

Activity: Watery World

Grade Level: Kindergarten

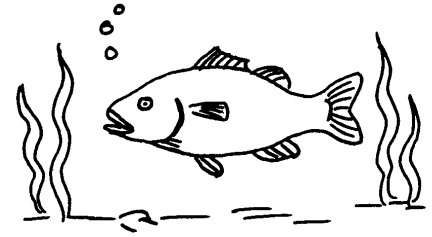
Major Emphasis: Living/Nonliving; Aquatic Animal Characteristics

Major Curriculum Area: Science

Related Curriculum Areas:

Refer to Outdoor Education Curriculum Matrix K-2

Language Arts



Program Indicator:

The student will demonstrate an understanding that things in the environment have particular characteristics enabling them to be classified as living or nonliving.

Student Outcomes: The student will:

1. classify things as living and nonliving. **(DL1,3)**
2. compare items found in an aquatic habitat. **(DL3)**

Readiness:

1. Introduce vocabulary:

living	nonliving	fish	aquarium	eel
shrimp	snail	shell	pebbles	sand
water	bubbles	scales	seining	crab
jellyfish	fin	gill		
2. Refer to kindergarten Unified Science Unit “Animals.”
3. Discuss the characteristics of living things including the concepts of moving, eating, changing and growing.
4. Introduce aquatic environments and aquatic life using pictures and books.
5. Provide sensory experiences with water.

Materials:

plastic aquariums	living/nonliving chart and cards
hand lenses	fish identification chart
seine net	fish puzzle
hip waders	shell sort cards and shells
adult PFDs	fish sort cards

Procedures:

Activity A: Seining

1. Two adult instructors follow the procedure for seining. Refer to Supplement A.
2. Allow students to wet hands, pick up aquatic life and objects and place in plastic aquariums containing water.
3. Allow students to observe the contents of the aquariums with and without hand lenses and to identify living and nonliving things.
4. Use the fish identification chart to identify living things found.
5. Allow students to discuss similarities among and differences between the living things.
6. Repeat the procedure as time allows.

Activity B: Classification

Living/Nonliving Chart

1. Using the living/nonliving chart, direct the students to identify the animals and objects by placing the appropriate name card under each picture.
2. Complete the chart by having students classify each object as living or nonliving by placing the appropriate word card, “living” or “nonliving,” under each picture.

Shell Sort

1. The instructor will inform the students that they are going to sort shells by appearance. Review with the students the fact that the shells are nonliving but that they used to have living animals inside them.
2. The instructor will place four to six shell sort cards on a flat surface. The cards have adjectives such as large, small, long or short to describe the shells.
3. Allow each student to choose a shell and classify it by placing it next to a card. Repeat with additional shells as time allows.

Fish Card Sort

1. The instructor will set out the fish sorting cards. Review with the students the fact that fish are living. Ask the students how they know if a fish is living or not. Ask students to do the following:
 - a. Arrange a set of fish from largest to smallest.
 - b. Make a set of striped fish.
 - c. Find the smallest striped fish. Find the largest.
 - d. Make a set of spotted fish.
 - e. Find the smallest spotted fish. Find the largest.
 - f. Find other ways to group the cards.

Fish Puzzle

1. The instructor will show the students the fish puzzle with all of the pieces in place. Assist the students in identifying the parts of the fish and reviewing the functions of each part, relating the functions to the characteristics of living things. For example, the mouth is for eating, a characteristic of living things. The tail and fins are for moving, another characteristic of living things.
2. The instructor will distribute the parts of the fish puzzle to the students. Assist students in putting the puzzle back together, reviewing the names of the parts.

Summary: To end this activity, ask the following questions:

1. What are the characteristics of living things?
2. What living things did we find? What nonliving things did we find?

Follow-Up:

1. Complete the living/nonliving chart. Refer to Supplement B. Cut out pictures and classify by placing in column under “living” or “nonliving.”
2. Write a journal entry about the aquatic habitat studied.
3. Create an aquatic mural or collage which includes living and nonliving things. Students may use supplemental pictures included in this guidebook and/or their own drawings.

Extension Activity:

1. Play “Let’s Go Fishing” in the classroom:
 - a. Arrange aquatic cut-outs on the floor. Each cut-out should have a paperclip attached to it.
 - b. Using magnetic fishing poles (stick with string and magnet), each student will “catch” an item.
 - c. Find each item on the tally chart and make a mark for each one.
 - d. Repeat until all items have been “caught.” Count the total number of each item.
2. Using literature and/or films, explore other aquatic environments such as an ocean, river or pond.
3. Dramatize aquatic life.

Teacher Resources:

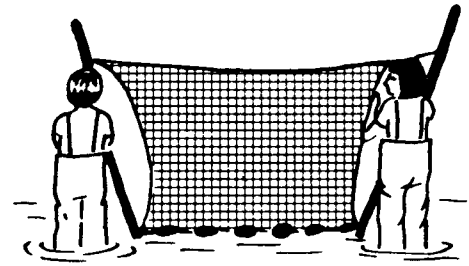
Books:

- What’s It Like to be a Fish?, Pfeffer, Wendy, Harper Collins Publishers.
- Sea Dragons and Rainbow Runners: Exploring Fish With Children, Samson, Suzanne, Roberts Rinehart Publishers.
- Crinkleroot’s Twenty-five Fish Everyone Should Know, Arnosky, Jim, Simon and Schuster.
- Fishy Facts, Chermayeff, Catherine, Richardson, Nan, Harcourt Brace and Company.
- Fearsome Fish, Parker, Steve, Raintree Steck-Vaughn Publishers.

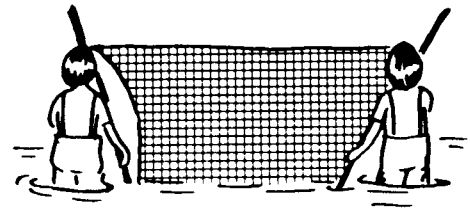
- Weird and Wonderful Fish, Milkins, Colin, Thomas Learning.
- If You Were a Fish, Calder, S.J., Silver Press.
- It Could Still Be a Fish, Fowler, Allan, Children's Press.
- Amazing Fish, Ling, Mary, Alfred A. Knopf, Inc.
- Fish, Althea, Longman Group USA.
- A Swim Through the Sea (an ABC book), Pratt, Kristin Joy, Dawn Publications.
- The Fish Skin (a Native American tale), Oliviero, Jamie, Hyperion Books for Children. (MC)
- Fish Eyes, Ehlert, Lois, Harcourt Brace and Jovanovich.
- A Million Fish, More or Less, McKissack, Patricia, Alfred A. Knopf, Inc.
- The Sawfin Stickleback: A Very Fishy Story, Friend, Catherine, Hyperion Books for Children.
- Swimmy, Lionni, Leo, Pantheon Books.
- Rainbow Fish and Rainbow Fish to the Rescue, Pfister, Marcus, North-South Books.
- Big Al, Clements, Andrew, Picture Book Studio.
- "Only Joking!" Laughed the Lobster, West, Colin, Candlewick Press.
- In the Small, Small Pond, Fleming, Denise, Henry Holt and Company.
- A House for Hermit Crab, Carle, Eric, Picture Book Studio.
- Jump, Frog, Jump!, Kalan, Robert, Greenwillow Books.

Seining Procedures for Adults

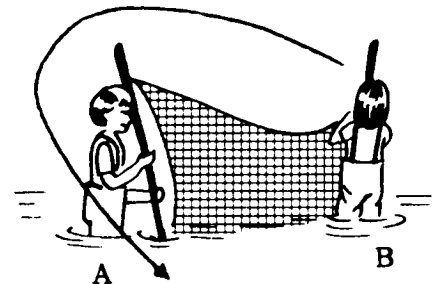
Step 1: Two adults carefully unroll the seine net so the weighted side is in contact with the river bottom.



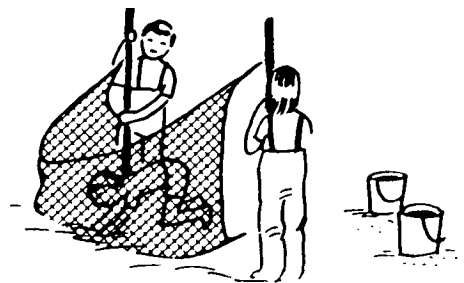
Step 2: Adults walk out to hip-deep water, bumping poles along the bottom, and tilting poles about 30° toward themselves.



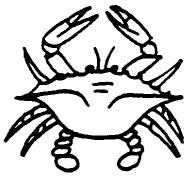


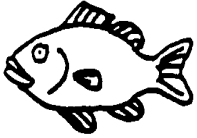



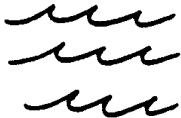
Step 3: While adult A stands still, adult B will walk in an arc around adult A, still bumping the pole on the bottom, until both adults are facing the shore.



Step 4: The adults walk slowly to shore, keeping the weights on the river bottom. As they reach the shore, a third adult grabs and lifts the net bottom so as not to lose collected animals.

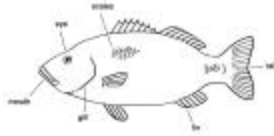


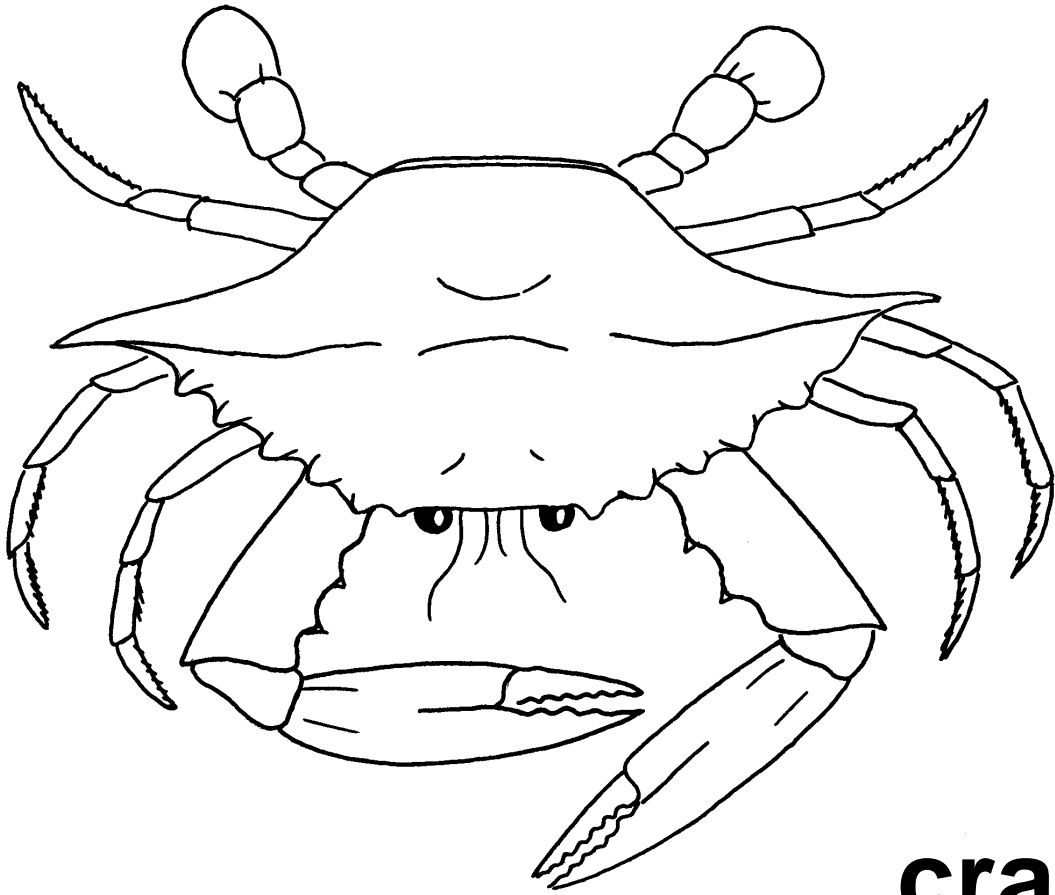
Living/Nonliving Chart

Living		Nonliving	
			
			

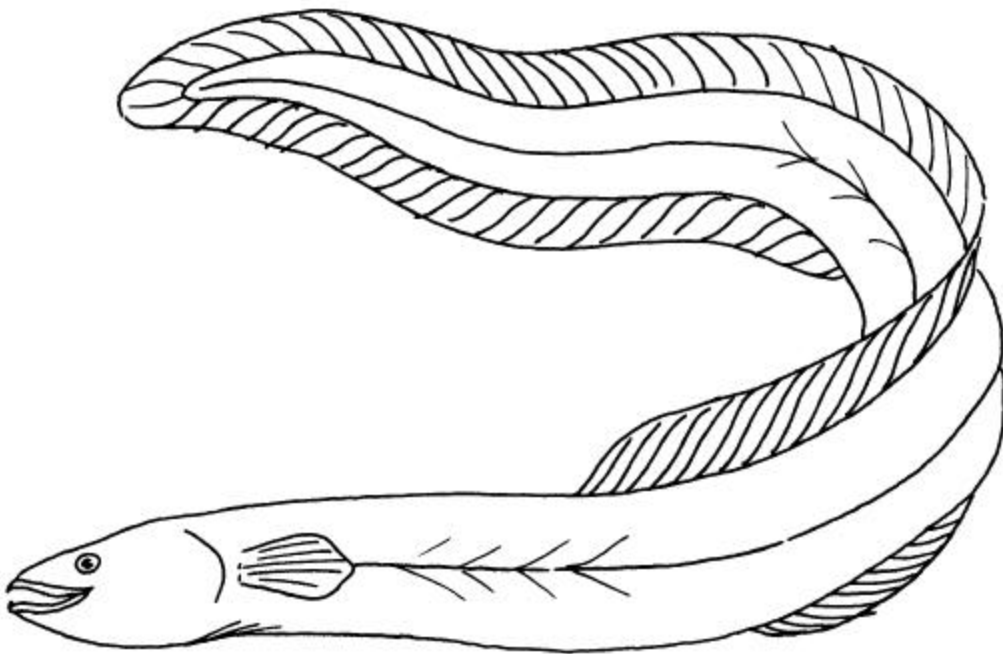


fish

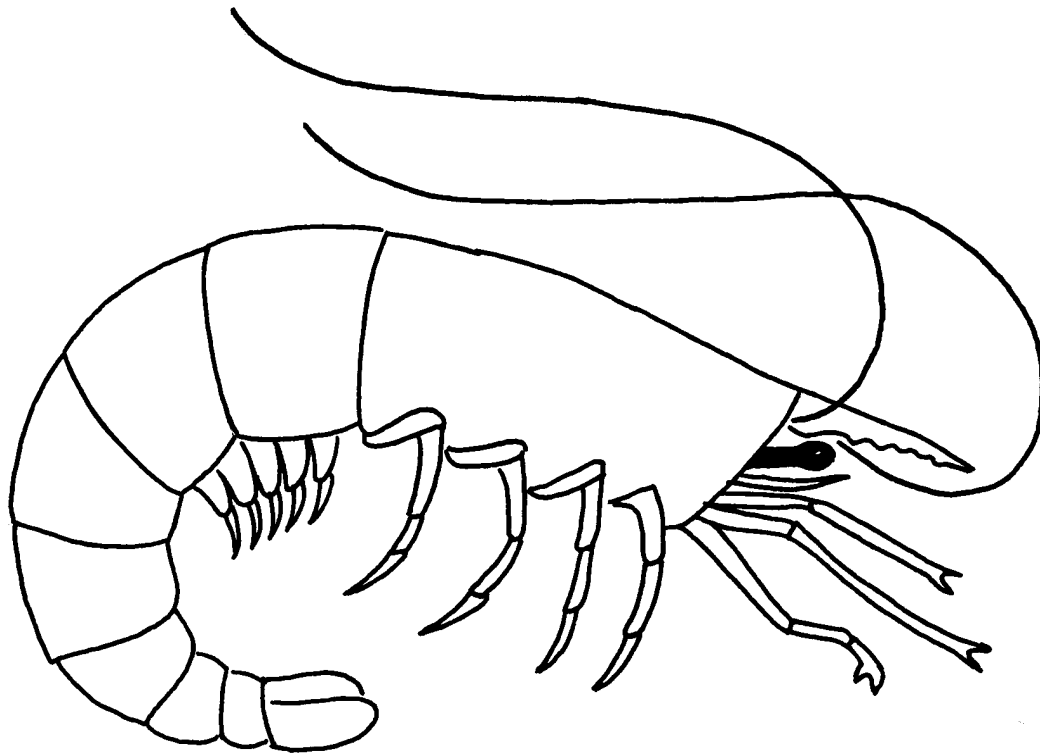




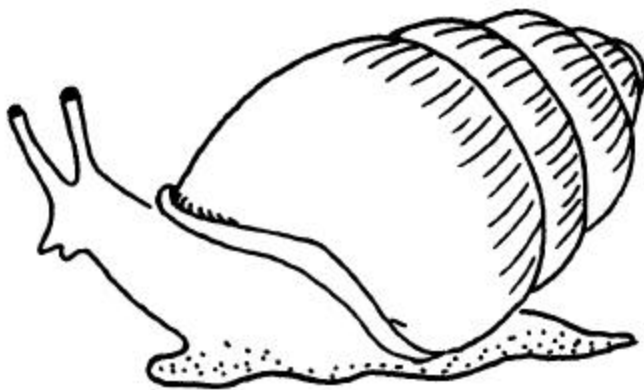
crab



eel



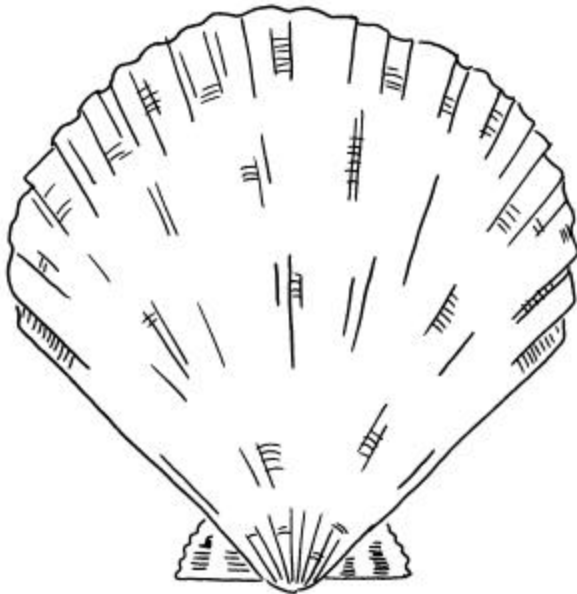
shrimp



snail



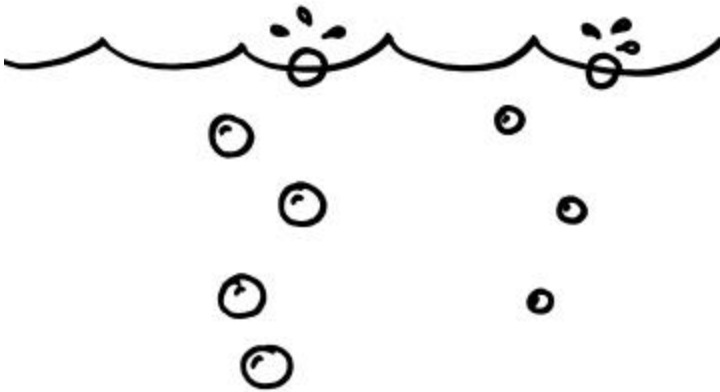
jellyfish



shell



pebbles



bubbles

