Women in science MERGE Cube Lesson plan

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Education level: From elementary

Subject: STEAM, social sciences, humanities, languages

Format: Individual activity

Duration: Approx. 1 hour

Introduction and lesson objectives:

This lesson aims to provide students with the opportunity to rethink the gender stereotypes associated with STEM careers. It'll also expose students to some current female references who can be a source of inspiration to the younger generation. Using CoSpaces Edu and the MERGE Cube, students will create collaborative projects encouraging the use of technology and fostering teamwork.

The goal is to highlight the work of female scientists and expose students to them. A focus can also be put on local female scientists, from scientists studied in class to the mothers of students who work in the scientific field.

Learning goals and student benefits:

- Learn basic coding skills
- Develop research skills
- Foster creativity
- Develop critical thinking skills
- Train communication skills
- Practice organizing information

Activity example:

1. Give your students some time to do some research on female scientists.
2. Ask them to prepare and conduct a short interview with a local female scientist.
3. Ask your students to design an infographic about the scientist they've learned about, using the data they gathered from the interview.
4. Using tools like **Keynote** (iOS), **Canva** and **Google Slides**, ask them to prepare images introducing the scientist.
5. Let them create a MERGE Cube onto which they'll add their infographic, a picture and other content to introduce the scientist.
6. Ask your students to use CoBlocks to program their MERGE Cube.
7. Finally, ask them to create a quiz on the information shown on the cube.

Extension idea:

- Students can share their MERGE Cubes with their classmates and take each other's quizzes.

Assessment and evaluation suggestions:

- Have your students managed to create a MERGE Cube in CoSpaces Edu?
- Did your students conduct successful research and interviews to gather information that they then included in their MERGE Cubes?
- Is the information provided on the MERGE Cubes displayed in a clear manner showing a good sense of design and information layout?
- Have your students managed to create quizzes?
- Did your students use CoBlocks code?

Creation guide

To start working, you'll need **4-5 photographs or caricatures** of the scientist to whom you've decided to dedicate this project.

Use **Canva**, **Mixoo** or another tool from class to prepare the images you'll be using in your project. Use a 1x1 format to fit the square faces of the MERGE Cube.

Once you've researched or interviewed the scientist, add this information into an infographic.

Use **Google Slides** or the **Keynote app** as these will let you define the format and size of your infographic.

In order to be able to place it on a side of the virtual cube, you'll need to create all content in a 1x1 square format.
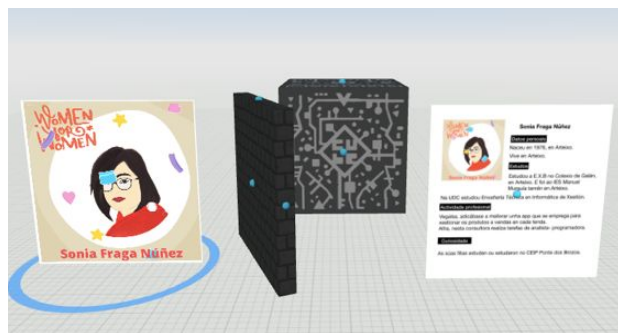
In CoSpaces Edu, open the Library and go to the Building category, where you'll find **building blocks**.

Add a **square panel** and **attach** on one side, the scientist's picture and on the other side, the image that you previously created.
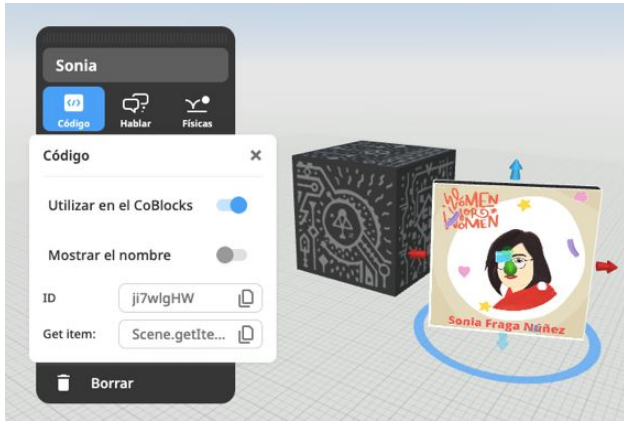
Group your image with the square panel and your infographic.

Name this group and enable its **Use in CoBlocks** to program it later.

Do the same for each side of the cube, showing a different female scientist or aspect of the scientist you've studied.

If you wish, drag and drop objects or characters from the **Library** to decorate your cube and around it.
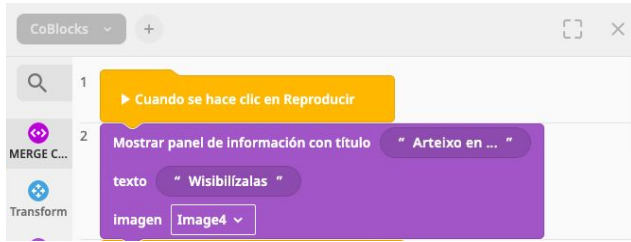
You can define reactions, postures or actions for your characters.

Right or double click a character and go to **Animation**.

You can include 3D text, video, images, GIFs, etc.

Look for the different options available under **Upload**.

Once you're done designing your CoSpace, it's time to start coding.

Click on Code at the top-right of your screen.

The first thing you'll do is code a panel with the title and the author of this project.

You can also add an image to your panel to make it more attractive.

Each face of the MERGE Cube in this example will introduce a different female scientist.

On the face of the cube that will appear first, we'll show a collage with the four scientists' pictures.

When this first image is clicked on, information about what to do on the other faces will appear.

Program every side so that when you click a picture, it gives more information about this scientist.

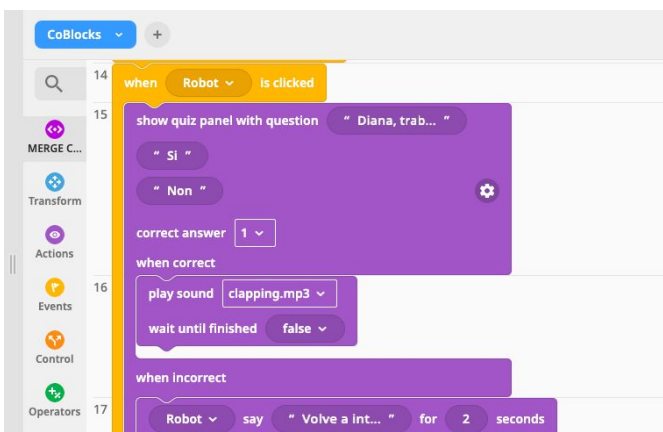When you're done, click Play.

The programming of the other sides can be done as follows:

When you click or touch the image, the panel rotates 180° degrees and the infographic appears.

After all the faces have been played, the robot in the scene should be clicked to start the quiz.

The next step is programming the Quiz panel with the different questions you've prepared.

Finalize your quiz by adding sounds, for example claps.

When the selected answer is correct and a Speech bubble displaying some text when the answer's wrong.

Finally, you can add background music to your CoSpace.

Example CoSpace

Women in Science

edu.cospaces.io/SWP-PLA