LEARNING TO CODE

THEME	Connection with other disciplines
FORMAT	Pairs (in computers)
PREPARATION TIME	1 hour
ACTIVITY LENGHT	2h15 – 3 hours (3-4 classes of 45 minutes)
DIFFICULTY LEVEL	Average

PEDAGOGICAL GOALS

Scratch is a great tool for working on relationships with topics studied in other disciplines. When creating their projects, students have the opportunity to communicate in their own ways the understanding of the subjects covered, synthesizing ideas and exploring programming concepts to achieve them.

The activity has as specific objectives:
- Develop the ability to synthesize and select relevant information
- Use programming as a way of expressing ideas
- Create new relationships with disciplines worked in the classroom

NECESSARY MATERIALS

- Computer with Internet connection (one computer for each pair of students)
- Selection of a theme by the teacher

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Preparation:
- Search for partnerships with other teachers and select a theme for your students to create an animation (or game).
- Look for a broad theme that allows students to create different projects within this theme, avoiding a recipe that must be followed by everyone.

Leading the activity:
- In the first class, before going to the computer, present the topic to be worked on and ask the students to research and write down in their notebooks initial ideas about that topic - as aspects they consider relevant and that could compose the project in Scratch. Here, you can join with the other teacher (s) to imagine other dynamics for the beginning of the project.
- Set aside about 2h15 (approximately 3 lessons) for work with Scratch. Before starting, inform students that all projects will be presented in the last class.
- On the computer, ask students to login to Scratch, and to share their projects at the end of the class.
- If you notice that at the end of the second class the students are still involved in the creation of their projects and still far from the end, offer one more class for the completion. However, it is important that, in the last class, a time of about 30 minutes is allocated so that everyone can share their projects properly.

Discussion and reflection:
Ask each pair to present their project to the rest of the class. You will find that the levels of complexity and completion of projects will be quite different. So, encourage students to share the project not as something finished, but as a process of developing ideas. You can ask them to comment:
- What did you learn from doing this project?
- What was the initial idea? What has changed along the way? Why?
- What would you do if you had more time?

When you see that students have created new effects or new sets of blocks that the rest of the class does not usually use, ask them to show others how they built this piece of code.

In addition, you can comment on the concepts (related to the subject studied) presented by the projects and seek relationships between them.

In this lesson plan we focused on creating animations. However, it is worth exploring the potential of Scratch to work with mathematical concepts in a practical and applied way.

Credits:
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