Globisens

xploris

CODING

Hello World!

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HELLO WORLD!

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1 Introduction

Do you remember your first word? I'm sure your parents do! Language is key to communicating and connecting with others. And it's not just about talking to people—we also communicate with computers! That's how we create programs and apps, and solve countless problems.

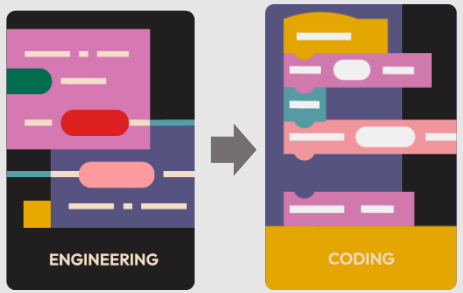
In this activity, you are going to create a bridge between your imagination and the digital world using block language and the Xploris device. We will learn how block programming works to display messages on the Xploris device screen.

2 Activity setup

Turn on your Xploris and connect it to your computer or tablet.

Open the XploriLab software on your computer or tablet.

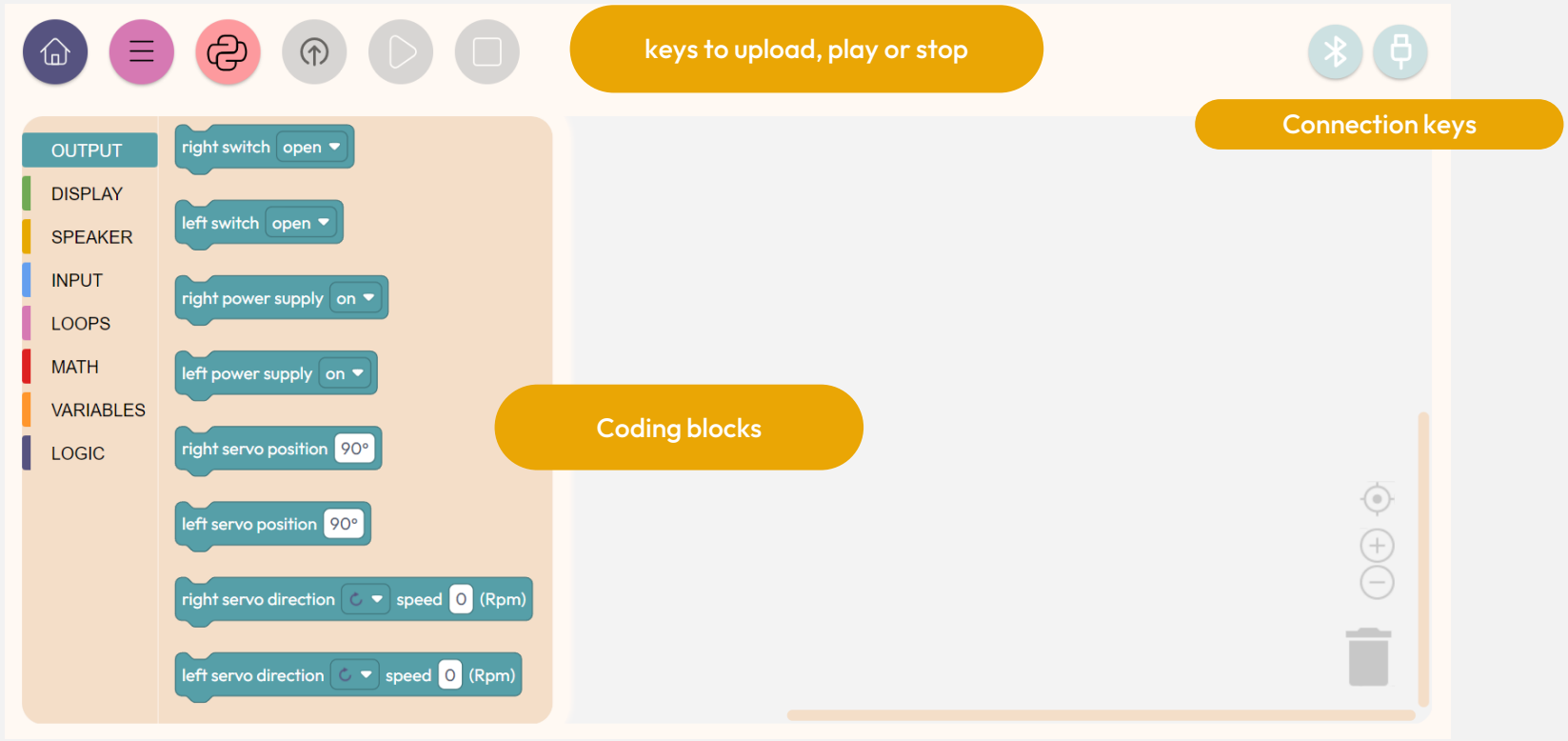
Once inside XploriLab, select the icon to connect the device via USB cable or bluetooth as applicable.



Go to the ENGINEERING section and then to CODING.

3 Coding

In the Coding window, you will find the tools you need to create code using blocks.



3 Coding

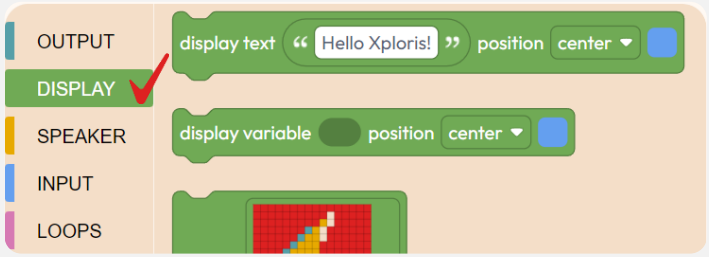
The available tools represent blocks that allow you to perform various actions.

Functions

OUTPUT	Output blocks to activate Xploris switches, power source and/or servos.
DISPLAY	Blocks to control the Xploris screen.
SPEAKER	Blocks to control the Xploris speaker: play sound tracks, notes and control the speaker volume.
INPUT	Blocks that enables you to use all Xploris keys and sensors, such as temperature, light, distance, sound and voltages.
LOOPS	Loop blocks to perform an action continuously or as long as their conditions are met.
MATH	Mathematical blocks, such as +,- and many other math functions.
VARIABLES	Blocks for creating variables, assign and replace their values.
LOGIC	Logic operators that will allow decisions to be made based on the state of the data.

3 Coding

1



In this activity we will use the screen of our Xploris device and block-based programming to display a specific message: “Hello World!”. And to do this, we will start with the Blocks DISPLAY

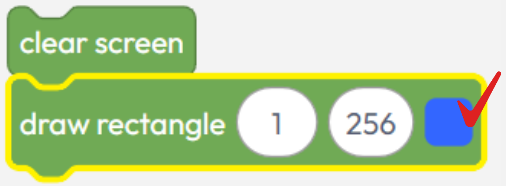
2

Use the block clear screen of the DISPLAY group to clear the screen of our device, thus ensuring that we have a clean space in which to display the results of our programming.

To use it, select it and move it to the workspace located on the right.

3 Coding

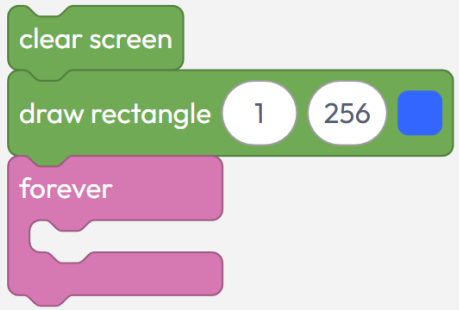
3

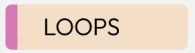


Choose a background color to display on the screen. Select  and drag it to the right workspace. Just remember to join the blocks.

In this block, we can choose the "**pixel**" or the grid of the Xploris screen and assign a color to that pixel. We will set the start at 1 and the end at 256. Choose the color you like the most!

4



In the group  , use the block 

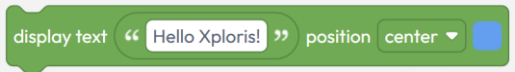
This will allow us to **repeat indefinitely** the instructions you place inside it. Place it following the previous two blocks.

3 Coding

5

We're almost there! The big final step is here: we are going to greet this world of programming with our: “Hello World!”.

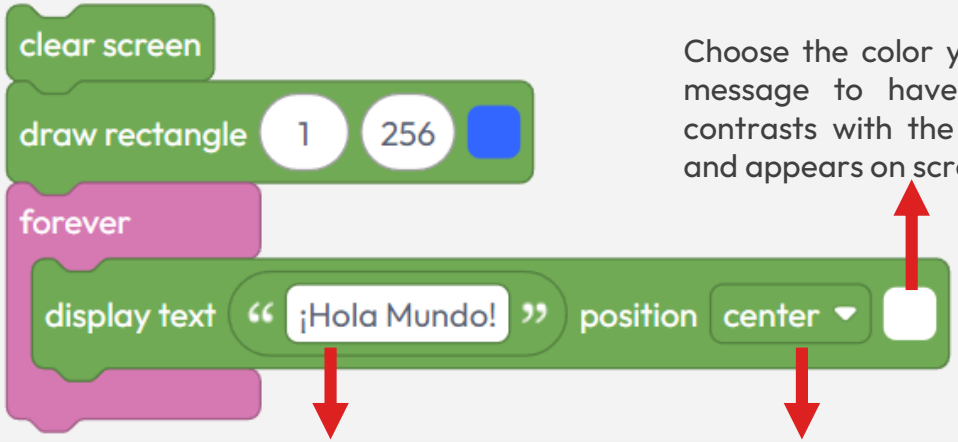
In the DISPLAY select the block



and connect it inside the block

.

Add the message you want. For “position”, select the “center” option. Now choose whatever color you want for this message, and get ready for a “Hello World!”



Choose the color you want the message to have so that it contrasts with the background and appears on screen.

Write the message “Hello World!”.

Select the “center” position.

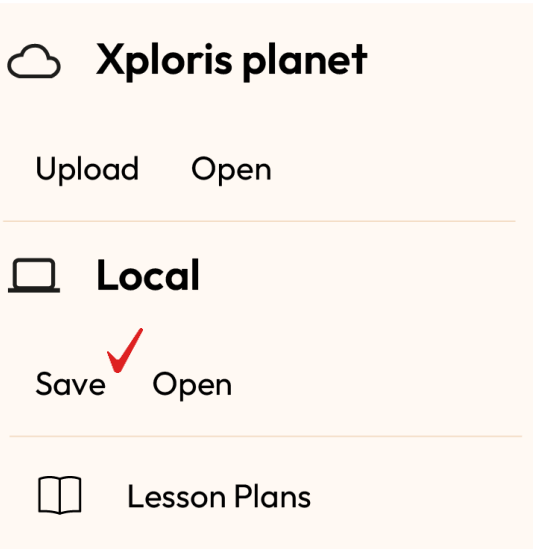
3 Coding

To make sure that the program works correctly, we will follow these final steps:

Press the three-bar icon at the top and select the “Save” option. Then, assign a name and save our program.

Press the “Upload” button in the Xplorilab interface. This will transfer the program to the Xploris device.

Once the program is loaded, press the “Play” button on Xplorilab software. Watch as the magic happens: a brand new "Hello World!" comes to life through block programming. It's a moment to celebrate!



4 Questions

1

Sciences

How do you think the computer makes the letters appear on the screen? Is it like a flashlight turning on tiny lights? And how do those little lights come together to form the letters of "Hello World!"?

2

Control

What do you think will happen if we change the order of the blocks? Will the same message appear?

3

Let's keep experimenting!

What do you think was the first message ever to be displayed on a computer screen? Choose the next message you'd like to show on the Xploris device and program it!

5 Activity summary

- We learned about using and displaying a message on the screen of the Xploris device, using block coding language.
- We apply programming block functions such as “Display” and “Loops”.
- We program using the XploriLab application, loading the program created and then testing it in Xploris.

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