

Lesson: Life in the Ocean

Subject: Life Science

Grade: 3-4



Rationale: To help students learn about the amazing world of aquatic life of the ocean

Objective(s): The student(s) will be able to:

- Begin to visualize perceptions and facts about the ocean
- Observe water in waves
- Give an example of an aquatic food web
- Explain how the organisms in an aquatic environment are dependent on each other
- Give example(s) of how fish survive in an aquatic environments
- Give example(s) of camouflage adaptations of fish
- Use deductive reasoning to find where a “mystery fish” lives based on characteristics

Curriculum Framework(s):

- ELA SL #1 (gr. 4 & 5) Engage effectively in a range of collaborative discussions
- ELA L #1 (gr. 4 & 5) Demonstrate command of the conventions of standard English grammar and usage when writing or speaking
- ELA RL #4 (gr. 4 & 5) Determine the meaning of words and phrases as they are used in a text
- ELA RF #4 (gr. 4 & 5) Read with sufficient accuracy and fluency to support comprehension
- ELA L #3 (gr. 4 & 5) Use knowledge of language and its conventions when writing, speaking, reading, or listening
- Science/Technology/Engineering : Life Science/Biology (gr 3-5), #1: Classify plants and animals according to the physical characteristics that they share
- Science/Technology/Engineering : Life Science/Biology (gr 3-5), #3: Recognize that plants and animals go through predictable life cycles that include birth, growth, development, reproduction, and death
- Science/Technology/Engineering: Life Science/Biology(gr 3-5) #10: Give examples of how organisms can cause changes in their environment to ensure survival
- Science/Technology/Engineering: Earth & Space Science(gr 3-5) #11: Give examples of how the cycling of water, both in and out of the atmosphere, has an effect on climate

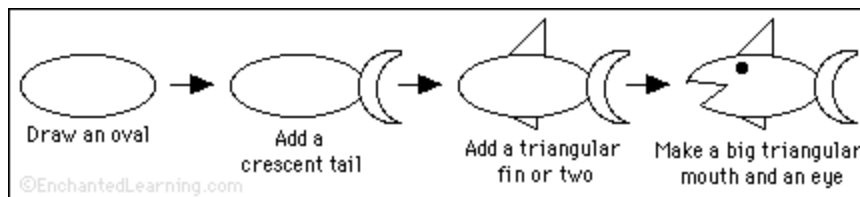
Material(s):

- Journals/pencils
- Colored pencils/crayons
- Pencils, glue sticks
- Food chain index cards (with items from food chain on them)
- Skein of yarn
- 2 paper plates per student
- Blue paint, brushes
- Construction paper
- Scissors, tape, stapler
- Plastic wrap
- Copy of FISH FABLE
- FISH INFORMATION pages – one set per student
- Fish Illustrations with ID
- Ocean habitat pictures
- Fish Clue Cards
- Plain paper
- Hula hoop, piece of a box, cone

Methods:**Introduction:****ACTIVITY #1 – Make an Ocean Scene**

- Have the students paint/color/construction paper a blue background (the base where food would go) on one of the plates
- Turn the other paper plate upside down and draw a circle around the base of the plate (what the food would go on). Cut out the complete circle
- Cover the viewing area with plastic wrap by cutting a circle of clear plastic slightly larger than the hole in the front of the plate. Tape/glue the plastic to the inside of the plate
- Have students cut out ocean images from construction paper (kelp, starfish, coral, sea creatures)
 - Kelp – green or brown

- If you are drawing the fish yourself, you can use the following steps to draw them:



- Others creatures can hang from threads so they look like they're swimming. For each hanging creature, cut a short length of thread. Tape one end of the thread to the back of a fish; tape the other end of the thread to the top of the plate.
- Tape or staple the top plate to the back plate, write name on back

ACTIVITY #2 – Food Chain

- Distribute & complete AQUATIC FOOD CHAIN, glue into journals
- Go outdoors or to a large space
- Have the students form a circle, distribute food chain cards
- Direct the student with SUN to stand in the middle with the skein of yarn
- Have the student hold the end of the yarn and toss the skein to the lowest representative of the food chain (algae)
- Next, have the student who is ALGAE hold onto the yarn and then toss the skein of yarn to another organism in the chain – identify how the two organisms might be related), continue until all students are in the chain and the chain is complete
- Ask: where does the energy for the chain come from ? (SUN) Show the connections
- Ask:
 - Where is the source of all the energy on Earth? (SUN)
 - What would happen if one organism were removed? (have a student back up pulling the yarn taut)
 - What might cause the loss of a species in the food chain? (pollution, destruction, drought)
- Collect cards, return to room

ACTIVITY #3 – Character Counts

- Gather students into a circle on the floor (reading area)
- State that you are going to read a short story to them and then will be asking questions about it
- State the importance of treating not only classmates, but everyone, fairly no matter what each one looks like. Have them think about this as they listen to the story

- Read FISH FABLE aloud, and then ask:
 - What is a fable?
 - **Fable** is a literary genre, short fictional story, that features animals, creatures, plants, objects of nature which are given human qualities such as verbal communication, and provides a moral
 - Why is this story a fable? (fish talk)
 - Where is this fable taking place? (ocean)
 - What lessons can people learn from these fish?
 - Do you agree with the actions of the ocean fish? Why / why not?
 - Have you ever met someone who seemed odd at first but turned out to be really nice?
 - Why do we place so much importance on appearance?
 - If we give others a chance, don't we usually find out that we don't need to be afraid of their differences?
 - Why was the salmon good at making the two groups treat each other fairly?
 - Is it fair to treat others differently because their skin / eyes / hair are a different color? Why not?
 - Suppose you were in this scene, what would you do?

ACTIVITY #4 – Fish Information

- Distribute journals & glue
- Read aloud (student volunteers) the FISH INFORMATION pages
- Glue into journals

ACTIVITY #5 – Decode a Fish

- Divide the class into partners and state that they will become fish detectives.
- Hang habitats on wall in various locations
- Have each group select one fish illustration and a set of clue cards
- Distribute pencils and a plain piece of paper. Instruct them to only write ON the plain paper – to reuse lesson/pictures.
- State that they need to find out everything they can about that fish using the clue cards and writing thoughts/etc on the plain paper. Students will try to match the clues on the cards with their illustration to guess information about their fish. They should look closely at its body shape and size; coloration; fin shape and position; plus its eye and mouth shape, size and location.
- Students use deductive reasoning to eliminate guesses and de-code some of their fish's physical characteristics. They infer where it lives, how or what it eats and how it moves and protects itself. They record what they find and try to solve the mystery

of their fish!

- Once they think they know their fish, have them stand near the habitat they believe their fish lives in, check fish information sheets
- Repeat with another fish picture to decode

ACTIVITY #6 – Design a Fish

- Distribute a piece of paper and pencil to each student
- Explain that they will design a mystery/creative fish that is adapted for a specific habitat
- Have students select an ocean habitat (pictures from Activity #5) – keeping their habitat a secret (as later everyone will try to guess)
- Using journal notes & knowledge from Activity #5, each student will design a mystery / creative fish that can survive in the selected habitat, draw his/her fish & color it
- Then have the students think of clues that will help other students determine which habitat the fish lives in (food web), and give a common name based on characteristics (ie: Tuark (tuna/shark) – and write the clues on the back of the page
- When complete, have students put pictures on tables and have everyone go around looking at pictures, thinking of habitat based on characteristics in image
- Then ask for descriptions of each fish and place images by habitat photo

ACTIVITY #7 – If I were a fish.....

- Discuss fish body parts (eyes, mouth, gills, etc) and behaviors (swimming, hiding, holding still). How might these parts and behaviors help fish survive in their habitats? What colors are fish? (all) How does camouflage help survival?
- In journals: have students **WRITE** a response to: “If I were a fish in the ocean...”
 - What kind of fish are you (yes, can be made up)?
 - Where do you live?
 - What would you eat?
 - How do you look (size, color, fins)
- Distribute a piece of paper and have students trace the outline of one of their hands or feet.
- Have each student color the print to look like a fish. In which habitats can the fish camouflage? Draw details: fins, scales, tails, eyes, mouth
- Discuss how life would be different if they were fish. Would they walk? Talk? Etc
- Have students write a few sentences about their life as a fish – where they live, food, habitat, behaviors, etc.

ACTIVITY #8 – Fish Tag

- Explain that lots of predators besides people eat fish such as larger fish, seals, bears, and

pelicans are just a few. Many fish hide from predators under docks or rocks, among cattails, or other places.

- Go outdoors with a hula hoop, cone, piece of a cardboard box. On the field, place these items in various spots throughout the “sea/ocean”
- Explain that we will play a game of fish tag. A predator (one child) tries to catch fish (the other children) by tagging them.

- Fish are “safe” if they stand on or touch a safe spot, like a lily pad (hula hoop), cattail (safety cone), or rock (cardboard box piece).
- Fish can stay in the safe spot only as long as it takes them to count to five.
- After the predator catches a fish, play again with a new predator
- Variation: once predator catches a fish, the fish becomes an additional predator

ACTIVITY #9 – Ocean Yoga