





Código: CA-02	<b>CA-02 LEARNING RUBRIC AND LEARNING EXPERIENCE LESSON PLAN 2024</b>	 <b>COLEGIO TERESIANO</b> <b>BOGOTÁ</b> <small>COMPAÑÍA DE SANTA TERESA DE JESÚS</small>
Versión: 1		
Fecha de revisión: 24/03/2023		

<b>PROJECT'S NAME: A Three-dimensional Journey: Exploring Life Organization in Colombian Ecosystems.</b>		
<b>LEVEL: 10th grade.</b>	<b>CLASS: A-B</b>	<b>TEACHER:</b> Silvia Fernanda Rodríguez López.
<p style="text-align: center;"><b>PERIOD I</b></p> <p><b>FROM:</b> January 17th, 2024. <b>TO:</b> April 19th, 2024.</p>	<p><b>KEY SKILLS:</b> Interacting with the natural environments through exploration exercises for analyzing and making a proposal to possible solutions using ICT tools.</p> <p><b>STANDARD KNOWLEDGES:</b> Identifies and compares different life cycles and the conditions that affect them, through the design of graphic information organizers.</p>	
<p style="text-align: center;"><b>WHICH ARE THE COMPREHENSIVE SKILLS WE WANT THE STUDENTS HAVE?</b></p> <p>Observe the main characteristics of the animals in the environment (feeding, locomotion, reproduction, and anatomy).</p> <p>Describes and represents the main characteristics of the plants in the environment like their life cycles, uses for humans and animals and their vital functions.</p>	 <p><b>CB5.</b></p> <p><b>¿WHAT TO LEARN FROM THE TERESIAN SKILLS?</b></p> <p><b>Conceptual:</b> Cellular model and its structures. Levels of organization.</p> <p><b>Procedural:</b> Develop skills to analyze, structure, and argue the thematic axes through the application of research methods, interpretation of information, and effective communication.</p>	<p style="text-align: center;"><b>WHICH IS THE SCENERY OR PROBLEMATIC SITUATION?</b></p> <p>This year there is the second version of the Teresian Science congress, that's why we want to take another chance to keep promoting the essential and environmental values like, respect, austerity, solidarity, co-responsibility, empathy and coherence to be better living things and find some solutions to protect and take care of our planet from our own environmental relationship.</p>

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	<b>Attitudinal:</b> Demonstrate a positive and creative attitude, promoting exploration, teamwork, and participation.	
<b>STUDENT'S ROLE:</b> Biological Creativity Explorer.		
<b>CHALLENGE:</b> Expand your creativity with the Origami Bio challenge! Use paper to represent each level of organization, from cells to ecosystems.	<b>PRODUCT:</b> Origami modeling to represent the levels of organization of an organism in different Colombian ecosystems.	<b>PROMOTION:</b> Sharing the models with both classes 10 A and B.

<b>LEARNING OUTCOMES</b>			
<b>SUPERIOR (S)</b>	<b>ACCURATE (A)</b>	<b>AVERAGE (B)</b>	<b>LOW (J)</b>
The student investigates fundamental concepts such as levels of organization and their importance for interactions in ecosystems, through the creation of an origami model. Additionally, they participate in all activities, foster autonomy, creativity, and teamwork. They use scientific vocabulary and apply critical thinking skills.	The student argues about fundamental concepts such as levels of organization and their importance for interactions in ecosystems, through the creation of an origami model. Additionally, they work in teams, possess communication skills, and participate partially in class activities. They have some exposure to scientific vocabulary.	The student integrates fundamental concepts such as levels of organization and their importance for interactions in ecosystems through the creation of an origami model. Additionally, they highlight some communication and teamwork skills during class activities.	The student shows difficulty in defining fundamental concepts such as levels of organization and their importance for interactions in ecosystems. They do not complete the final product. Additionally, they need to improve their attitude and enhance their communication skills, teamwork, and use of scientific vocabulary.

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## LEARNING EXPERIENCE

### **STAGE 1: Sailing Through the Cellular Universe.**

**EXECUTION:** From cycle 1 to cycle 6.

**CRITERIUM:** The student defines and integrates the cellular model, structures, parts, and functions of an organism from Colombia.

**TASKS:** Diagnostic development, identification of previous ideas, and presentation of the area project.

- Perform a diagnostic activity on the following thematic axes: cell division (mitosis and meiosis), hereditary material, taxonomic groups, and genetic modification. This involves constructing a mind map to recognize the multiple relationships that arise from the concepts. **(Cycle 1) (1 hour).**

- Project Presentation: A Three-dimensional Journey: Exploring Life Organization in Colombian Ecosystems. Students create an origami to represent the levels of organization of an organism in different Colombian ecosystems: coastal zone, tropical rainforest, floodable forest, paramo, or others. Each level of organization in the origami reflects how organisms interact in their environment, from individual cells to complex systems. **(Cycle 2) (1 hour).**

**Development of the thematic axis: Initial levels of organization (cells, tissues, and organs).**

- In this workshop, students explore prior ideas about the concept of "cell" and levels of organization. Images representing the different levels of organization and their specific characteristics are used as material. This activity is conducted in teams, and at the end, students should have the images organized to reflect a biological community. **(Cycle 3) (1 hour).**

- The students interpret cells, tissues, and organs through a theoretical-practical activity. They discuss in groups the differences between each level of organization and analyze how these structures contribute to the functioning of an organism. **(Cycle 4) (1 hour).**

- The progress related to the project is discussed with the students, taking into account the previously addressed thematic axes. They are asked to share their inquiries and developments regarding the chosen organism and the first levels of organization. **(Cycle 5) (1 hour).**


- Considering a previous inquiry conducted by the students about the different systems composing the organism they chose for their project; the teacher presents a lecture consolidating the formation of multiple systems until reaching an individual. **(Cycle 6) (1 hour).**

### **STAGE 2: Exploration and argumentation across levels of organization.**

**EXECUTION:** From cycle 7 to cycle 11.

**CRITERIUM:** The student demonstrates the ability to research and argue about the study of life through levels of organization. This is achieved through participation in all activities, autonomy, creativity, teamwork, using scientific vocabulary, and applying critical thinking skills.

**TASKS:** Development of the thematic axis: populations, communities, and ecosystems.

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- The students research population and community dynamics, analyzing the factors that influence their size, distribution, and inter- and intra-specific relationships, based on problem situations presented by the teacher. **(Cycle 7) (1 hour).**
- The teacher consults with the students regarding progress related to the area project, considering the previously addressed thematic axes. They are asked to share their inquiries and developments regarding the chosen organism and the subsequent levels of organization. **(Cycle 8) (1 hour).**
- Final Project Presentation: A Three-dimensional Journey: Exploring Life Organization in Colombian Ecosystems. Students share their results, experiences, and learnings. This includes socialization and allows for project feedback. **(Cycle 9 - 10) (2 hours).**
- The students take the final assessment to demonstrate their argumentative process and other developed skills regarding the levels of organization. **(Cycle 11) (1 hour).**

**Note:** All notes, activities, guides, and evaluations are compiled in the science portfolio as an integral part of the learning process.