Unplugged Activity

Title: EXPLORERS OF THE PROTOCTIST KINGDOM

Educational level: 3rd cycle of Primary Education
Curricular areas: Natural Science
Timing: 1 session of 45 minutes
(1st term and ideal activity for review).

Summary

The students receive a scroll with the instructions. The mat is divided into four different habitats, each area has specific missions, where they can find different organisms, following the coding sheets, which indicate the characteristics of each organism of the Protoctist Kingdom. Upon completing each mission, they earn points and can record their findings in an exploration journal. In the end, each group of students presents their discoveries and shares what they have learned.

Aims

- Strengthen skills in robotics and coding through learning about the Protoctist Kingdom.
- Program robots to perform tasks related to the search for protoctist organisms.
- Promote hands-on learning and understanding of how technology works.

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- Create sequences of instructions to encode the characteristics of organisms.
- Stimulate the observation and analysis of protoctists.
- Encourage cooperation among students of their findings.

Key competencies to develop: Competence in Linguistic Communication, Mathematical Competence and Basic Competences in Science and Technology, Social and Civic Competence, Personal, Social and Learning to Learn Competence and Digital Competence.

How do we do it?

1. **Introduction to the topic:** introduce students to the Protoctist Kingdom, explaining its diversity and main characteristics. Print the cards and laminate them.
2. **Individual Research:** using the materials provided and their book.
3. **Classification of organisms:** they must explore the mat and the four habitats, find protist organisms using the criteria marked, size, shape, movement, habitat, the diversity of life forms and biological structures (unicellular and multicellular).
4. **Creating a record:** students write down their discoveries in the explorers´notebook and then share them with their classmates. They can use the multiple coding examples given or generate new ones.

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5. **Presentation and discussion:** they share their findings and records in groups promoting dialogue about the similarities and differences between protoctists.

6. **Final Reflection:** reflect on what has been learned and the relevance of protoctists in the ecosystem, closing the activity with a brief review of the key concepts.

Suggestions

Organize a role play, students assume the role of scientists, discover new protist organisms. They will have to present their new discoveries to the "scientific community" (the rest of the class) and defend their classification. If possible, organize a virtual or face-to-face visit to a laboratory to give them a real vision and a practical experience.

Resources

- **Human:** teachers and students.
- **Material:** sorting cards (if possible laminated and folded to cover front and back).

Space: classroom and laboratory.

Type of activity: whole group and small groups.

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Material to print out:

[Board]

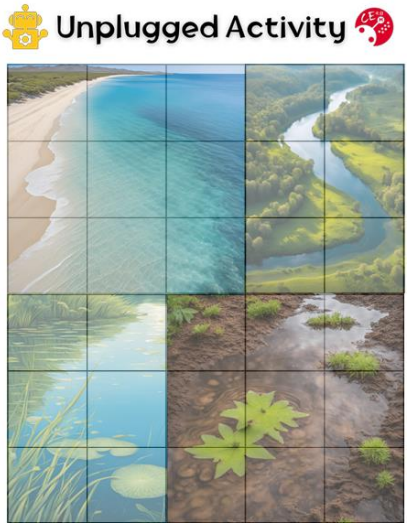
[Instructions]

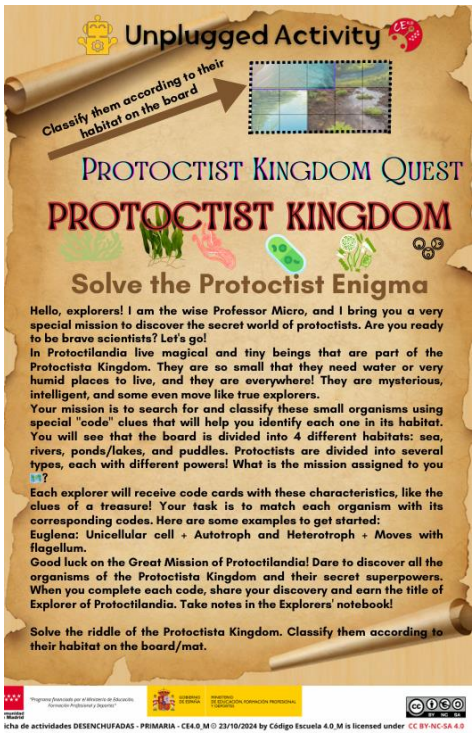
[Scroll]

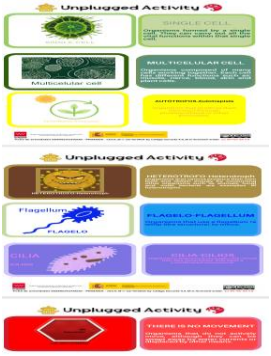
[Cards]

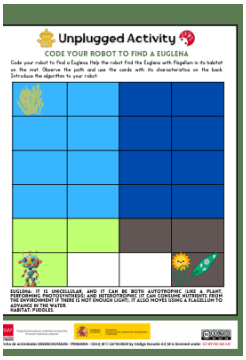
[Explorations]

[Coding Suggestions]









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What have we learned?

Below is the rubric of the activity:

Assessment Criteria	4 Excellent	3 Very good	2 Satisfactory	1 Needs improvement
Understand the concepts and characteristics of the organisms of the Protoctist Kingdom.	The student shows a complete and accurate understanding of the characteristics and classification of protoctists.	The student shows a good understanding of the characteristics and classification of protoctists with small errors.	The student shows a basic but incomplete understanding of concepts with frequent errors.	The student does not show understanding of the concepts or proper use of the classification of the protist organisms.
Establish an ability to classify and code organisms of the Protoctist Kingdom.	The student classifies correctly (single-cell, multicellular cell, habitat and shape) and encodes new organisms.	The student classifies and codes most of the organisms correctly using relevant but without any criteria.	The student classifies some organisms, but he/she needs support and makes several coding mistakes.	The student does not classify organisms correctly and does not apply the criteria in the codification properly.

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Computational Thinking

Logic (prediction and analysis): thinking to make predictions, solve problems and make decisions based on available information.

Algorithms (steps and rules): is a step-by-step process that solves a problem or completes a task.

Decomposition (breaking down into smaller parts): breaking down problems into smaller and more manageable parts, which are easier to understand and solve.

Patterns (recognise and use similarities): recognising similarities or patterns in problems or data, which means come up with solutions quickly and effectively.

More information

QR codes to the activity resources:

Board	Scroll	Instructions	Coding Suggestions	Cards	Explorations

This activity contributes to 4 out of the 17 Sustainable Development Goals:

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