

1st Grade STEAM Activities

Activity 1: Salish Sea Stewardship Poster

Objective:

Encourage the students to use their imagination to create a poster that reflects the key concepts of Salish Sea stewardship that incorporates information from the lesson and the student's commitment to completing their Salish Sea Challenge.

Materials:

- Large poster boards or sheets of paper for each student or small groups.
- Markers, colored pencils, crayons, or other art supplies.
- Glue, scissors, and magazines or printed images for collage (optional).
- Printed copies of the Salish Sea Challenge worksheet.

Instructions:

1. Introduction (10 minutes):

Begin by discussing the key concepts of Salish Sea stewardship covered in the lesson. Remind students about the importance of being stewards of nature and how it relates to the Salish Sea. Highlight the various actions that can be taken to protect the Salish Sea, as outlined in the Salish Sea Challenge. Discuss the importance of teamwork and collective responsibility in stewardship.

2. Poster Creation (30 minutes):

Provide each student or group with a large poster board or sheet of paper. Instruct them to create a visually appealing poster that represents Salish Sea stewardship. They can incorporate drawings, illustrations, and key information from the lesson.

- Encourage the use of vibrant colors and creative elements.
- Ask students to include images of diverse marine life found in the Salish Sea.
- Include captions or speech bubbles to convey the importance of being a Salish Sea Steward.
- If possible, use collage techniques to include images of people engaging in stewardship actions or pictures of the Salish Sea.

3. Salish Sea Challenge Table (15 minutes):

On a section of the poster, students should create a table similar to the Salish Sea Challenge worksheet provided in the lesson. The table should have columns for the date, action, and the number of times each action is completed.

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- Encourage creativity in presenting this information, such as using waves or bubbles around the table.
- Make it visually appealing by using different colors for each action.

4. Sharing and Display (10 minutes):

Once the posters are complete, have each student or group present their poster to the class. Encourage them to explain their creative choices and how their poster promotes Salish Sea stewardship.

- Consider displaying the posters in a common area of the school to raise awareness about Salish Sea stewardship.

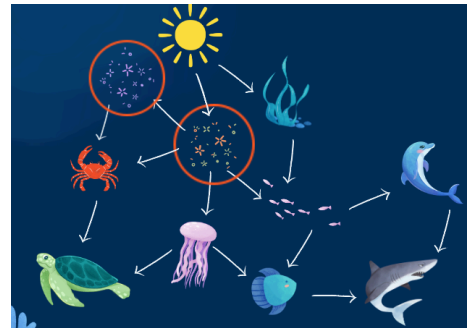
Activity 2: Plankton Mobile

Objective:

Create a visual representation of the marine food web by making a plankton mobile that showcases the interconnectedness of marine organisms, focusing on phytoplankton and zooplankton.

Materials:

- Paper or cardstock
- Watercolor paints and brushes
- Scissors
- Yarn or string
- Hole punch
- Glue
- Microscope slides with plankton samples (optional)



Instructions:

1. Introduction (10 minutes):

Begin the activity by briefly reviewing the concept of food webs, especially the role of plankton in marine ecosystems. Discuss the difference between phytoplankton and zooplankton and their significance as the foundation of the food web.

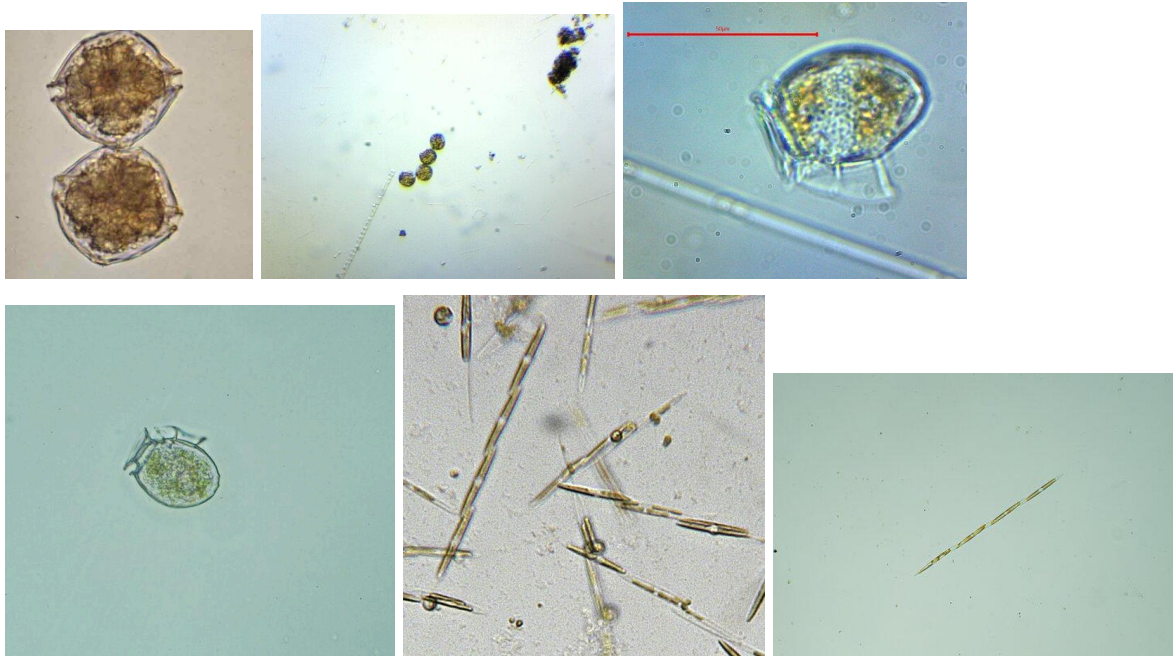
2. Observation (15 minutes):

If available, show students plankton samples under a microscope. Allow them to observe the microscopic organisms and discuss their role in the marine environment. If microscope slides are not available, use images or illustrations of plankton to help students visualize these organisms.

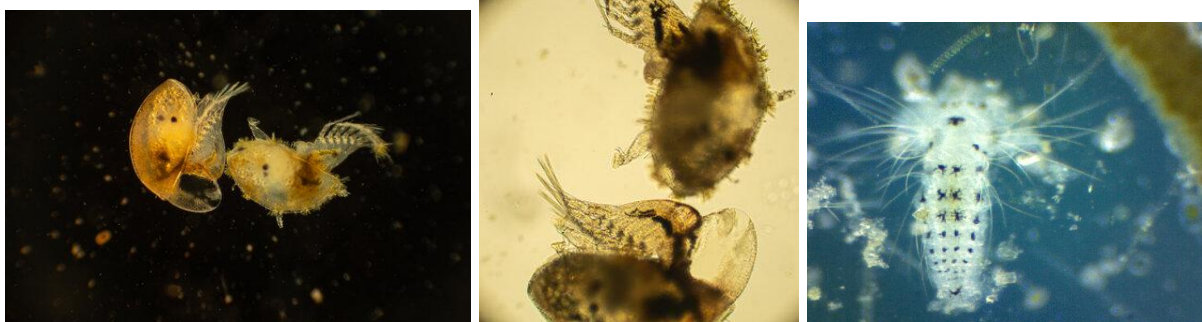
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Examples of phytoplankton:



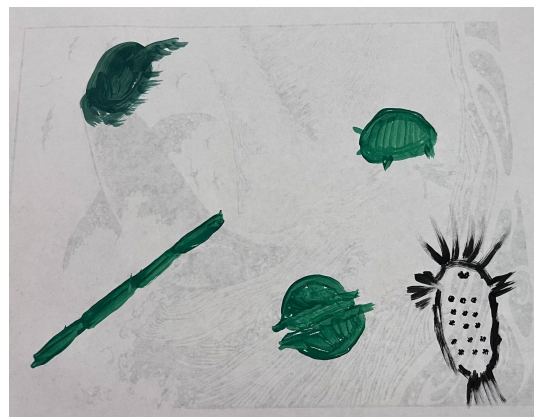
Examples of zooplankton:



3. Drawing (20 minutes):

Provide each student with paper or cardstock. Instruct them to paint phytoplankton and zooplankton based on their observations. Encourage creativity in depicting these tiny organisms, considering their role as the base of the food chain.

- Phytoplankton can be painted with green coloring to represent their ability harness sunlight for energy.
- Zooplankton paintings can showcase various shapes and sizes, emphasizing their role as consumers of phytoplankton.



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4. Cutting and Assembling (15 minutes):

After the paintings are complete, assist students in cutting out their plankton illustrations. Ensure that each painting has a hole punched at the top.

- Consider laminating the plankton paintings for durability if available.

5. Mobile Construction (20 minutes):

Cut yarn or string into equal lengths (approximately 1-2 feet each). Tie one end of each piece of yarn through the hole in each plankton drawing.

- Ensure that the lengths of yarn are varied to create a visually interesting mobile.
- Tie the other ends of the yarn to a central point (e.g., a clothes hanger or a wooden dowel) to create a mobile.

6. Discussion (10 minutes):

Once the mobiles are complete, gather the students and discuss the interconnectedness of their plankton paintings. Ask them to share which marine animals they think might consume phytoplankton and zooplankton. Emphasize the importance of plankton as the foundation of the marine food web.

7. Display (Optional):

Hang the completed plankton mobiles in the classroom or a common area to showcase the students' understanding of the marine food web.

This artistic activity engages students in creating a tangible representation of the marine food web, reinforcing the concepts of phytoplankton and zooplankton as key components. The mobile serves as a visual reminder of the interconnected relationships within the marine ecosystem. Ask students to evaluate how they connect to phytoplankton and zooplankton in the food web.



Activity 3: Create a Creature

Objective:

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Students will use clay to sculpt their favorite sea creature. Then, they will compare their favorite creature with their classmates to understand the diversity of organisms in the ocean.

Materials:

- Craft clay

Instructions:

1. Introduction (10 minutes):

Begin by discussing how many types of animals live in the ocean, and how they all have unique characteristics with the students. Highlight that the differences of organisms help them live in this environment in their own distinctive ways.

2. Clay Design (10-15 minutes):

Give each student some craft clay and have them craft their favorite sea creature with it. It may help to put some examples of common creatures on a screen or whiteboard for their inspiration. Common creatures include whales, octopuses, sharks, dolphins, sea turtles, jellyfish, seals, starfish, oysters, etc.

3. Discussion (20 minutes):

After completing their creatures, have the students compare their creatures with their friends. Ask them to note both the differences and similarities in the creatures that they made.

This artistic activity engages students in hands-on creativity while reinforcing their understanding of the diversity of life in the ocean.

Activity 4: Oyster Observation

Objective:

Observe live oysters in the classroom to watch and document their natural processes.

Materials:

- Live oysters
- Portable aquariums
- Water kettle
- Food coloring

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Instructions:

1. Introduction (10 minutes):

Discuss how oysters are filter feeders that eat phytoplankton and small bits of algae by taking in water, passing it through their gills, and then getting rid of the waste water. An adult oyster can filter approximately 50 gallons of seawater daily. To observe their filtering process, we will add food color to the water in the oyster tank and note changes in the color over time. Additionally, testing oyster reactions to heat will be done by adding warm water to the tank, and we will observe how the oysters react.

Teacher’s notes: After adding the food coloring, it will likely decrease in opacity over time. When warm water is added, the oyster shells will likely close.

2. Observation (20-30 minutes):

Set up the oyster tanks in visible places so student groups can gather around and observe the oysters. Have food coloring ready to place into the tanks. Have hot water ready to add to the tanks. The food coloring, oysters, seawater, and tanks will be provided by GSSC.

Activity #2: Oyster Observation

Observe the oysters in the live tank. Though they may not be moving much, what 2 things are they doing?

1) _____

2) _____

Adaptation: How might the oysters react if all the water was taken out of the tank? Think about how they might act in the intertidal zone when the tide is low.

Experiment: An adult is going to put some food coloring in the tank’s water. What do you think is going to happen? _____

Watch the oysters and the water in the tank for at least a couple of minutes. What happened? _____

An adult is going to put very hot water into the tank. What do you think is going to happen? _____

Watch the oysters for at least a couple of minutes. What happened? _____

Connection: How does an oyster filtering water help other plants and animals in the ocean?

Activity 5: Hermit Crab Shelters

Objective:
Create artistic representations of hermit crab shelters to understand how hermit crabs use external materials for survival and growth.

- Materials:
- Empty snail shells (cleaned and sanitized)
 - Modeling clay or air-dry clay
 - Colored markers or paint
 - Googly eyes (optional)
 - Craft glue
 - Cardboard
 - Scissors

Instructions:

1. Introduction (10 minutes):

Begin by discussing how hermit crabs use empty shells as protective shelters and how they adapt to different environments. Emphasize the challenges they face, such as finding suitable shells in the changing ocean conditions.

2. Artistic Exploration (30 minutes):

- Provide each student with an empty snail shell and modeling clay.
- Instruct students to mold the clay around the shell to create a representation of a hermit crab shelter. Encourage them to be creative in designing the shelter, considering the different shapes and sizes of shells hermit crabs might use.
- Use markers or paint to add details to the clay structure. Students can decorate the shell to mimic the appearance of a hermit crab, adding eyes, claws, and other features.
- Optionally, students can use googly eyes and craft glue to enhance the visual appeal of their hermit crab shelter.

3. Labeling (15 minutes):

- Provide cardboard for students to create labels for their hermit crab shelters.
- Instruct them to write key terms related to hermit crabs, such as "shell" and "claw," and use these labels to identify the parts of their artistic creations.

4. Discussion (10 minutes):

Allow students to share their creations with the class, explaining the features they included and how their hermit crab shelters demonstrate adaptation and survival.

This artistic activity allows students to engage in hands-on learning by creating their hermit crab shelters. The combination of art and science encourages creativity while deepening their understanding of how animals adapt to their environments.

Sea Star Superhero Story

Objective:

Write a creative story imagining sea stars as underwater superheroes and explore the role people play in supporting and protecting these marine creatures.

Materials:

- Blank sheets of paper or notebooks
- Colored pencils, markers, or crayons
- Writing utensils

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Instructions:

1. Introduction (10 minutes):

Begin by discussing the unique features of sea stars and their importance in the marine ecosystem. Emphasize the challenges they face, such as sea star wasting disease, and the role people play in supporting and protecting them.

2. Brainstorming (15 minutes):

Conduct a brainstorming session with students, asking them to think about sea stars as superheroes. Prompt them with questions such as:

- What special powers might sea stars have?
- How do sea stars contribute to keeping the ocean balanced?
- In what ways can people help sea stars, and what roles can they play in supporting these underwater superheroes?

3. Creative Writing (30 minutes):

Instruct students to write a short story or comic strip featuring sea stars as superheroes. Encourage them to use their imagination to create unique characters and adventures for the sea stars.

- Emphasize the importance of incorporating factual information about sea stars and their environment into the creative narrative.
- Remind students to consider the challenges sea stars face, such as sea star wasting disease, and how their superhero characters might overcome these challenges.

4. Illustration (20 minutes):

After writing their stories, instruct students to illustrate their narratives using colored pencils, markers, or crayons. Encourage them to depict the sea stars in action, showcasing their superhero abilities and interactions with other marine life.

- Remind students to include details about the sea star's radial symmetry, tube feet, and any other features mentioned in their stories.

5. Sharing Stories (15 minutes):

Allow students to share their sea star superhero stories with the class. Encourage creativity and celebrate the diverse ways students imagine sea stars as underwater superheroes.

- Discuss common themes and ideas that emerged in the stories, reinforcing the importance of protecting marine life and maintaining a healthy ocean environment.

This artistic writing activity combines imaginative storytelling with scientific knowledge, providing students with a creative outlet to express their understanding of sea stars and their role in marine ecosystems. Additionally, it reinforces the concept of human stewardship and the impact individuals can have on preserving the health of the oceans.