



## UNIT GRAPHIC ORGANIZER

**SUBJECT:** Science

**UNIT:** 2

**COURSE:** 3°

**TEACHER:** Ingry Cárdenas Parra-Xiomara Burbano

**DATE:** April 15<sup>th</sup>– 2024

### ECOLOGY

**THROUGHLINES:**

1. Why are non-living things important for an ecosystem?
2. How living things are organized to survive?
3. How an ecosystem can survive?
4. How do living things relate to each other?

**GENERATIVE TOPIC:**



**UNDERSTANDING GOALS:**

|  |  |  |
|--|--|--|
| <p>The students will understand the ecological levels of organization through diagrams and the analysis of bar graphs to explain that the change of the environment has a huge impact in the organism.</p> | <p>The students will explain how food chains and food webs work through pictures of real examples in class to comprehend how some animals feed on others and the energy is moving in an ecosystem.</p> | <p>The students will represent different types of symbiotic relationships in pairs of organisms through emojis and the description of interactions in tables to explain how species evolve relationships with others to survive.</p> |
|--|--|--|

|                          | UNDERSTANDINGPERFORMANCES   | TIME    | ASSESSMENT   |   |
|--------------------------|---|---------|--|---|
|                          | ACTIONS   |         | WAYS   | CRITERIA  |
| <b>Exploration Stage</b> | <ul style="list-style-type: none"> <li>•To understand what anecosystem is how it is formed.</li> <li>•To recognize the differences and similarities between the levels of organization.</li> </ul>  | 2 weeks | <ul style="list-style-type: none"> <li>• Recognizing the main aspects of the environment by watching a video about the environment in Colombia and analyzing the ecosystems.</li> <li>• Playing with some activities like “hot potatoe” in order to recognize the levels of organizations, biomes, abiotic and biotic factors, food chain and food web.</li> <li>• Reading a text about organism, population, community and ecosystem in order to identify the high frequency words.</li> </ul> <p><b>SYNTHESIS PROJECT STAGE 1:</b></p> <ul style="list-style-type: none"> <li>• Socializing the project to the students identifying the question “Why have I been sick during the days?</li> <li>• Giving ideas and designing possible solution of how we can care the body.</li> </ul>  | <ul style="list-style-type: none"> <li>• Knows and applies previous knowledge with the topic.</li> <li>• Selects information to give answers.</li> <li>• Identifies and uses scientific language.</li> </ul>                                  |
| <b>Guided Stage</b>      | <ul style="list-style-type: none"> <li>• To understand the relationship between biotic and abiotic factors in an ecosystem.</li> <li>• To recognize the different ecological levelsof organization.</li> <li>• To describe the flow of energy in an ecosystem.</li> <li>• To identify how organism are associated in an ecosystem.</li> </ul> | 3 weeks | <ul style="list-style-type: none"> <li>• Developing an activity with plastic glasses and a sharpie to explain levels of organization from individual to biosphere.</li> <li>• Hunting biotic and abiotic factors in different areas of the school and classify them (guide).</li> <li>• Choosing a biome to explain how biotic and abiotic factors are related according to the environmental conditions and make a presentation.</li> <li>• Making and analyzing bar graphs about growth and decreases of populations.</li> <li>• Constructing food chains and food webs using pictures and present them in class.</li> <li>• Comparing symbiotic relationships in class based on daily situations using emoticons.</li> <li>• Making a report about Van der Hammen Reserve. Case study: how will be the ecosystem affected if the reserve is built?</li> </ul> <p><b>SYNTHESIS PROJECT STAGE 2:</b></p> <p>The students will write down observation by asking how frequently they wash their hands in order to create graphs and comparative charts (collect data) to analyze its data. The teacher will ask for the material to prepare the “cleaning product”.</p> | <ul style="list-style-type: none"> <li>• Establishes differences among description, explanation and evidence.</li> <li>• Registers the information in order.</li> <li>• Communicates their observations using scientific language.</li> </ul> |

|                                 |   |  |   |   |
|---------------------------------|---|--|---|---|
| <p><b>Learning Evidence</b></p> | <ul style="list-style-type: none"> <li>• To determine and identify all the relations that can appear in an ecosystem in a funny and popular way</li> <li>• To argue their hypothesis, observations and conclusions about the levels of organization.</li> </ul> | <p style="writing-mode: vertical-rl; transform: rotate(180deg);">3 weeks</p> | <p><b>SYNTHESIS PROJECT STAGE 3:</b><br/>The student will analyze the previous data (how frequently they wash their hands) in order to make a “cleaning product”. They will identify the importance to have cleaning their hands. Finally, at the end of the project the students will prepare one “cleaning product” for each classroom.</p> | <ul style="list-style-type: none"> <li>• Explains the results and conclusions.</li> <li>• Proposes, designs and does experiences in order to prove the scientific knowledge.</li> </ul> |
|---------------------------------|---|--|---|---|