Robotics and Programming V
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 fourth unit of work, we will finish the small project that consists of creating a simple game. We have been doing it through the "Scratch" programming tool. Said project has been developing gradually throughout the different work units, this being the last 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 proficiencies 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 four parts:

PART I. REVIEW OF WORK BLOCKS. (10 minutes)

In the first part of the presentation, students will review the already known programming blocks through a game.

PART II. INTRODUCTION OF NEW BLOCKS. (10 minutes)

In the second part of the presentation, new programming blocks will be introduced through short videos.

PART III. STEP BY STEP (10 minutes)

In a third part of the presentation, we will develop, step by step, the programming of the predator's movement, as well as the programming of the scenario and how to share the project once it is finished. At this point, you can encourage your students to try to carry out said programming without having seen the steps to follow previously, viewing only step 1 (so that they can try to do the rest independently) or view all the steps so that later they can do as homework.

PART IV. WORK. (15 minutes)

Finally, the students must carry out the task proposed for this session.

MATERIALS

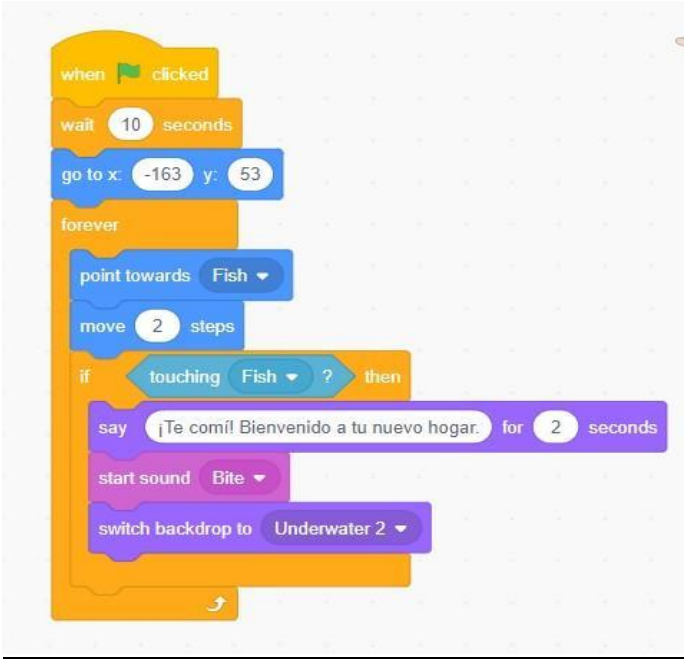
- Presentation.
- Computer with Internet connection.
- Annex I. Solutions. (Attached in this document).

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 homework.

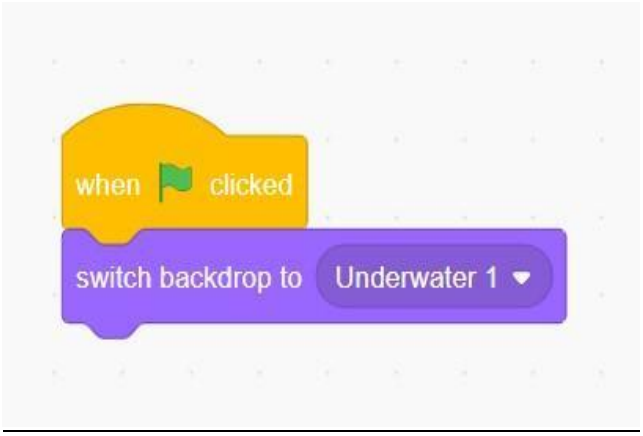
ANNEX I. SOLUTIONS.

MOVEMENT PROGRAMMING: THE PREDATOR CHASES HIS PREY



MOVEMENT PROGRAMMING: COSTUME CHANGE

MOVEMENT PROGRAMMING: BACKGROUND CHANGE


when clicked
switch backdrop to
Underwater 1

Castilla-La Mancha

NUESTRA SALUD
ESTÁ EN TUS MANOS