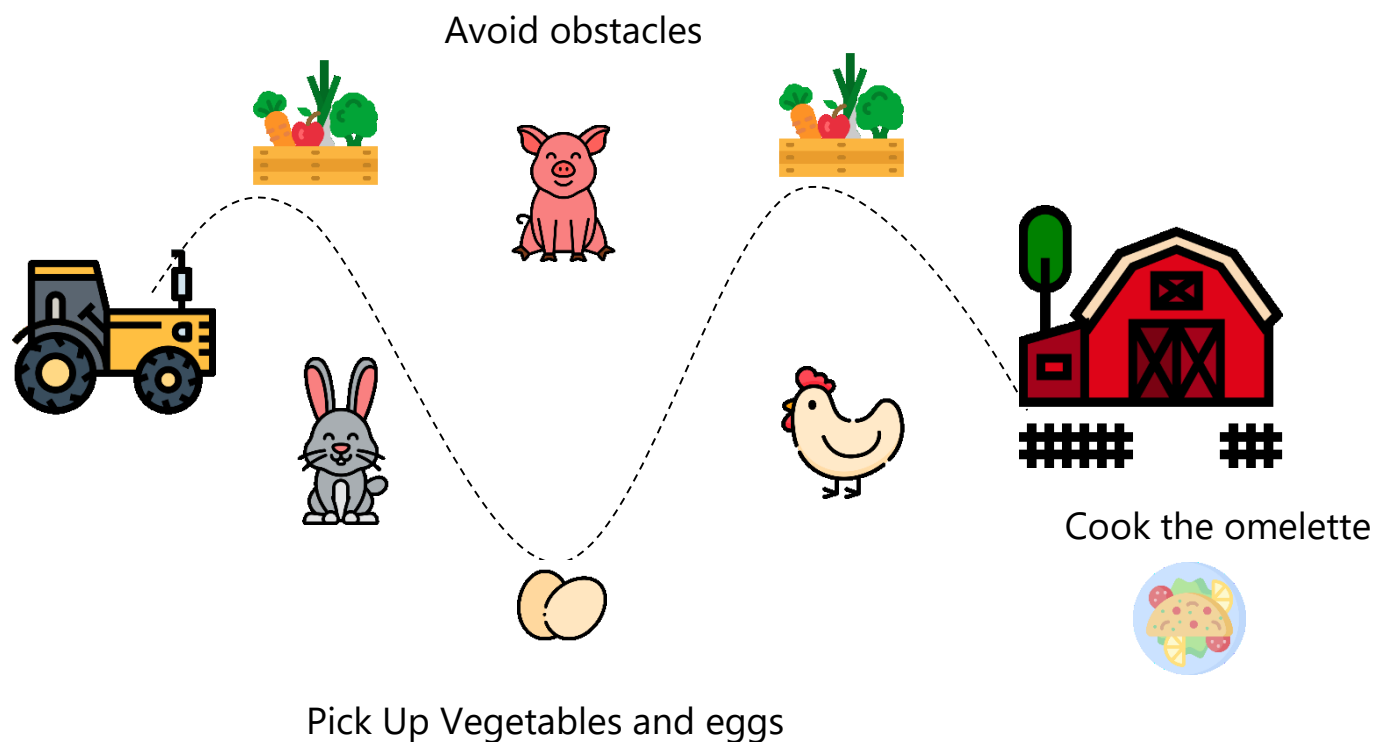
5. Which part of the onion is the only one that we should throw in the garbage?

6. What do we achieve by that and why is this beneficial for the environment?

Main Activities:

Activities:

- Design a farm and think of ways to make some Lego vegetables and eggs. Make them big enough so the tractor could pick them up.
- Draw on paper the tractor we will create to pick up the vegetables in order for the farmer to make an omelette with vegetables.

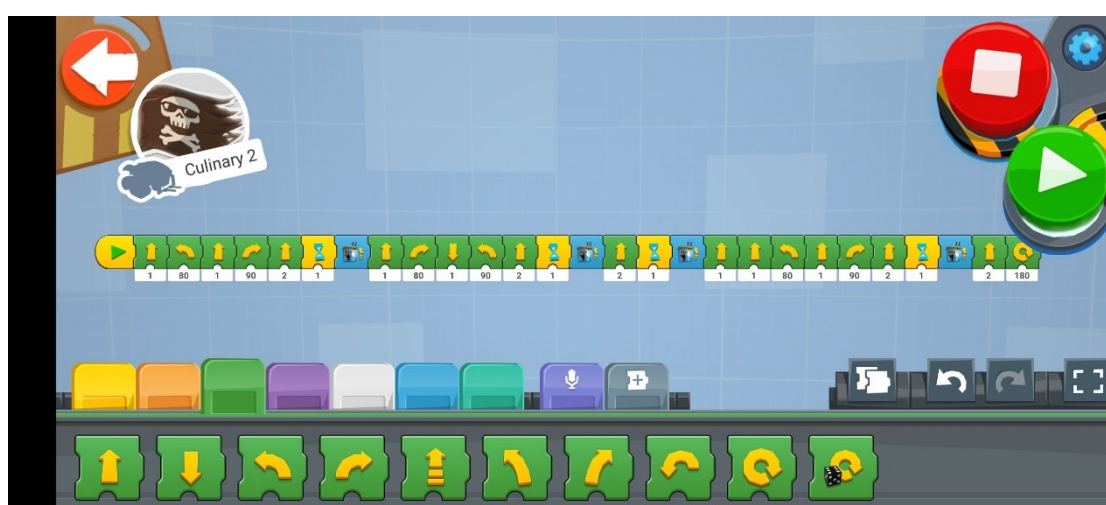
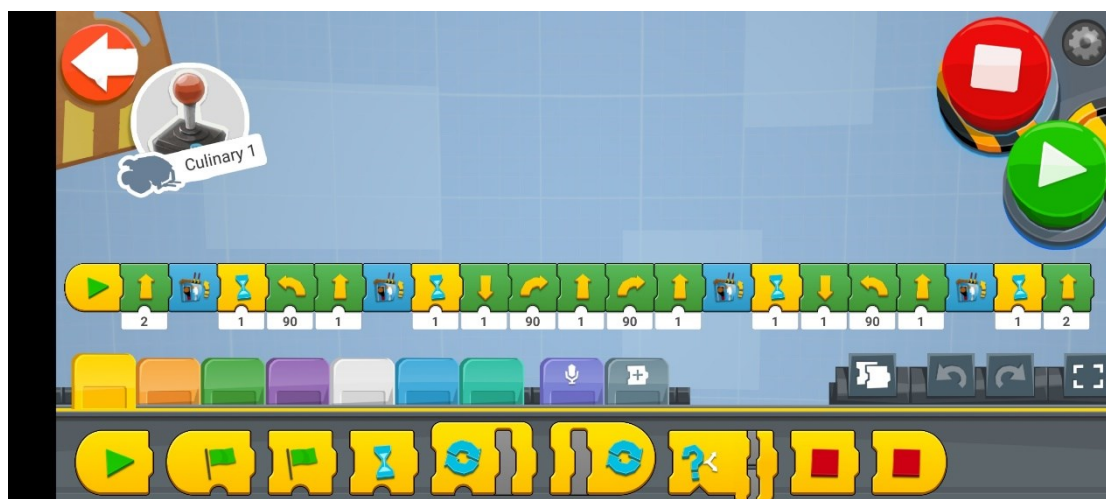


Constructions:

- Build the M.I.R.4 robot. This robot will represent the tractor. Once built according to the instructions you can decorate it, as you would like your own unique tractor to look like. You should consider adding a box where it could store the Lego vegetables that the tractor picked.
- Build vegetables, eggs and farm animals for your custom farm. You can use the remaining Lego parts or make them from paper or other materials.
- Build the farm where the tractor could park and store the vegetables. There the farmer will cook his omelette with vegetables.

Programming:

- Once you have created the model of the Farm with the vegetables and eggs, measure the distances between them with the ruler and write them down in a notebook.
- Place the tractor robot in the start of the farm and schedule it to pick up all the vegetables and eggs.
- Put the distance sensor on the front of the robot and program it to move. When it comes across a vegetable program it to show an orange light & picking up the vegetable.
- Put the color sensor and schedule the robot to move. When it reaches a spoiled vegetable make it show a red color and not picking up the spoiled vegetable (spoiled vegetables could be brown).
- Spoiled vegetables and farm animals are the obstacles of the mission.
- Program the robot to go inside the farm to empty its cargo and for the farmer to cook his omelette with vegetables.



Discussion/Conclusion:

1. What do you think are the difficulties of picking up the vegetables?

2. Do you have any ideas of making this procedure more efficient?

3. What abilities/skills should the driver of the tractor have to successfully deliver the right vegetables to the people who need them?

4. What kind of robots could we add inside our kitchen to help us prepare our dishes? (what actions should they perform)?

Further Activities:

Can you think of any new activities/assignments for the Culinary arts robot? Note them down and try to complete them in the classroom in collaboration with your classmates.



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