Robotics and Programming III
Teaching Guide

AGE GROUP: 10 to 14 years old.

INTRODUCTION

Information and Communication Technologies have become a fundamental piece for the improvement of educational quality, since they represent a definitive methodological change. Our current regulatory framework strongly supports their widespread incorporation into the education system. For this reason, we will use "Robotics and Programming" as an interdisciplinary tool to develop different skills and competencies in our students. Various studies have shown improvement in logical reasoning, problem solving, teamwork ability, or increased motivation.

With this third unit of work, we will continue a small project that will consist of creating a simple game. We will do it through the "Scratch" programming tool. This project will be developed gradually over the following work units, this being the third one.

OBJECTIVES

- Understand the importance of programming languages.
- Learn basic programming language in a fun and easy way.
- Know the "Scratch" programming tool.
- Start the "block programming" and the use of the "Scratch" programming tool.
- Develop a positive attitude towards the English language, since in most programming languages that language predominates.

PROFICIENCIES

This work unit is designed with integrated activities that allow students to advance in the development of the following skills:

- Digital.
- Learn to learn.
- Mathematical competence and basic competences in science and technology.
- Sense of initiative and entrepreneurial spirit.

TIMING

The development of this work unit is organized in 1 session of 45 minutes.

SESSION 1

This session is, in turn, divided into two parts:

PART I. REVIEW WHAT WE'VE LEARNED (10 minutes)

We will review what was learned in the previous work unit. To do this, the students will develop the first part of the presentation, which consists of a game. Once the game is finished, we will continue with the presentation, where we will see what is the task to be done in this work unit.

PART II. STEP BY STEP (35 minutes)

We will continue with the presentation. In the slide "STEP BY STEP", we will start the steps to follow. It is important that they are carried out in the order indicated:

- *Step 1: We will watch the video in which we explain how to locate our objects within the "Scratch" tool.*
- *Step 2: We will play the video where we explain how to program the dialogue of the first character in the game. We will program the predator first.*
- *Step 3: We will play the video where we explain how to program the dialogue of the second character. We'll schedule the prey second.*
- *Step 4. Task: We will explain the task that the students must carry out.*

MATERIALS

- Presentation.
- Computer with internet connection.
- Annex I. Solutions. (Attached in this document).

RECOMMENDATIONS

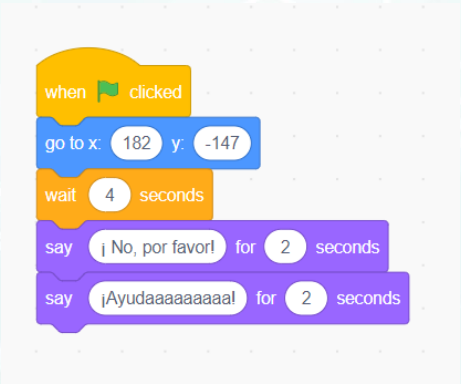
- The groupings in the development of the task are flexible. You can organize your students into small groups (no more than three), or do individual work (depending on the level of your students).

- Encourage them to be creative on the task (to create their own dialogue between the characters).

ANNEX I. SOLUTIONS.

PREDATOR PROGRAMMING

PREY PROGRAMMING



Castilla-La Mancha

NUESTRA SALUD ESTÁ EN TUS MANOS