Unplugged Activity

Title: CYCLE-BOT PLANTS

Educational level: **Year 2 of Primary Education.**
Curricular areas: **Natural Sciences.**
Timing: **1 session of 45 minutes (in any term).**

Summary

In this session, Year 2 students will explore the life cycle of a plant through activities focused on sequencing, ordering, and spatial orientation activities. They will identify the various stages through which a seed passes to become a fully grown plant, complete its life cycle, and eventually reach decomposition. Students will also learn to identify certain threats that can impact this cycle.

Aims

- Identify the stages of the life cycle of a plant.
- Sequentially arrange the phases of the life cycle.
- Develop coordination skills and teamwork.
- Create a final product that encourages creativity and comprehension throughout the process.

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Key competencies to develop: linguistic communication, mathematical competence, science and technology, social and civic competence, and learning to learn competence.

How do we do it?

1. **Introduction to the Life Cycle of a Plant.** Begin with a brief introduction to the life cycle of a plant. Explain to the students the main stages: seed germination, sprout, seedling, mature plant, flowering or fruiting, and death and decomposition. Use visual aids such as these cards to make it more engaging. Discuss external factors that may harm plants and introduce the concept of 'pests'.

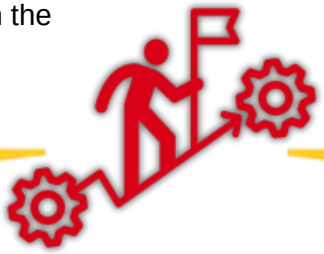
2. **Stage Identification and Ordering.** In a large group, shuffle the cards depicting the life cycle stages. Different students will take turns identifying and correcting the errors to correctly complete the cycle.

3. **Working in Pairs: Creating a Life Cycle Book.** After students have understood the content, divide the class into pairs. Each pair creates a 'life cycle book'. This activity is offered at two difficulty levels. Students with lower levels can read and paste illustrations for each stage, while those at a higher level can use a text-free model to write a brief description of changes in each stage.

4. **Setting up the 'Cycle-Bot' Game.** The teacher gives each pair a game mat and a marker. One student will act as the 'guide', and the other as the 'plant-robot'. The 'plant-robot' will place their marker on the 'seed' square, and the guide must lead them through the board to the 'dead plant' without landing on a pest square, for example using commands such as 'move forward three spaces', 'stop', 'turn right', or 'turn left', simulating basic programming instructions.

5. **Role-Switching and Sharing.** Once each 'plant-robot' reaches the end of the life cycle, the pairs switch roles and can exchange boards with other pairs who have completed the game.

6. **Discussion.** After all students have completed the activity, invite each pair to share their experience as 'guide' and 'plant-robot'. Conduct a group discussion on the challenges encountered, the knowledge gained, and the differences between each life cycle stage.



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Suggestions

Students may use arrow cards to move around the board. The activity can be modified; instead of using a board, cards can be scattered on the floor, and pairs use their bodies to form the plant's life cycle. Commands can also be physical rather than verbal: for instance, a tap on the head means move forward, and a tap on the right or left shoulder indicates a turn.

In follow-up sessions, students may decorate and personalise their life cycle books, revisiting the stages and reinforcing learning before sharing with the class. Another idea for subsequent sessions is to start a class project by planting seeds and documenting the growth process until they become mature plants.

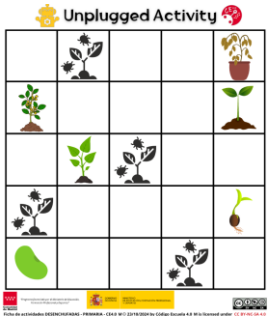
Resources

- **Human:** teacher and students.
- **Material:** life cycle cards, life cycle books, game boards, and markers.

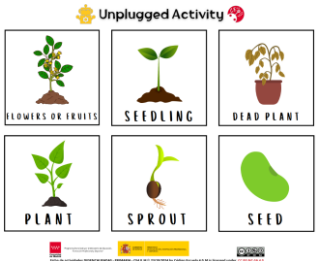
Space: classroom.

Type of activity: first activity in a large group, followed by pairs.

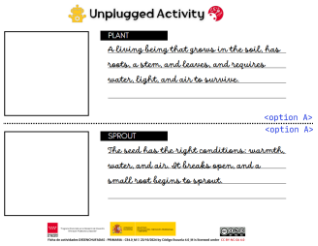
Life cycle board game



Life cycle cards



Life cycle book



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What have we learned?

Learning Outcomes and Evaluation Rubric:

Assessment Criteria	4 Outstanding	3 Very good	2 Satisfactory	1 Needs improvement
Understanding the life cycle of a plant	The student correctly identifies and arranges all stages, showing detailed understanding of each phase.	The student correctly identifies and arranges most stages.	The student identifies some stages, but the sequence is incorrect or incomplete.	The student fails to identify or arrange stages correctly.
Ability to follow and give directions	The student gives clear and precise instructions throughout the game without assistance.	The student gives basic instructions correctly, completing the activity with some help.	The student gives or follows partial instructions, but they are incomplete or unclear.	The student fails to give or follow clear instructions while playing the board game.
Teamwork	The student actively collaborates, fulfilling the role with enthusiasm and fostering a positive experience.	The student collaborates and fulfils the role as 'guide' or 'plant-robot' with some difficulty.	The student participates but shows difficulty collaborating or needs constant support.	The student fails to cooperate or participate, showing disinterest.

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Computational Thinking

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.

Abstraction (delete unnecessary details): simplifying things in a problem hiding unnecessary details or aspects to focus on those which are relevant and essential.

More information

QR codes to the activity resources:

Life cycle board game

Life cycle cards

Life cycle book

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