

## County Implementation Award Program (CIAP) Math and Science Lesson

<p><b>Unit Title:</b> Ecosystems Around Us</p>
<p><b>Lesson Title:</b> Dissection of an Organism</p>
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<p><b>Grade Level:</b> 4th grade</p>
<p><b>Time Frame:</b> 75 minutes</p>
<p><b>Targeted Standard(s):</b> N.G.S.S: 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. Mathematics” 4.G.A.3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that figure could be folded across the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.</p>
<p><b>Short Description of Targeted Phenomenon: Share with students The Great Migration</b> <a href="https://ww2.kqed.org/quest/2010/05/05/the-great-migration/">https://ww2.kqed.org/quest/2010/05/05/the-great-migration/</a> Ask students to think about how so many animals can share the same space. As they watch the video, ask them to record what they notice and wonder. Other animals that share the same space (in addition to birds) are beaver, otter, coyote, fox, etc.</p> <p>Students will collaborate on a group poster where they will each describe an internal or external structure in an organism and its importance to that living thing. The combined organisms will belong to the same ecosystem, demonstrating how they have relationships with each other.</p>
<p style="text-align: center;"><b>Three Dimensions of NGSS</b></p> <p><b>Science &amp; Engineering Practice/s (SEP):</b> Engaging in Argument from Evidence Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s). Construct an argument with evidence, data, and/or a model.</p> <p><b>Crosscutting Concept/s (CCC):</b> Systems and System Models A system can be described in terms of its components and their interactions.</p> <p><b>Disciplinary Core Idea/s (DCI):</b> LS1.A: Structure and Function Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction.</p>
<p><b>Language Supports:</b> Native English speakers will be able to use rich science vocabulary in Spanish that will be visible in the form of context cards and anchor charts. I will also group students so each group has a balance of native English and Spanish speakers.</p>

**Materials Needed:**

scissors, glue sticks, coloring materials (colored pencils, crayons, etc.), structure sheets (one per student), group poster of organism

**Objective(s): Students will be able to:**

1. Distinguish and identify lines of symmetry in different organism functions.
2. Explain why specific functions of an organism are important for survival.
3. Work collaboratively as they complete an informational poster about different organisms that belong to the same habitat.

**How Math and Science concepts/skills/practices were integrated in this lesson:**

The students will need to demonstrate their skills of identifying symmetrical organisms by drawing half of it on a tri-fold sheet, implementing mathematical practice 4, “Model with mathematics”, and practice 6, which is attend to precision. Students will also implement mathematical practice 7, which is “Look for and make use of structure” in their own way using scientific knowledge of the functions in their particular organisms.

**Possible Challenges /Misconceptions:**

Students may have trouble retrieving information about their structure and how it benefits the organism their group is working on. Students may also have a hard time focusing on their individual projects by getting distracted by others.

**Formative Assessment:**

As the students are working on their assignments, I am going to check that the students are on task and working together. I am going to expect the students to have certain portions of their posters completed within certain time frames.

**Lesson Opening**

**Teacher Actions**

Teacher will explain that students will be working in groups to describe how animals from the same habitat use their different structures to survive.

**Student Actions**

Students will listen carefully to the instructions given.

**Lesson Introduction**

**Teacher Actions**

After having taught about different animals in a common habitat, the teacher will explain that students will explore a different organism in each group that together belong to the same habitat. Each student will be responsible for a particular structure in that organism and how it helps it function in its habitat.

**Student Actions**

Each student in a group of four will take responsibility of one structure in their organism.

**Body of Lesson**

**Teacher Actions**

This project-based assignment will be a follow-up of previous lessons taught about organisms in the

**Student Actions**

The student will be in charge of coloring the structure and describing its function in their

<p>same habitat and how their specific structures help them function in their environment. The teacher will give each student a foldable of the specific structure (thorn, fur, spikes, etc.).</p>	<p>organism. The students will paste their structures on the poster of their group's organism.</p>
<p><b>Lesson Closure</b></p>	
<p><b>Teacher Actions</b> The teacher will ensure that the students have completed their posters.</p>	<p><b>Student Actions</b> Once the students have completed their posters, each group will share their poster with the class. Each student will be able to communicate why their structure is important for their function in a habitat.</p>
<p><b>Summative Assessment:</b> The final completed poster will be the summative assessment. Each student's contribution to their organism poster will demonstrate that they understand the function of their structure and how it affects not only their organism but those that share the same habitat.</p>	
<p><b>Other Teaching Resources:</b> Teacher may implement different forms of media, such as videos and news articles that give additional information and/ or images of the organisms the students will be working on. Teacher may also pair a supplemental worksheet from the corresponding workbooks the students have access to for science for additional support.</p>	
<p><b>Lab Safety:</b> n/a</p>	
<p><b>Extensions (if any):</b> This project would be idea for the ending of a unit and may be on display for the students to look at and refer to in the future.</p>	