Building An Aquatic "Think-Tank"

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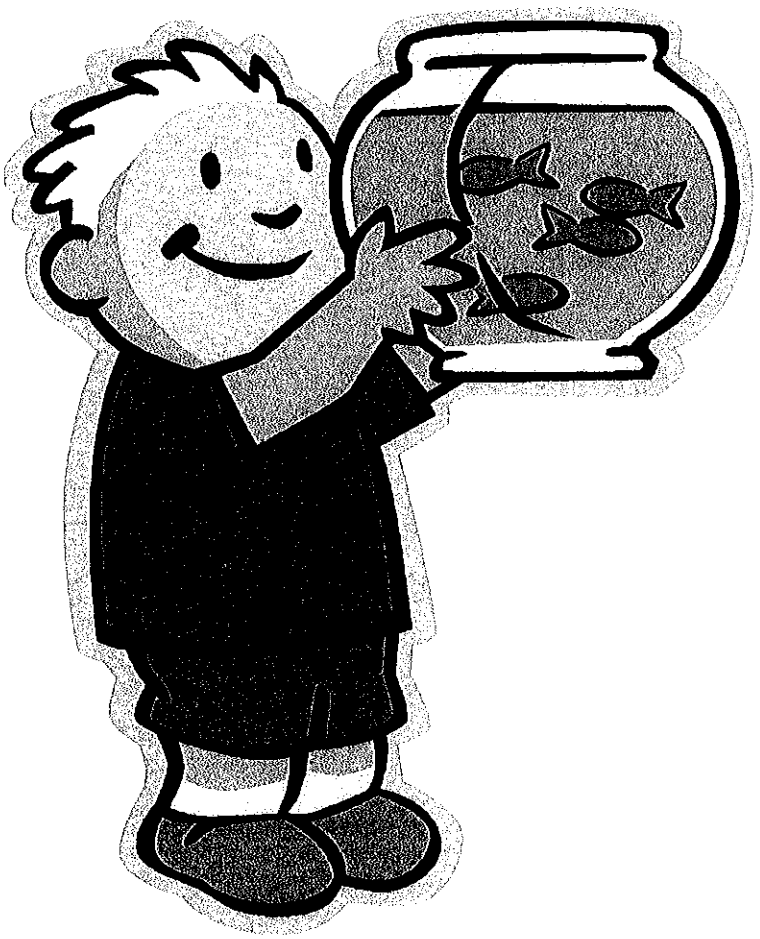


Table of Contents

Goals and Objectives	1-2
Course Overview	3-5
Scope and Sequence	6
Lesson Plans	7-21
Resource List	22
Bibliography	23
Appendix	
Student Work Samples	
Supplementary Activities/ Materials	

Goals and Objectives

The project, ***"Building An Aquatic "Think –Tank"*** will enable students to do the following:

- Gain experience using the scientific process skills of observing, predicting, gathering data and formulating conclusions.
- Understand concepts related to measuring liquids (cups, pints, quarts, gallons).
- Appreciate that fish and all living things require certain essentials in order to survive (clean water, specific type and amount of food, space, etc.).
- Formulate questions based on observing the behavior of fish and aquatic frogs, and use reference tools (books, human resources, computer websites) to be able to read for information relevant to their questions.
- Share discoveries, questions, and comments with other children, friends and family members in the form of a project or an oral presentation.
- Become more critical observers of nature as each fish or frog is named and students complete weekly journal entries regarding their class aquarium.
- Write for a variety of purposes such as recording observations or developing a story with a classroom aquarium as the setting of the story.
- Graph information by using observation skills and a tally chart.
- Develop a community of learners within the classroom as materials and responsibilities are shared in order to properly maintain the aquarium.
- Develop an environmental consciousness as a result of learning about the delicate cycles of nature, i.e. water cycle, life cycle.
- Examine the difference between an ordinary fish tank and the student's very own "Think-Tank" of fish.

The following represent the grade level expectations as stipulated by the Florida Sunshine State Standards which can be achieved during the unit, "*Building An Aquatic Think-Tank.*"

1. LA.A.1.1.3---- Students use appropriate grade, age and developmental level vocabulary in reading.
2. LA.A.1.1.4--- Students increase comprehension by reading, retelling and discussion.
3. LA.B.1.1.2---- Students write for a specific audience.
4. SC.F1.1.2---- Students understand that living things grow and change, and know the factors that influence growth.
5. MA.B.1.1.1---- Students know how to communicate measurement concepts and use appropriate tools for measuring capacity and temperature.
6. MA.B1.2---- Students know appropriate tools for measuring capacity and temperature.
7. MA.E.1.1.1---- Students display solutions to problems by generating, collecting, organizing and analyzing data using simple graphs and charts.

Course Outline

A classroom aquarium will become a site not only for a school of fish, but also a school of thought which promotes every child as a scientist as well as a vital and integral member of an exciting and vibrant community. A discussion about the requirements that living things need in order to survive will occur. Conversely, things which are harmful to fish or aquatic sea-life will be discussed. Questions such as **"Where do you think we should put our aquarium?"** will let children begin to understand the concept and effects of variables such as light on the inhabitants in the tank. Decision making skills will be fostered as students need to find the best place for a heavy tank. Variables such as where to place the tank (on a sturdy surface which will support the weight of the tank and water), and at what height (so that children can observe and have easy access), near an electrical outlet (for light and filter), near or away from the window (temperature and natural sunlight) are great beginnings to open the minds of the young scientists as to the myriad of diverse considerations which must not be left to random chance. In a sense, the children are experiencing how important planning is for any scientist or project, especially a project in which living specimens will be used. These discussions will help children begin to develop an environmental consciousness, as they will observe the special care necessary in order to prepare the tank for its inhabitants.

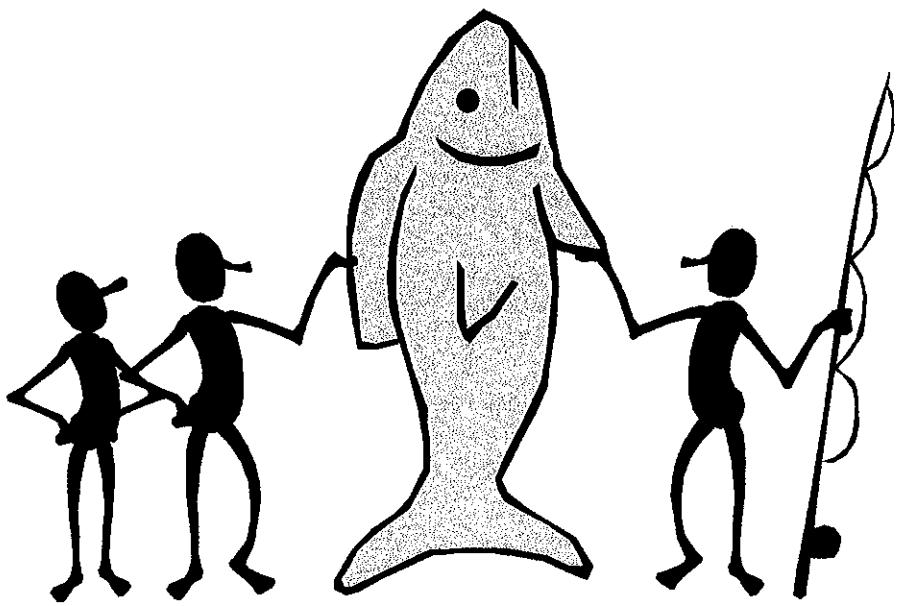
As preparation continues the students will observe how the tank is cleaned without harsh detergents before it becomes the home to any critters. Gravel must be properly washed but not with tap water due to its chlorine content. One team of students can now place the gravel in the tank. Another team of students can insert the plants underneath the gravel or the plants will float up to the top. Students are reminded that in our freshwater tank, all water placed inside the aquarium must be chemical free. Thus, when it is time to set up the aquatic think-tank, each child

will carefully measure a gallon of spring water, or use bottled water and gently add it to the tank, one quart at a time. The temperature of the water will be measured and recorded and the range of preferred water temperature will be discussed and monitored. All the while as the tank is getting set up, questions used to promote thinking will be asked. *Should we fill the tank all the way up to the top? How often do fish eat? And, how do we know when to change the water?*

After a discussion of how to gently place the fish inside the tank, each team is called upon to release a fish from its temporary home in a plastic bag into its new home in the aquatic think-tank. At this point in the set up of the class aquarium, each student in the classroom community of learners has now been involved in creating a freshwater community complete with plants, fish, gravel, rocks and whatever else is decided upon to make the think-tank more beautiful and appealing to its inhabitants.

Each week a different pair of student will be assigned by the teacher to feed the fish, "a pinch a day". Water changes and filter changes will be done as needed by teams of students. On the first day of the aquarium set up, students will brainstorm names for each fish based on some observed characteristic(s). A class election will occur by the end of the week to name each fish. Journal entries will be written as students carefully observe the fish. Students' written entries will be subsequently shared with classmates, visitors to the classroom and or family members who will be invited to school on a given day to share the treasures provided by the think-tank. Through the Language Experience Approach, students will write short stories and poems about fish. They will publish their writings and buddy read with another grade level (1st grade). During daily independent reading time, students will be seen going back to the "Fishy Library" to read about fish, underwater sea life, deep sea treasures, or a variety of books with fish as the chief

character. A discussion of the lifecycle will occur when, or if a fish dies, and the organism can be returned to nature to help enrich soil outside in the garden.



Scope and Sequence

Month 1: Students actively learn how to set up and maintain a class aquarium, the Aquatic Think-Tank. Pairs of students will continue to maintain the aquarium each week and a schedule will be posted in the classroom so that all children have an opportunity to share the responsibilities. Each member of the aquatic family is named, such as fish, aquatic frogs, etc. Journal entries are written and shared weekly about caring for fish, behaviors of fish, etc. A classroom library is set up containing a variety of project-related reading materials. Teacher conducts "read-alouds" with fish related stories, poems or literature selections. Students make models of fish and decorate the classroom. Teacher creates a Fishy Vocabulary Word Wall to which words on added throughout the duration of the project.

Month 2: Students write and publish a fish related story. Songs about fish are taught. Students share their fishy journals with visitors to the classroom. Story of the month, Rainbow Fish will be taught.

Month 3: Buddy reading with the first grade class (fish stories or journal entries). Parents are invited to visit classroom to view aquatic think- tank and share fishy stories with the class. Students will read and sing to family members. Parents will be served fish-shaped sandwiches made by students.

Month 4: Students visit the Seaquarium and complete a family project.

Month 5: Other classrooms will be invited to tour our classroom. Students will reflect on the project experience and record an entry in their think-tank journals. Classroom aquarium will be dismantled. Students who have obtained parental consent will be invited to take a fish home for the summer.

Lesson Plans

Activity #1: Fish Mobile

Objective: Students will use basic geometric shapes to create fish mobiles. (integrating math with art –provides an opportunity for collaboration). MA.C.3.1.1.1

Materials: newspaper, construction paper, glue, stapler, paint, scissors, glitter, goggle eyes, sand, templates of fish and string or clothes hangers.

Procedures:

1. Work with your art teacher to make templates of fish in various sizes.
2. Revisit geometric shapes and identify shapes that can be used to draw a fish (ellipse, rectangle, triangle and circle).
3. Give students templates to trace the shape onto a sheet of construction paper folded in half.
4. Glue the two pieces together and leave an opening so that the fish can be stuffed with the newspaper.
5. After stuffing the models, close the opening. Decorate using glitter, newspaper as mosaic pieces, or paint, add eyes.
6. Add string and hang to decorate the room or an area such as the reading corner.

Evaluation: Students will call on other students to identify the geometric shapes contained in their fish mobiles. Students will then display their mobiles and explain in sequential order how they were made.

Activity #2: Setting up the Aquarium

Objectives: Students will work cooperatively to set up the aquatic think-tank. (Subjects integrated: math, science, writing)SC.H.2.1.1& 1.1.5, MA.A.4.1.1, M.A.B.1.1.1, LA.B.1.1.2.2.6

Materials: fish tank (20 gallons or larger), air pump set, plastic plants, 20 (or more) gallons of purified water or spring water, thermometer, rocks, fish food, 6 to 8 fresh water fish, aquatic frogs (optional).

Procedures: (Wash aquarium with spring water before setting it up). NO SOAP!

1. Select an area in the classroom that is not exposed directly to sunlight as this increases the growth of algae.
2. Discuss habitats- what should a fish's habitat contain? Identify items to be included in the think-tank (fish's new habitat).
3. Add washed gravel and plastic plants to the aquarium. Be sure to put plants under the gravel to prevent them from floating to the top of the tank.
4. Prediction activity--- Predict the amount of water the aquarium can hold. Students test prediction by adding the spring water to the think-tank. Introduce measurement words such as **quarts, gallon, liter, volume and capacity**. Add a small saucer on top of the gravel to break the force of the water being poured into the aquarium.
5. Attach air pump and thermometer. The ideal temperature is 76 degrees Fahrenheit.
6. Float a plastic bag containing the fish on top of the water for 20-30 minutes to equilibrate the water temperature in the bag.
7. Gently allow the school of fish to swim out of the bag into their new habitat.

8. Observe closely as the *school* of fish settles into its new habitat. (Discuss the multiple meanings of the word "school" so that children learn the collective noun for a group of fish.)
9. Pair students and create classroom rotation schedule for daily aquarium maintenance. (See Fishy Log –Appendix 2 and a School of Helpers –Appendix 3)

Journaling: Use a spiral notebook to create a class Fishy Journal. (You may use the cover sheet in Appendix 1 to decorate the cover of the spiral notebook.) Have students write in the journal every day after they complete the observation log. You may also record all teacher read-alouds of fishy stories in the journal or ask students to record notes or summarize each selection.

Evaluation: Have students draw the think-tank, paying attention to specific details such as the number of fish, their colors and plants.

QUICK MAINTENANCE TIPS:

1. Feed your fish at the same time daily. Just a pinch of food each time works best.
2. Periodically clean the aquarium glass with a clean sponge to remove any build-up.
3. Do not use soap to clean your aquarium.

Fishy Library:

Use list of books in Appendix 14 to set up your Fishy Library. Many of these books can be purchased from Barnes and Noble or through the Carnival Book Club. Arrange the books in alphabetical order by author. Select two students to serve as librarians. Develop an accountability system so that students return the books on a weekly basis.

Activity #3: Observing Fish Behavior- Aquatic Scientists

Objective: Students will describe some typical fish behavior based upon observation of fish during a 10 minute period. (Subjects integrated: writing, science, math) MA.C.1.1.1, SC.H.1.1.2 & 1.1.5, LA.B.1.1.2.2.6

Materials: timer or watch with second hand, Fishy Behavior data sheet –Appendix 4

Procedures:

1. Brainstorm to create a list of fish behaviors.
2. Students work in pairs to observe and record the various behaviors of one fish at intervals of 20 seconds for 10 minutes using observation sheet. (Appendix 4)
3. Pair share results.
4. Use students' observations to create a tally table showing the different kinds and frequencies of recorded behaviors.
5. Discuss which behavior was observed the most (introduce mathematical vocabulary, **mode**).
6. Discuss which behavior/ behaviors were observed the least number of times.
7. Identify which fish behavior(s) are the children's favorite and least favorite.

Evaluation: Students will use the data collected to write a one sentence summary describing fish behaviors.

Activity #4: The Naming Ceremony

Objective: After careful observation of the classroom aquarium and its inhabitants, students will assign a name to each member of the Aquatic Think-Tank based on observable characteristics. SC.H.1.1.5

Materials: attribute blocks, Fishy Behavior Observation data sheet-(Appendix 4)

Activities:

1. Discuss the word "**attributes**." Use attribute blocks to reinforce the concepts by having students group the blocks based on common factors (color, thick-thin, large-small).
2. Use students' Fishy Observation worksheet to review behaviors of each fish in the think-tank.
3. Students will assign a name to each fish and write a description for each fish (Example: Spotty- the fish has 3 black spots).

Evaluation: Students will create and accurately complete the following chart.

THE NAMING CEREMONY

Name	Description

Activity #5 : Lights, Camera, Fish Food!

Objective: Students identify persuasive language used in advertisements before working cooperatively to create a one minute commercial television advertisement for a fish food. LA.B.2.1.2.2.3

Materials: paper and pencil for each group, recycle material to create packaging for the fish food, markers, paper, glue and scissor.

Procedures:

1. Students name some of their favorite television commercials and state why they like them. (You may show a sample TV commercial.)
2. Discuss the use of persuasive language in TV commercials. A discussion of fact vs. opinion may be useful.
3. Each group selects a name for its fish food (product) and creates a packaging strategy.
4. Students will create their one minute commercial.
5. Group rehearsal – teacher gives ideas and support to each group.
6. Group presentation.

Evaluation: Each group will be evaluated using a rubric (Appendix 9).

Activity #6: The Rainbow Fish

Day 1

Objectives: Students will read a variety of text and genres.

Benchmarks: Chronological Order, Compare and Contrast

Materials: The Rainbow Fish by Marcus Pfister, Venn diagram, Story frame

Procedures:

1. Conduct a picture walk of the book.
2. Have students write their prediction------ I predict the story is about-------.
3. Do a sweep of the room to check students' predictions.
4. Teacher reads the story to the class.
5. Oral retelling of story by students as teacher checks students' comprehension and attention to sequential order.
6. In small groups, have students reread the story.
7. Check for students' understanding of the terms: *beginning. middle* and *end.*
8. Students will complete the story map individually, drawing pictures and writing sentences that tell what happened in the beginning, middle and end of the story (Appendix 6).

Day 2:

Objective: Students will use a Venn diagram to compare and contrast two characters in the story Rainbow Fish.

Materials: Venn diagram, The Rainbow Fish

1. Students will reread the story in their small groups. You may have students retell the story using creative dramatics.

2. Each student will select two characters in the story.
3. Students will create a character web for each character. (The web should include at least three facts about each character. The teacher must model this process.)
4. Using the character web, students will complete a Venn diagram comparing two characters from the story the Rainbow Fish. (If this is a new skill for your second graders, teach the parts of the Venn diagram and demonstrate how the Venn diagram should be completed (Appendix 5).

Day 3:

Objectives: Students will create an original Rainbow Fish.

Materials: construction paper, fish pattern, wiggle eyes, paint, glitter, glue, scissors, tissue paper, sponge or paint brushes.

Procedures:

1. Give students a fish pattern to trace on their construction paper.
2. Have students cut the fish out.
3. Have students decorate the fish to represent the rainbow fish that they read about, making sure to use bright colors and glitter to represent the scales (Discuss with students the colors of the rainbow- [ROY G. BIV] red, orange, yellow, green, blue, indigo, violet.)

Evaluation: Display students' work after students orally present and title their fish.

Activity #7: Surfing the Net For Fish Research

Objective: Students will research and complete a report on a fish of their choice.

Materials: computer, informational books on fish, Fishy Report worksheet.

Procedures:

1. Provide students with a list of the names of different kinds of fish. Students may also add their choices to the list.
2. Discuss research format, using worksheet (Appendix 7).
3. Students use the internet to locate information about the fish of their choice.

a. http://.teachercreated.combooks/3402 page 19, site 1

b. www.seaworld.com

4. Have students complete the research in one week.

Evaluation: Students will present their project orally to the class.

Activity # 8 : Types of Writing

Story: Danger Below

Objectives: Students will write for a variety of purposes LA.B.2.1.2.2.1

Materials: Story frame

Procedures:

1. Review with students basic elements of a story: characters, setting, events, beginning, middle, ending, problem and solution.

2. Read and discuss the given vocabulary (**boat, shark, diver, ocean, bubbles**) suggesting how these words can be used to create a story.

3. Students create their first draft of the story.

4. Peer editing – students share their writing with a partner.

5. Teacher edits students' work.

6. Students make their final draft.

7. Students share their stories with their families at the Think-Tank Celebration Night.

Evaluation: Students share their stories and ask audience members to identify main characters, and to retell their stories using words such as beginning, middle and ending.

Poetry Writing: Fishy Poems

a. Rhymes---- students create poem in which the lines rhyme

b. Sensory Poem

Fish look like_____

Fish feel like_____

Fish smell like_____

Fish taste like_____

Activity #9: Math

Objective: Students will solve math word problems.

Materials: Students' math journal

Procedures:

1. Divide students into small groups.
2. Review strategies for solving word problems- read, plan, solve, check.
3. Each group will be given 10 minutes to solve the following word problems based on the think-tank. You may write the problems on the board or on index cards.

Word Problems

a. If each fish in the tank costs $2.00, how much would you pay for 5 fish?
b. If you have $50.00, what will your change be?
c. If 5 gallons of water are pumped through the filter every hour, how many gallons are pumped through the filter each day?
d. If the fish in the think-tank eat 5 ounces of food each day, how long will 20 ounces of food last?
e. If one gallon of water weighs 3 pounds, how much does 20 gallons weigh?

Evaluation: After 10 minutes, have students turn in their solution and teacher models solution on the board. After papers are checked, each group will congratulate each other for their effort. For home learning, students can write a word problem of their own and illustrate its solution.

Activity 10: Math-Geometry MA.A 2.1.2 & MA.C2.1.1

Objective: Students will create a rainbow fish cookie using geometric shapes.

Materials: graham crackers, skittles, frosting, knife, paper plate, frosting gel, colored sugar

Procedures:

1. Give each student 2 graham cracker squares on a paper plate.
2. Set one cracker aside and cut the other cracker across its diagonal to make 2 triangles. Students will only use one triangle to create the fish.
3. Cover the graham cracker square with frosting. This is the fish's skin.
4. Review transformation terms: **flip, slide and turn**.
5. Students will rotate their square shaped graham cracker so that it looks like a baseball diamond, or **rhombus**. The triangle is then placed against first base. This serves as the fish's tail.
6. Add a skittle as the eye.
7. Add gill with colored frosting gel.
8. Sprinkle the entire body with colored sugar. This serves as scales.
9. Students may eat their fish.

Evaluation: Students and parents will make rainbow fish cookie at the think-tank celebration.

Activity #11: Family Involvement with the Think-Tank Project

Objective: Students will demonstrate their understanding of elements of a story completing a book report.

Materials: *I Connected with a Book*-(Appendix 8), a transparency of the worksheet, overhead

Part 1:

Procedure:

1. Students select a fish story.
2. Teacher reads selection to the class.
3. Discuss *I Connected with a Book* worksheet.
4. Teacher demonstrates on overhead how the book report should be completed.

Evaluation: Students will complete a book report on their own. This can be a home learning activity. Have students also read the story to their parents.

Part 2:

In this activity, students will share a fishy story with their parents. The parent along with the student will select a project that is directly related to the story. This can include but is not limited to a book report, poetry writing, song writing, or an art and craft project. (Some additional ideas for this project are included in the Supplementary Materials section.) This activity should be done over a two week period. Students will present their project at the think-tank celebration.

Activity #12- Buddy Reading

Objective: Students will read for a variety of purposes.

Materials: A collection of books-Fishy Library, Buddy Reading Log

Procedures:

1. Check with administration before you start this learning experience.
2. Collaborate with a first grade teacher to pair a first grader with a second grader.
3. Establish a schedule, (30 minutes per week) This can be done during silent reading period or independent reading time.
4. Establish buddy reading rules.
5. Students begin buddy reading. Check with each group as they read.
6. Each group should complete a Buddy Reading Log (Appendix 10)

Evaluation: Noticeable improvement in students' fluency and ability to read aloud in class should be noted. Students can reflect on their buddy reading experience and record their thoughts in their journals. For example, *What did you enjoy most when you read with your buddy? What part is the hardest? most fun?*

Activity #13: Think- Tank Celebration

Materials: snacks (ocean punch- blue, fish shaped sandwiches), fishy library, students' work sample, evaluation sheet, certificate

Procedures:

1. Create an atmospheres of celebration by adding balloons and other ocean decorations to the room.
2. Invite administration and parents to your celebration.
3. Create a program in which students read to their parents and parents read to their children from the fishy library.
4. Display students' work including the family projects.
5. Display pictures taken during the implementation of the project
6. Sing fishy songs included in appendix 13
7. Have students and parents complete the Think-Tank Review- appendix 11
8. Present students with Think –Tank certificate—appendix 12
9. Enjoy your fishy snacks.

Resource List

Materials Master List

Item	Vendor	Number of items	Cost
29 gallon aquarium	Pet Smart	1	$40.00
Air –pump	Pet Smart	1	$16.95
Clear Free filter	Pet Smart	1	$16.95
Plastic plants/ large	Pet Smart	1pack	$4.95
Thermometer	Pet Smart	1 pack of 2	$2.49
Natural Gravel	Pet smart	2 bags	$4.80
Net-medium size	Pet Smart	1	$1.69
Fish/aquatic frog	Pet Smart	6 fish, 2 frogs	$25.00
Fish food	Pet smart	2 large bottles	$10.00
Rocks	Pet smart	1 bag	$3.99
Art Supplies	Get smart	Glue, paint, poster board, glitter, wiggly eyes, construction paper	$60.00
Books	Get Smart, Borders	Classroom library of about 30 books	$250.00
Spring Water	Publix	40 gallons	$50.00
Total			$486.82

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1. The Miami Seaquarium
2. www.Teach-nology.com for rubric making
3. www.coreknowledge.org
4. www.abcteach.com
5. www.dadeschools.net (Language Arts-graphic organizers)
6. www.seaworld.com (for research)
7. http://teachercreated.combooks/3402 page19 (site 1)
8. http://www.123child.com/animals/fish.html
9. www.tetra-fish.com
10. Creative Writing Rocket
11. Price/Stern Sloan Publication. Inc: Creatures Of The Sea

Appendix

1. Fishy Journal Cover Sheet

2. Fishy Log

3. A School Of Helpers

4. Fishy Behavior Log

5. Venn Diagram

6. Story Frame

7. A Fishy Report worksheet

8. I connected With A Book

9. Fishy Behavior Rubric

10. Buddy Reading log

11. Think-Tank Review

12. Think-Tank Certificate

13. Fishy Songs

14. Fishy Library List

15. Fish Templates

Our Fishy Journal

Fishy Log

Temperature	Number of fish	Feed fish	Comments	Signature	Date

A School of Helpers

TEAM	STUDENT'S NAME	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		

Fishy Behavior Log

Partners: _____

Date: _____

Fish Selected: _____

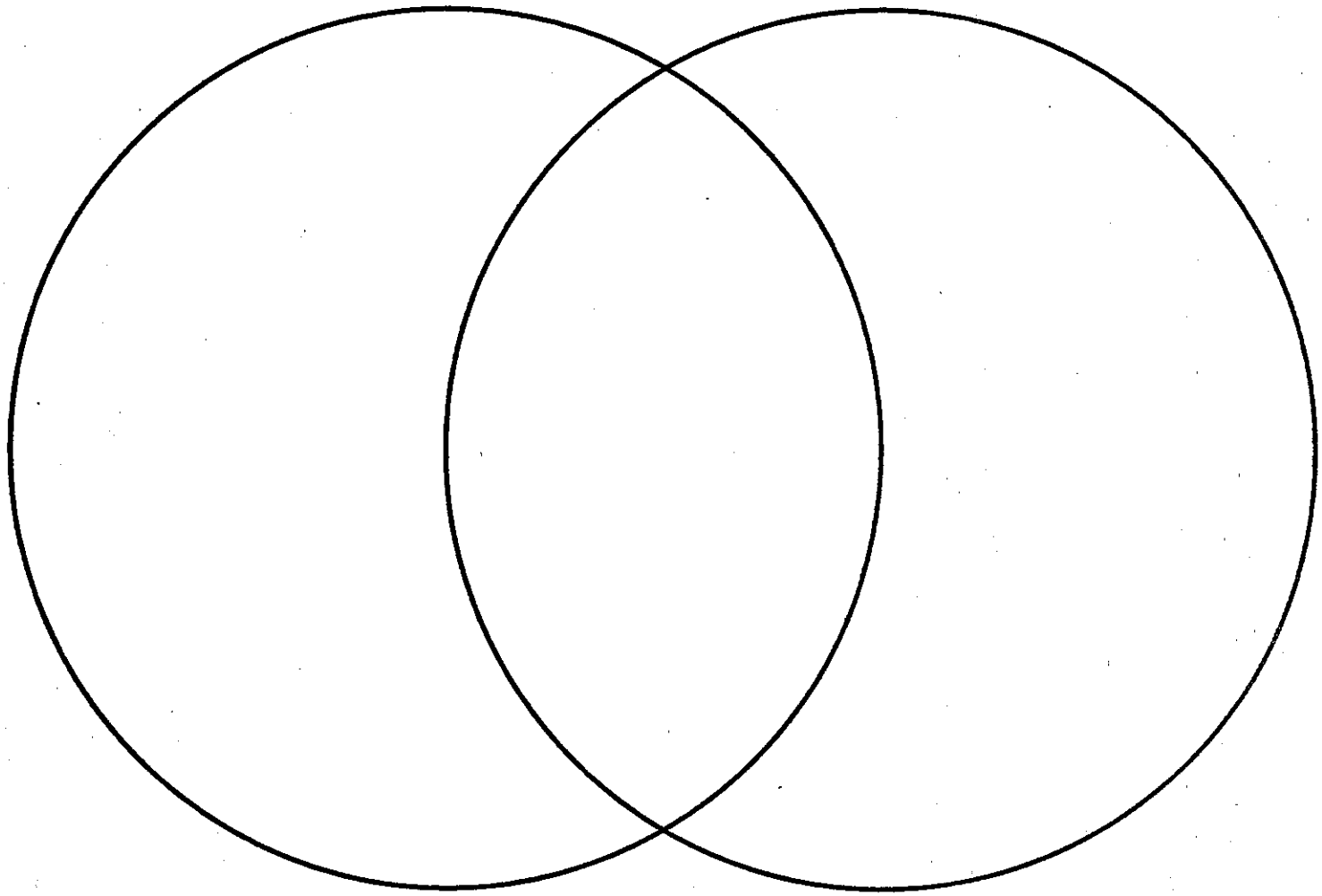
Time Started:_____ Time Ended:_____

Behaviors	Tally	Total Number of Times
Swimming alone		
Swimming with a partner		
Swimming in a group-school		
Chasing a bigger fish		
Chasing a smaller fish		
Not moving		
Eating		
Hiding among the plants		
Other-		

A Fishy Comparison

Name_____ Date:_____

Title:_____ Author:_____



_____ _____

Title: _____

Author: _____

Story Structure Frame

DIRECTION: Draw a picture for each frame and write about it.

BEGINNING	MIDDLE	END

A Fishy Report

Name: _____ Date: _____

Fish: _____

Scientific Name: _____

Description:

_____

_____

_____

_____

Size:

_____

_____

Habitat:

_____

_____

Diet:

_____

_____

Enemy:

_____

_____

Draw a picture of your fish in this box.

I Connected with a Book

1. One Word:
How did the story make you feel?

_____

2. Two Words:
Write a new two-word title for the story.

_____ _____

3. Three Words:
Name three characters from the story.

_____
_____
_____

_____
Title of Book

_____
Author

4. Four Words:
Tell where most of the story took place.

_____
_____
_____
_____

5. Five Words:
Write a five-word sentence on how the story ended.

_____
_____
_____
_____
_____

Fish Food Commercial Rubric

Name: _____ Teacher: _____

Date: _____ Name of product: _____

	Criteria				Points
	1	2	3	4	
Completeness	incomplete	some what complete	mostly complete	fully complete	
Creativity	low	medium	high	superior	
Oral Presentation	OK	fair	good	Excellent	
Fish would be happy with the food	not at all	sometimes	mostly	always	
Effort	unsatisfactory	satisfactory	good	great job	

Teacher's Comments:

Buddy Reading Log

Date	Buddies	Title

Name:_____ Date:_____

Think-Tank Review

My favorite part of this project was

_____

_____

I wish I could_____

_____

_____

_____

I discovered _____

_____

_____

The Aquatic Think-Tank Award

Presented to: _____

for outstanding achievement in the

Think-Tank Project

_____ _____

Signature Date

Sponsored by the Education Fund

Songs

Fish/Under the Sea

My Fishy Song by chicky-ma-ma
Sung to "The More We Get Together"
If I could be a fishy,
A fishy, A fishy
If I could be a fishy
What kind would I be?
A swordfish, a guppy,

My Crab Song by chicky-ma-ma
sung to "It's a Small World"
I'm a small crab in the sea
I'm as red as I can be
I have 6 legs as you can see
I'm a small red crab

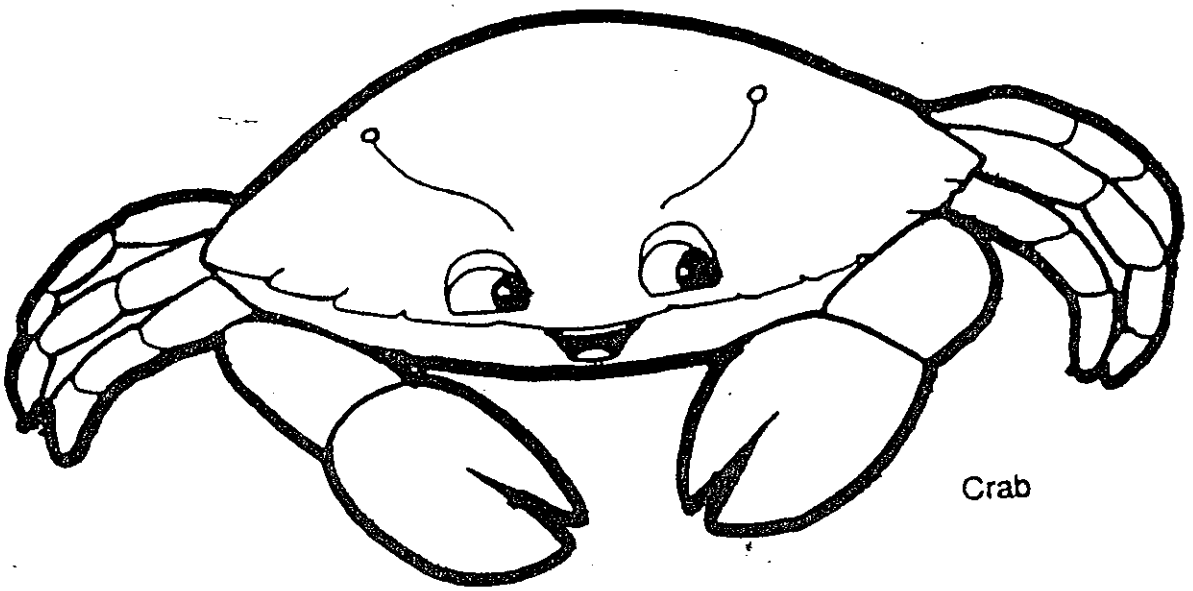
Five Little Fishies
Written By: Unknown
Five little fishies, swimming in a pool
(Wiggle five fingers)
The first one said, "The pool is cool."
(Show one finger, then wrap arms around body)
The second one said, "The pool is deep."
(Show two fingers, then hands measure 'deep')
The third one said, "I want to sleep."
(Show three fingers, then rest head on hands)
The fourth one said, "Let's take a dip."
(Show four fingers, then hands 'dive' into water)
The fifth one said, "I spy a ship."
(Show five fingers, then form scope with hands to peer through)
Fisher boat comes,
(Form 'V' with fingers, then move hands away from body)
Line goes kersplash
(Pretend to throw fishing line)
Away the five little fishies dash
(Wiggle five fingers away)

My Starfish Song by chicky-ma-ma
Sung to "Mary had a Little Lamb"
I'm a little brown starfish,
Brown starfish, Brown starfish
I'm a little brown starfish
Who lives under the sea

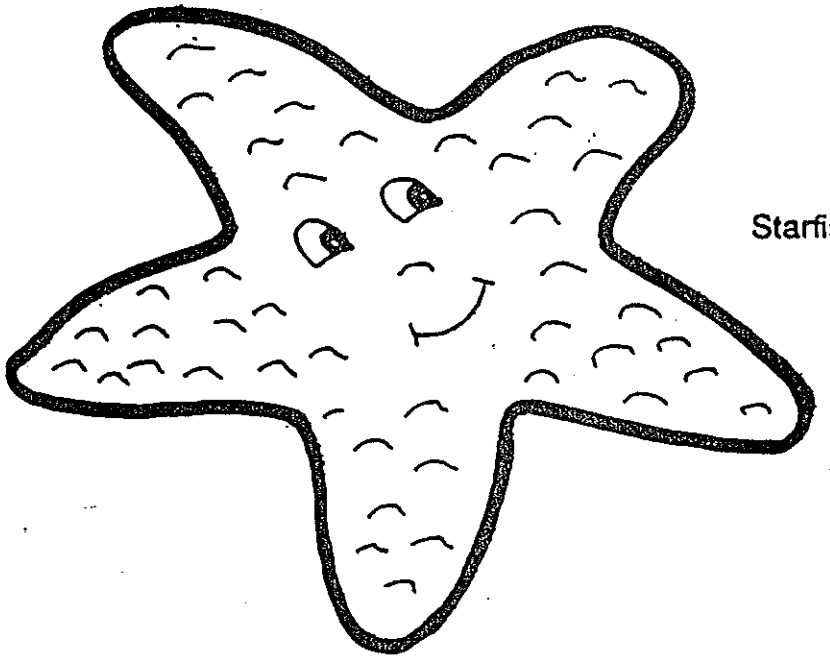
My Octopus Song by chicky-ma-ma
Sung to "Three Blind Mice"
Octopus, Octopus
In the Sea, In the Sea
To swim they use all 8 of their arms
Their color changes to hide them from harm
They live in the sea, not on a farm
The Octopus

Our Fishy Library

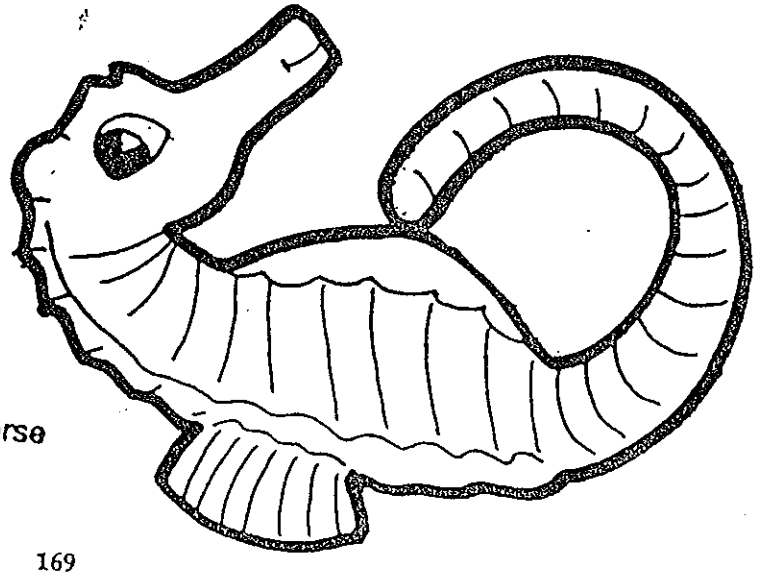
Title	Author	ISBN#
Rainbow Fish- Finders Keepers	Marcus Pfister	0-694-52586-3
The Rainbow Fish	Marcus Pfister	1-55858-009-3
Rainbow Fish- The Dangerous Deep	Marcus Pfister	0-64-01639X
Rainbow Fish- Hide and Seek	Susan Hill Long	1-59014-1105
Rainbow Fish and Friends- Follow the Leader	Marcus Pfister	1-59014-106-7
Rainbow Fish& friends- Lost At Sea	Marcus Pfister	1-59014-002-8
Rainbow Fish& Friends- Star of the Sea	Marcus Pfister	1-59014-067-2
Rainbow Fish& Friends- Scaredy- Cat Fish	Marcus Pfister	1-59014-069-9
Rainbow Fish- Puffer Cries Shark	Marcus Pfister	0-694-52589-8
Rainbow Fish- the Good Luck Charm	Sonia Sander	0-694-52588-X
Ocean Animals- Unfold and Learn	Kathie Billingslea Smith	1-57755-481-7
Who Lives in the Ocean	Justine Korman Fontes	0-7607-3652-9
Big Stuff in the Ocean	John Christopher Fine	1-55591-357-1
Henry & Mudge and the Forever Sea	Cynthia Rylant	0-590-22277-5
Water Animals	Grandreams Books Inc.	1740471253
Clifford Saves the Whales	Norman Bridwell	0-438-37306-9
Salty Sea Critters	Nancy Parent	1-57657-690-6
Magic School Bus- The Wild Whale Watch	Joanna Cole	0-439-10990-6
Magic School Bus- Fact Finder- Whales	Joanna Cole	0-439-38174-6
Junie B. Jones Smells Something Fishy	Barbara Park	0-439-09974-9
Franklin Wants a Pet	Paulette Bourgeois	0-590-48915-1
Mermaid Mariana	Lesley Reese	0-7607-3848-3
How many creatures are in the Sea?	Barrons	0-7641-7256-5
Meet the Octopus	Sylvia James	1-57255-120-8
Don't Eat the Teacher	Nick Ward	0-590-84914-X
Mandy the Manatee Saves the Day	Marti L. Welch	
Wild Dolphins	Nicola Davies	0-439-47444-2
My first book of the Seashore	Brimax	1-85854-465-3
Commotion in the Ocean	Andreae Giles	0-439-08214-5
Swimmy	Leo Lionni	0-590-43049-1
A house for Hermit Crab	Eric Carle	0-689-84894-0



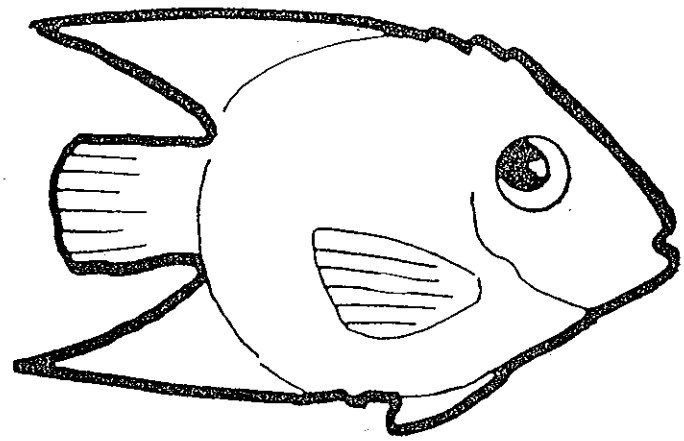
Crab

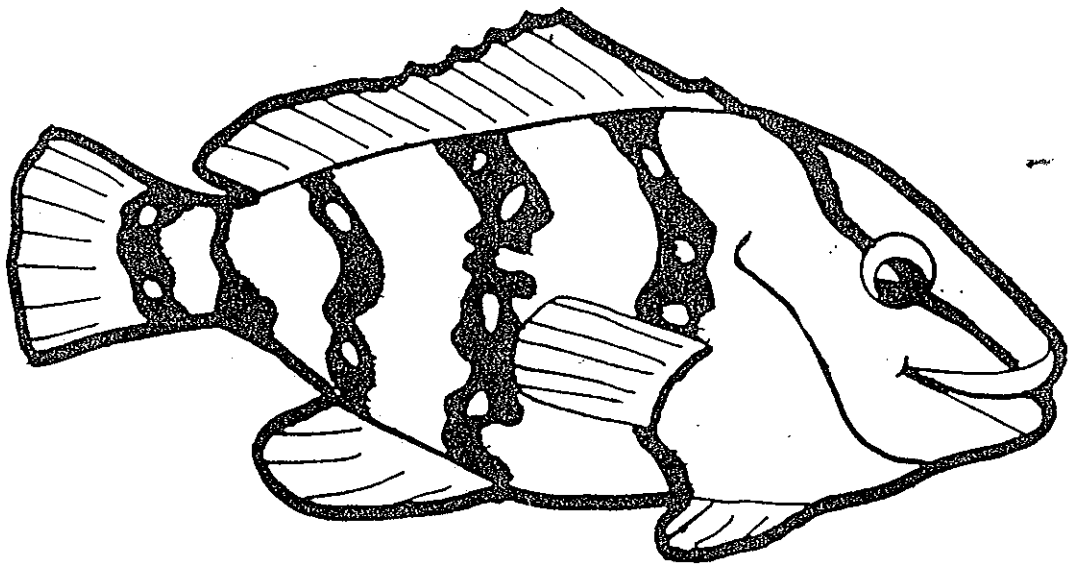


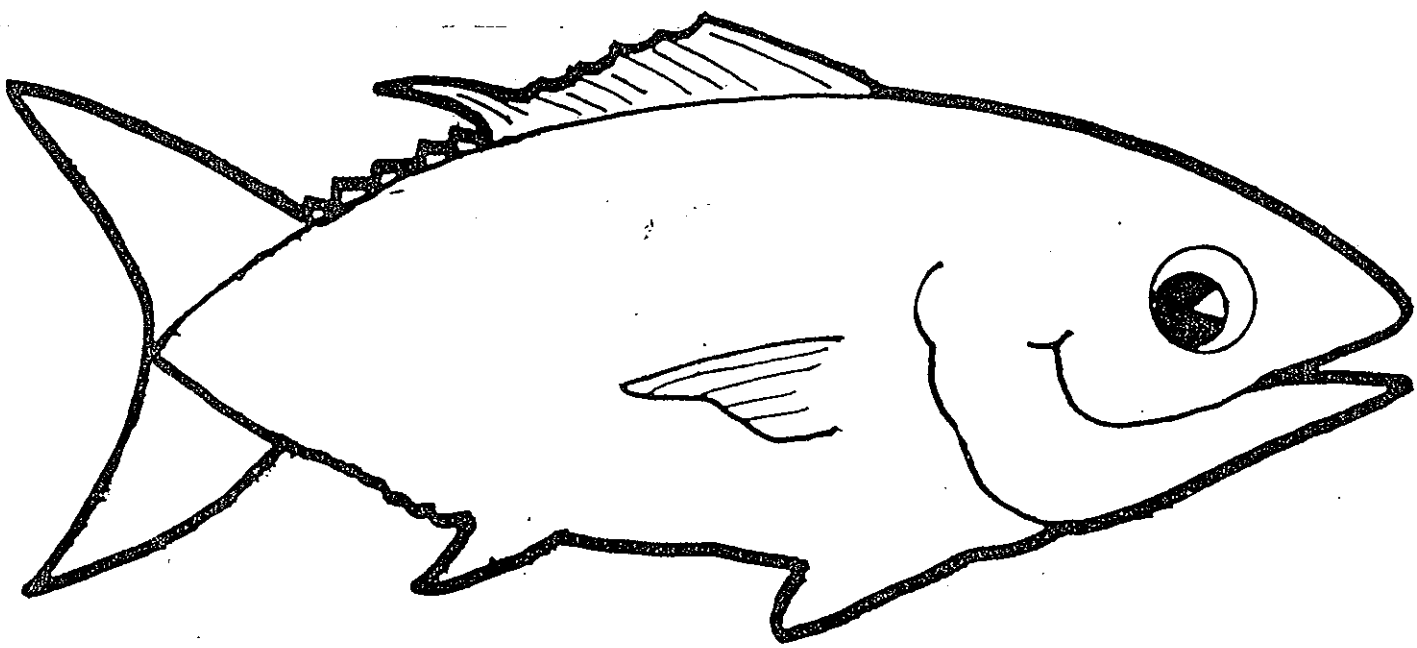
Starfish



Sea Horse



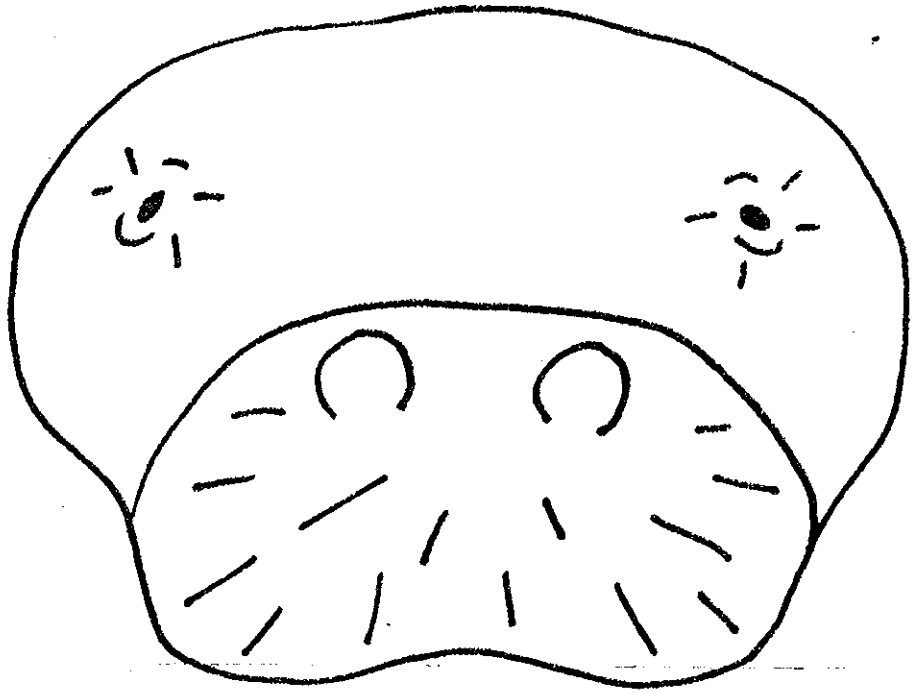


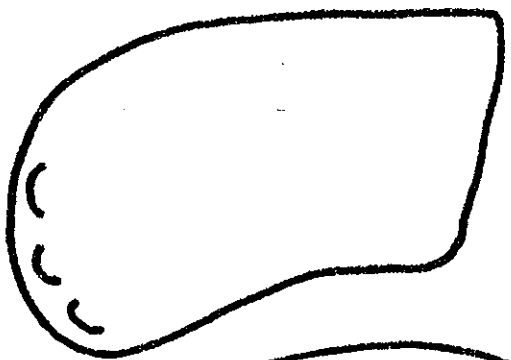


Manatee Puppet

Directions: Color each of the pieces gray or brown. Cut the pieces out and glue them to a paper bag as shown below. Make sure you attach the head to the bottom of the bag so that you can open the manatee's mouth. Give your manatee a name and herd together with your other manatee friends. Manatees are great socializers!

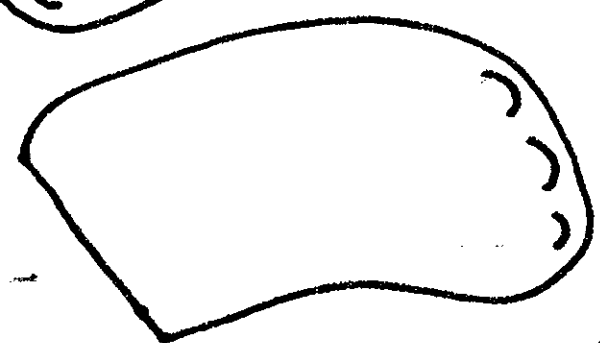
(Puppet idea courtesy of the DEP Florida Marine Research Institute.)

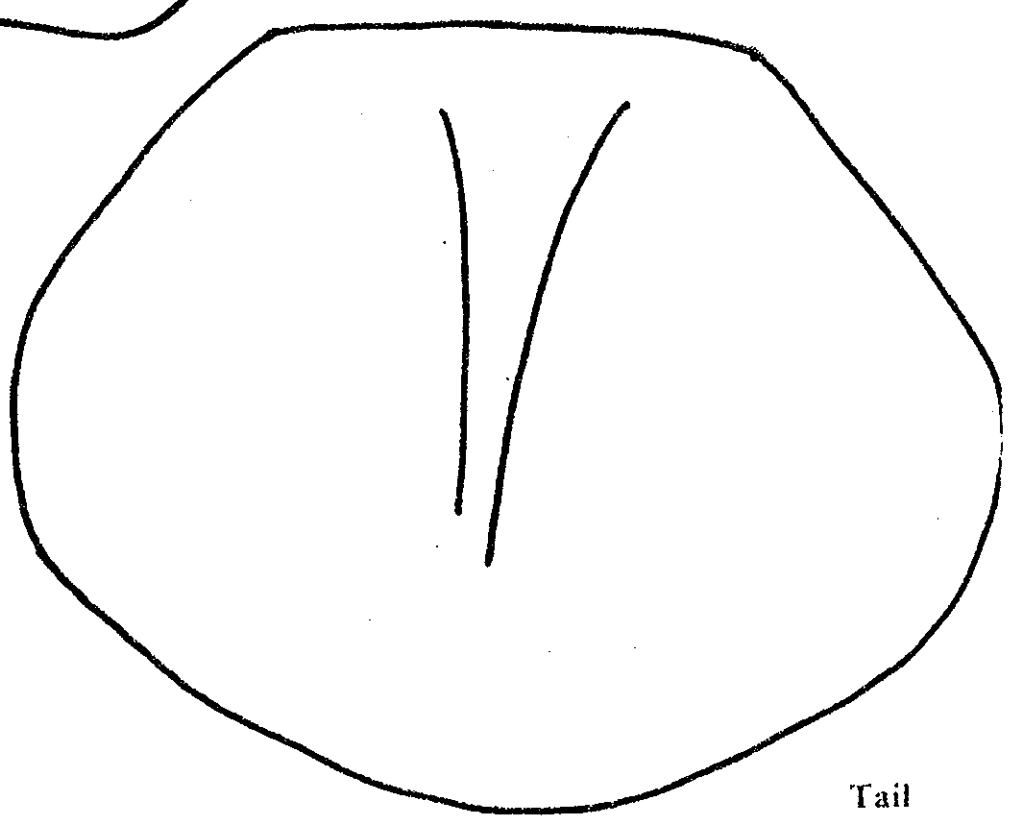




Bottom of mouth

(glue just under the flap of the paper bag

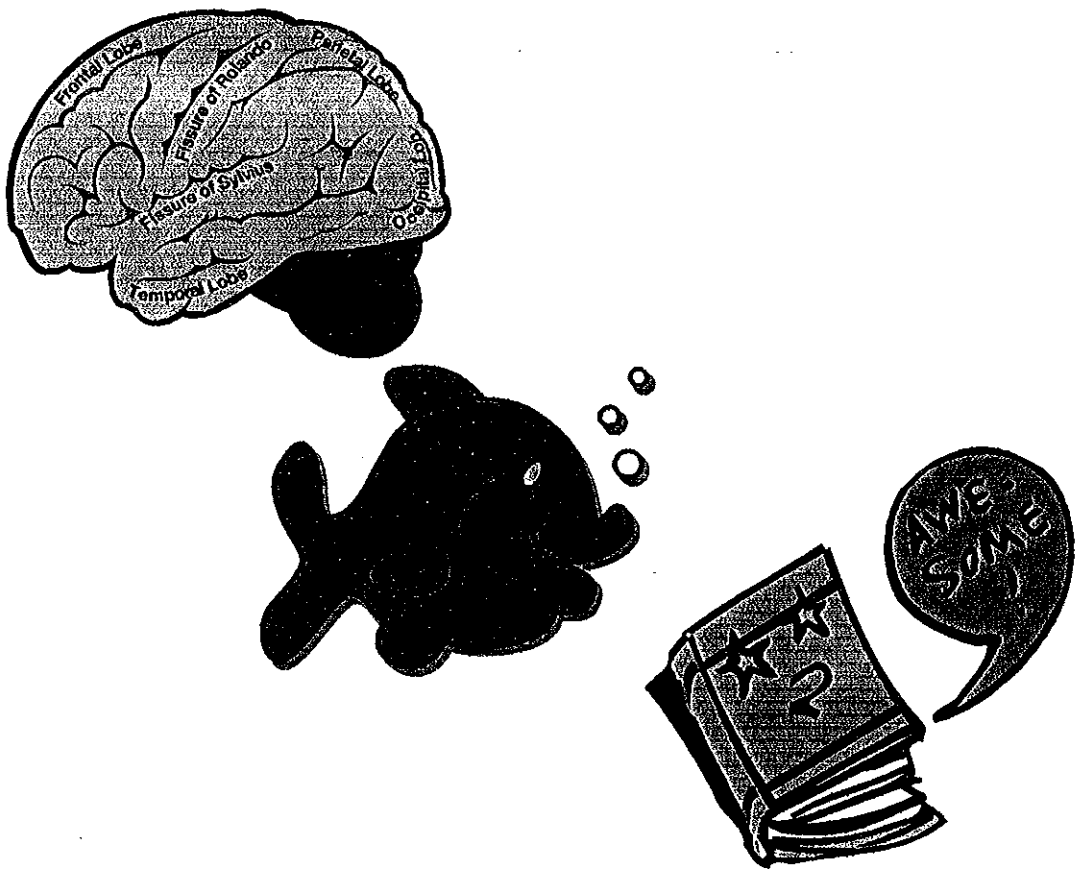




Tail

Student Work Samples

Sharpening our FCAT skills



Building an Aquatic Think-Tank

Equpt Rodriquez

Scruffy

S is for scd my fish is scd.

c is for Color my fish has his ocon Color.

r is for really my fish is really hungry.

u is for usually my fish is usually spotted.

f is for food my fish eat food.

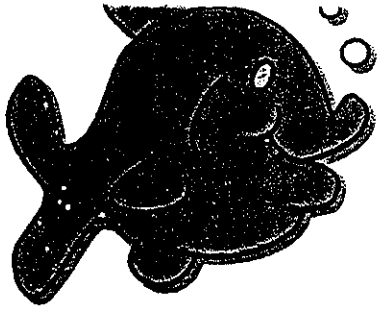
f is for fish I have a fish.

y is for yong my fish is yong.

put these letters togther to
spell Scruffy my fish.

poem by
Natalie

Rainbow Fish
Star of the Sea



Name Pearl

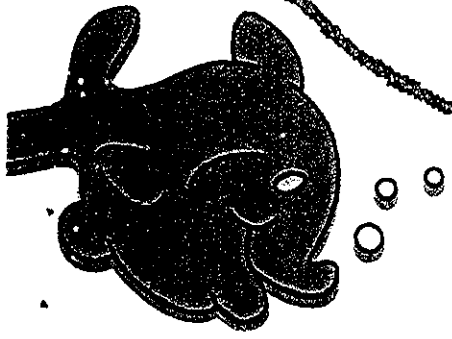
Name Puffer

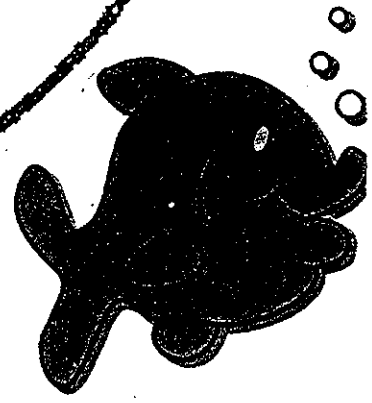
Different | **Alike** | **Different**

1. Roise's sister.
2. Shy.
3. Wants to be a sea dragon.
4. little Pink fish.

1. they both live in the ocean.
2. they want to take each others parts in the play.

1. Shy.
2. Puffs up.
3. Orange fish.





Eavdt D. Iniguez

Name EGYPT

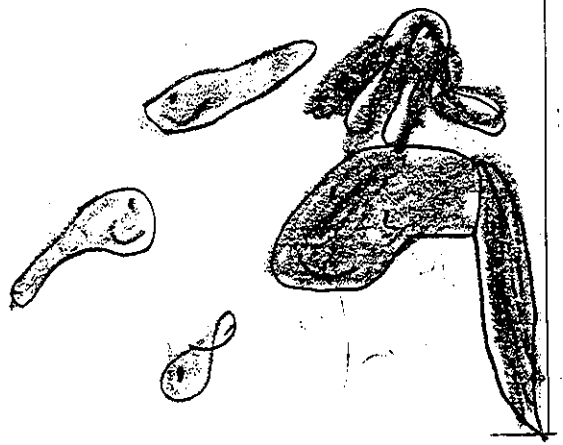
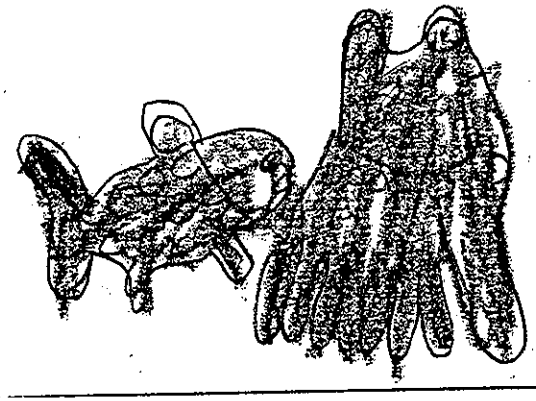
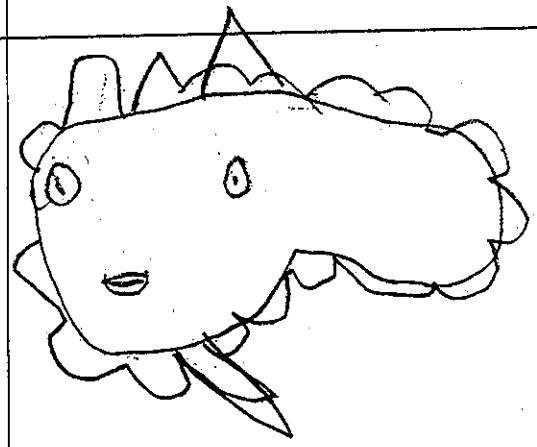
Date April 28, 2003

Title: Rainbow fish and the star of the sea.

Author: Marcus Pfister

Story Structure Frame

DIRECTION: Draw a picture for each frame and write about it.

BEGINNING	MIDDLE	END
Miss Octavia cuttle's school for fish bubble with excitement. The students were going to put on a play.	Early the next morning the school of fish stared rehersing.	As the cast took its final bows, The rescuer darted over to the dragon. You were terrific Rosie said to Pearl.
		

Dear Mrs. Demetrius

I injoid the party. And it was fun and I like the part when we ate the fish.

Love cristina

Stephanie

Thank you Mrs. Demtrius for letting us make the fish with the cracker and for reading us the Rat Bourson story we appreciate that so much and thank you for us to see things like the fish and the drawings.

Dear Mr. Demetrius

Thanks for teaching us how to make a fish out of gram Cracker. They were so good! I still know how to do them.

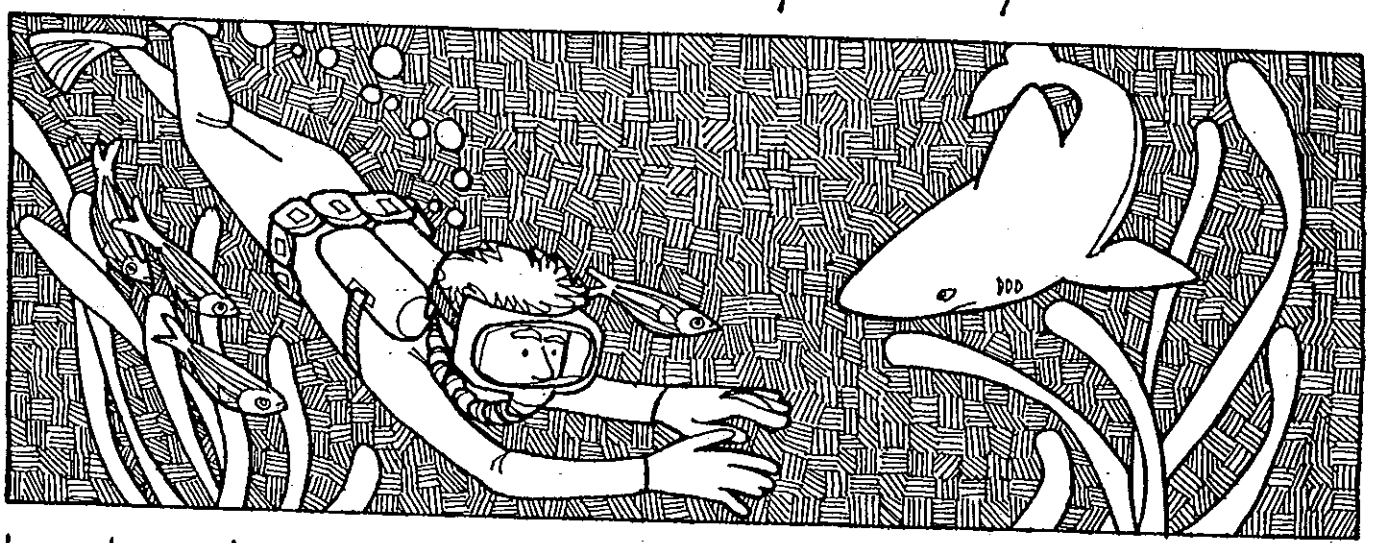
Love

Georshua M.

Supplementary Activities

DANGER BELOW

Look at the picture and the five words.
Write a short story.
Use each of the five words in your story.



boat shark diver ocean bubbles

a closer LOOK

A special program for teachers in using science to help students develop observation and literacy skills.

We wish to thank Chuck Murfitt, Diane Cloherty, LaNelle Harvey, Tony Kelly, Kathleen Biggins and Ann Houlihan of the Eliot School, Geraldine Terrizzi and Frances Stuart of the P.J. Kennedy School, Elaine Hatfield-Thompson and Deborah Carr of the Sam Adams School and Veronica Andrews and Shellie Nee of the East Boston Early Education Center for helping us develop the *A Closer Look* activities.

Taking a Closer Look

It's a typical day at the New England Aquarium. A large group of middle school students on a field trip stop by the Nile crocodile exhibit. Most of them look briefly at the tank, comment on the crocodile, and move on. One or two notice a group of six kindergarten students sitting on the floor in front of the same exhibit tank. Accompanied by a teacher from the Boston Public Schools and an Aquarium staff member, these students are focused on the fish moving around in front of them. They are writing and drawing furiously on their clipboards, and constantly relate their observations to the group. The students ignore the huge crocodile, a distraction if ever there was one, and remain completely engaged in the task at hand. The kindergarten students continue this level of concentration on their work for the entire 20-minute activity.

Teachers as Learners

The group activity described above is part of an Aquarium professional development program for teachers called *A Closer Look* funded by a grant from the Annenberg Challenge Fund for Non-profits. We developed the program in response to both a teacher initiative from the Eliot School and a challenge from principals of the Cluster I schools seeking to use the Aquarium as a resource to support teaching and learning goals. The objectives of the program are:

- To develop tools for teachers that focus student interest during field trips and develop key science and literacy process skills
- To offer pre- and post-visit classroom ideas that develop observation skills and science concepts and promote literacy skills

In the first session, teachers are the students — they do the activities and observations. In subsequent sessions, they observe and assist students in similar activities. Aquarium staff present activities and materials to facilitate observation and recording. Teachers discuss the techniques and tools used and how they would adapt these ideas for their own classroom needs.

Teacher Reflections

"Looking at one fish, I found my power of observation was more intense, and I was able to see more. When I centered on the fish, he became my fish."

"By focusing on one fish, I felt a sense of responsibility. I took ownership of the fish. I studied the color, shape, how many inches, how it moved. I found the probing questions helpful. 'What are you looking at?' encouraged me to look harder."

"I really liked the idea of focusing on an exhibit and one fish... This will help children to write, describe and use their observational skills."

The Techniques and Tools

We developed a variety of activities based on the Massachusetts Curriculum Frameworks. Staff members used techniques derived from their own teaching experiences as well as those suggested by participating teachers. In the most significant feature of the program, Aquarium staff demonstrated the use of questioning and probing to motivate students to draw, write and refine their observations. This section of *Schooling* contains activities that can be used before, during or after an Aquarium visit.

The Results

The pre-visit activities allow students to demonstrate their familiarity with the subject matter, and the follow-up activities show students that they can build on this knowledge. The activities encourage students to relate their own bodies and behavior to characteristics of the animals they see, and provide them with the vocabulary to ask questions.

In comparing the work of students on their first visit and on their second Aquarium visit, the participating teachers noticed the development over two sessions.

> "I see a big difference in focus and the results of the activities which introduced concepts and background knowledge."
>
> "I was impressed with the volume of what they wrote. The drawings were not as stylized and were more detailed."

Teachers came away with ideas of how they would prepare for and conduct a field trip experience for their students at the Aquarium. Many said that they would like to combine both a survey (looking at all the Aquarium exhibits) and this focused approach (looking closely at one exhibit).

This issue of *Schooling* offers a sampling of the activities that are utilized in the *A Closer Look* program.

For information on how your school can participate in a workshop similar to our *A Closer Look* program, or for additional materials, please call the Teacher Resource Center at (617) 973-6590.

Get to Know a Fish or Another Animal

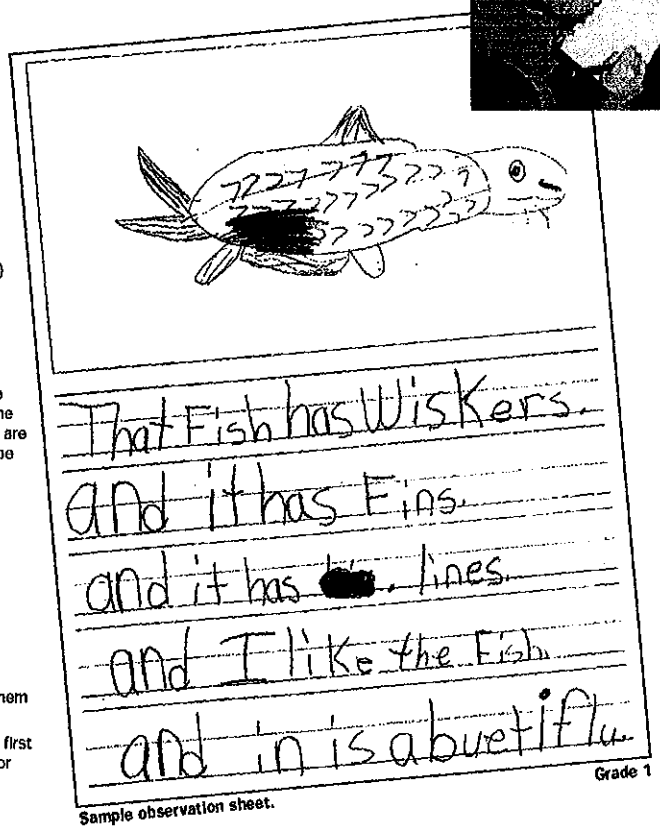
A Pre-Visit / Visit / Post-Visit Activity

Photo / J. Rubin

Purpose:
To model the observation and writing skills necessary for developing confidence in science and literacy.

What You Need:
- Fish poster, live fish or other animal in tank
- A poster-size sheet of paper (a Post-it® Easel Pad sheet works well)
- Marker
- Vocabulary words on small Post-it Notes® (see page 3)
- Tape
- Student observation worksheets (see sample)
- Pencils
- Prompting Questions (see page 3)
- Optional: colored pencils

What To Do:
1. Tell your students: "We are going to imagine that we are at the Aquarium. Pretend that the poster is an exhibit at the Aquarium." If you are using live fish or other classroom animals, be sure that students all have a good view by putting students in small groups, each with their own animal to observe.
2. Mark the poster-size sheet of paper so it resembles the student worksheet (see sample).
3. Post the large worksheet model on the wall and post the vocabulary words nearby.
4. Set up the fish or poster where everyone can see it.
5. Show the students the worksheet and tell them that you need their help to draw the fish.
6. Ask what you should draw first: "What's the first thing every living thing has to have?" Wait for most, if not all, hands to be raised before calling on a student to speak. You can lead students to refer to aspects of the fish that need to be mentioned for the drawing to work (like the body) or you can work from the parts, trying to keep them more-or-less in proportion to the drawing space.
7. Continue by asking more questions, such as "What tells you that this is a fish?"
8. As you draw what the students suggest, take the appropriate word card and tape it in the correct location (see fish diagram on page 3). If you aren't using cards, label the parts directly on the fish.
9. Continue until you have drawn the fish.
10. At the Aquarium or with a classroom aquarium, give each student the observation worksheet (you may include vocabulary words on the sheet if you choose) and take a group to one tank. If you are at the Aquarium, it is ideal if you can divide the students among the chaperones and have each group go to a different exhibit. Be sure to prepare the chaperones in advance and give them worksheets so that they understand the purpose of the exercise.
11. Ask students to pick out one fish and watch it carefully. They should draw the fish and write down everything they see or wonder about while they watch the fish.



Sample observation sheet.

12. Ask the students the prompting questions on page 3 or other similar questions.
13. Upon returning to school or at the end of the activity, ask students to hang their worksheets around the room. Each student should take a turn standing in front of his or her picture to say something about what he or she saw, drew or wrote. Ask what is special about each fish.

Options:
1. Use this activity with different Aquarium animals (e.g. penguins) or in the classroom with videos, posters or classroom pets.
2. Invite chaperones to watch you and the students practice the activity in your classroom.
3. Have each student create his or her own fish in its habitat (research, diorama, story).
4. Set up a classroom fish tank and place a labeled poster above it.
5. Create a word wall/poster for students to use writing a story about their fish.
6. Compare and contrast pictures of different fish.
7. For older students add dorsal, caudal, pectoral, pelvic, anal fins and the lateral line as vocabulary.

Encourage students to talk about what they have noticed and then "get it down on paper" – draw and write their observations.

TIP:
In observation lessons, "what", "when", "where" and "how" questions are more useful and more answerable than "why" questions. Avoid questions that prompt one word yes/no responses. Follow the students' observations by encouraging them to offer additional features and details.

Materials and information to support this activity are available at the Teacher Resource Center, (617) 973-6590.

Massachusetts Curriculum Frameworks

Life Science

PreK-2:	Characteristics of Living Things Living Things and their Environment Organisms and their Environment Characteristics of Plants and Animals
Grade 4-5:	Adaptations of Living Things
Grade 6-8:	Classification of Organisms Interactions of Living Things within an Ecosystem

English/Language Arts

PreK-2:	Language Strand Literature Strand Composition Strand

Get to Know a Fish Activity

Fish Vocabulary:

Write each of the following words on index cards. Make two copies of gill slits and eye, and six or more copies of fin depending on the fish.

body	gill slits	mouth
eye	head	scales
fin	lateral line	tail fin

Although most of the above are self-explanatory, definitions of some terms are included below:

Lateral line: The lateral line is a unique sensory system found only in fish. It consists of a series of vibration-sensitive hairs linked to the nervous system, protected within pores that form one or more rows along each side of the fish. It helps a fish avoid obstacles and predators. You can see the lateral line as a faint stripe running along each side of a fish's body.

Fins: Fins help fish move and provide swimming stability. In most fish, paired fins are used for starting and stopping. Medial fins, like the anal and dorsal fins, act like the keel of a boat enhancing stability. In many species, the caudal fin or tail fin provides most forward movement and controls direction. Of course, there are always exceptions. See if you can spot them.

Gills: Fish breathe through gills. Oxygen-rich water enters the mouth, crosses the gills, where oxygen and carbon dioxide are exchanged, and exits the gill slits. Gill covers protect delicate gill filaments.

PROMPTING QUESTIONS:

Pick a fish or other animal. What do you notice?

Describe the animal's appearance and the adaptations that set it apart from all other animals:

- Using your drawing, show me its body.
- What parts does it have? Show where the ___ goes.
- What about that___? (indicate another part of the animal.)
- What shape is it? How do you think that helps the animal?
- What color is it? Does it have any lines, spots, stripes or other marks?
- Is there a mouth? Are there any teeth or eyes? Show how it is/they are shaped.

Describing its behavior:

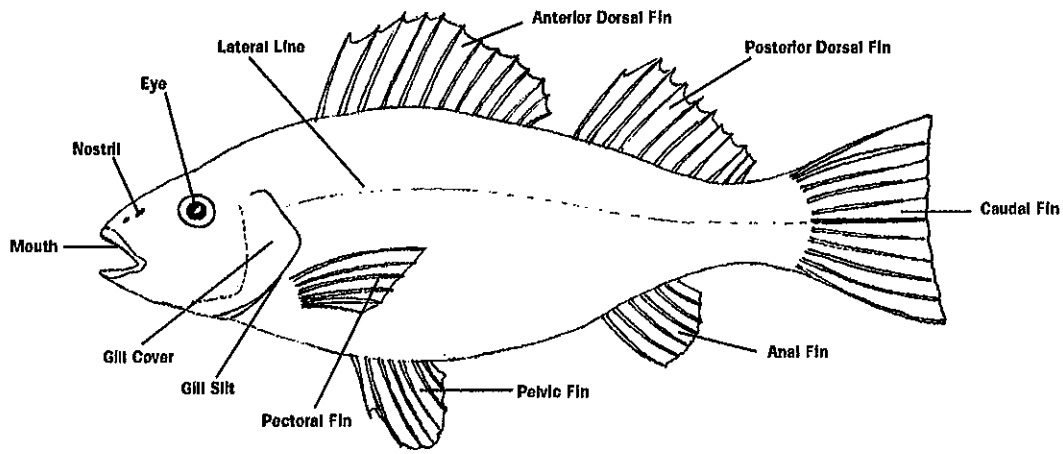
- What is it doing? What (evidence) makes you think so?
- Does it go around or stay in the same place?
- Where is it spending most of its time?
- What happens when it meets another animal?
- How does it move? Write it down.
- What parts are moving? What do they look like? Which parts move in rhythm?
- How does it use its tail and other fins?
- Is it breathing? How can you tell?

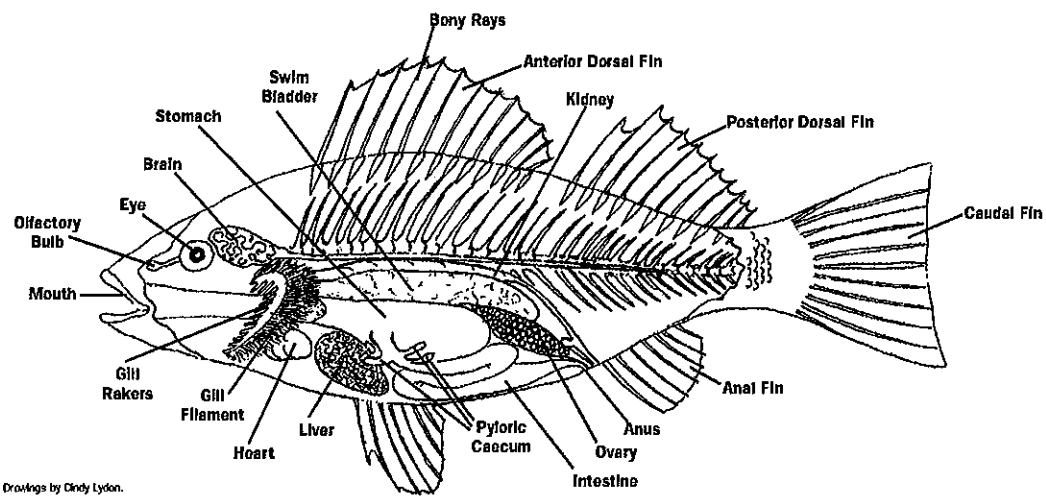
Describing the kind of place it lives, its habitat:

- What does its home look like? Show me in your picture.
- Is there anyplace to hide?
- Is there something to hold onto?
- Are there any rocks or sand? Are there any things that were made by people?
- Are there any plants or other living things?

Get it down on paper!

It can be difficult to discover the answers to some kinds of questions (especially "why" questions) during short observations. Be sure to check the signs near the exhibit or ask Aquarium staff if you need further information. You can also send questions to the Aquarium Library. Be sure to include your mailing address so the librarian can reply with the answers.





Drawings by Cindy Lydon.

Let's Learn About Fish

A Pre-Visit / Post-Visit Activity

Purpose:
To acquaint students with vocabulary and concepts and prompt them to record their observations and formulate questions.

What You Need:
- A book about fish, such as *What's It Like To Be A Fish?*
- A poster-size sheet of paper (a Post-it™ Easel Pad sheet works well)
- Marker
- Tape
- Student observation worksheets (see page 2)
- Pencils
- Prompting questions (see page 3)
- Optional: colored pencils

What To Do:
1. Mark the pad sheet into three columns or use three different sheets for the KWL chart as shown.
2. Ask students to sit on the floor around you. Read or paraphrase the book or selected sections. Keep younger students engaged by relating breathing, movement and other aspects of the fish to the students' own bodies.
3. Ask the students to help you fill in the first column of the chart and to tell what they know about fish. Wait for most, if not all, hands to be raised before calling on a student to speak.
4. Write responses in the first column, emphasizing vocabulary words that you would like to reinforce.
5. Now ask the students to help you fill in the second column. Ask them to tell the class what they want to know or learn about fish. Younger students may have difficulty formulating questions. It may help to give them a model for starting their queries such as "I wonder..."; "Why do fish...?";"How do fish...?"; "What do fish...?" Ask them to think about these questions and ask them to write down any other questions they think of later.
6. Upon entering the Aquarium or prior to looking at a classroom tank, hand out the student observation worksheets and pencils. If you are on a field trip at the Aquarium, it is ideal if you can divide the students among the chaperones and have each group go to a different exhibit. (You can use the map in this issue of *Schooling* to select observation sites.)
7. Encourage chaperones to ask students the Prompting Questions or discussion questions (this page) to elicit student observing, writing, drawing and questioning.
8. After observing fish at the Aquarium or in the classroom, hold a discussion about what the students observed or wrote and drew on their sheets.
9. You may want to have students research their fish and complete the last column in small groups based on their observations and research and have them report to the rest of the class.

KWL Chart

K	W	L
What Do You Know?	**What Do You Want to Know?**	**What You Learned (or Observed)**

Optional Activities:
1. Compare two or three types of fish using a Venn diagram (see below).
2. Have students research the answers to the questions in column two on the chart.
3. Have students write a story about their fish or imagine what happens in the exhibit tank at night when visitors and staff go home.

Materials and information to support this activity are available at the Teacher Resource Center, (617) 973-6590.

Discussion:
- Which fish did you observe?
- What did your fish look like?
- What did it do?
- Why do you think it was doing those things?
- Where does it live?
- How does it interact with its environment?
- How does it interact with other fish that are like it?
- How does it interact with other types of fish or animals in the same tank?
- Were there other animals in the same tank?
- What were they?
- What does your fish need to live?

Massachusetts Curriculum Frameworks

Life Science

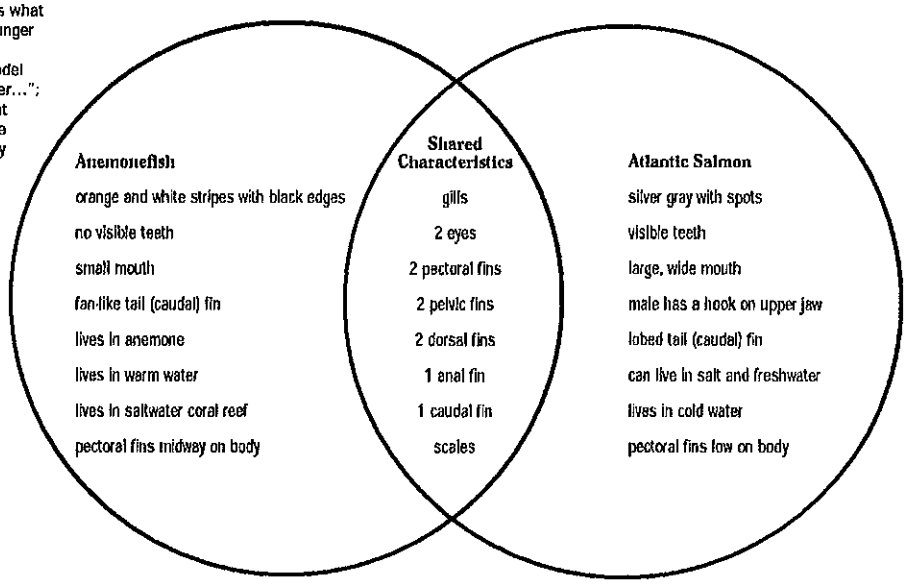
PreK-2: Characteristics of Living Things
Living Things and their Environment
Organisms and their Environment
Characteristics of Plants and Animals

Grade 4-5: Adaptations of Living Things

Grade 6-8: Classification of Organisms
Interactions of Living Things within an Ecosystem

English/Language Arts

PreK-8: Language Strand
Literature Strand
Composition Strand



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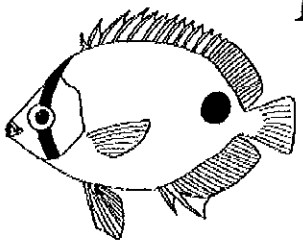
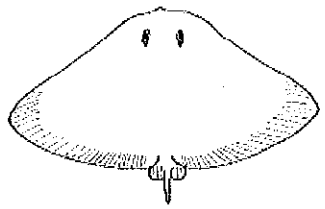
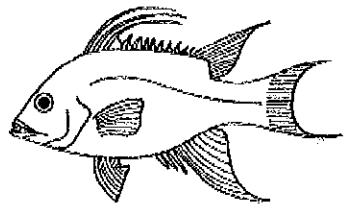
Fashion a Fish

Answer the following questions regarding the Fashion a Fish activity:

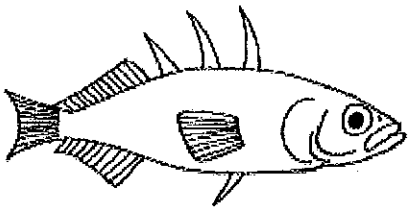
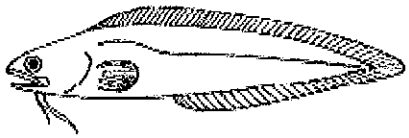
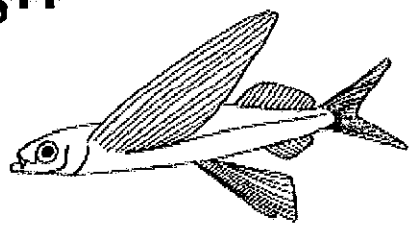
Did you include a lot of scientific information about your fish?	yes	no
Did you elaborate on your written description and include a lot of details?	yes	no
Is your information neat and clearly written?	yes	no
Did you add details to your fish model?	yes	no
Is your fish model neat?	yes	no
Did you use your time wisely?	yes	no

What could you have done to improve your model?

What could you have done to improve your written description?

 © Susan Seagraves

Fashion a Fish

Think about the following information when creating your drawing and written description:

Name of your fish - _____

type of fish - agnatha, chondrichthyes (cartilaginous fish), osteichthyes (bony fish) _____

habitat - where does your fish live in the ocean? (coral reef, kelp forest, abyss)_____

migration - does your fish migrate or live its entire life in one region?

_____

location in the world - what ocean(s) does your fish live in?

_____

coloration/camouflage, defense adaptations - _____

_____

how they swim/move/anchor - _____

physical features - body shape, type of fins and # of fins, scales, size, mouth position, eye position, nostril position, barbels, etc. _____

_____

_____

predators/prey - what does your fish eat and what eats your fish? ___

_____

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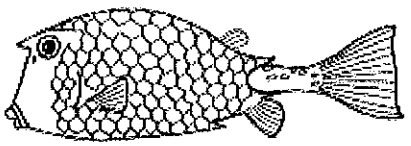
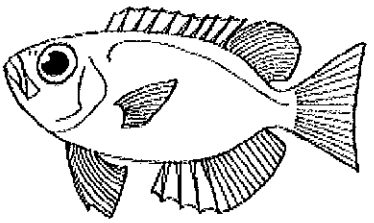
Fashion a Fish

In this activity you will be marine biologists who have discovered a new species of fish. Think about what you have learned about fish adaptations such as body shapes, mouth shapes, coloration, camouflage, and defense mechanisms.

Materials: large sheet of white bulletin board paper
markers
scissors
glue
pencil
stapler

Instructions:

1. Draw a large picture of your fish on a large sheet of folded paper.
2. Draw the pectoral and pelvic fins on a separate piece of paper.
3. Trace the drawing with a permanent black marker.
4. Turn the paper over and trace the drawing on the other side.
5. Color both sides of the paper and keeping the paper folded, cut it out.
6. Staple the two sides together leaving an opening.
7. Stuff the fish with crumpled paper to give it a three-dimensional look and staple it closed.
8. Glue on the pectoral and pelvic fins.
9. Write a description of your fish. Be creative. You may write your description in the form of a newspaper article, an interview or a scientific journal report. Your information may be hand written or typed.

 © Susan Seagraves

Ocean Art Activities

Aquarium- Cut the centers out of two paper plates. Fasten them together at the edges. Make seaweed out of tissue paper and attach it at the bottom of the cut out center. Glue sea creatures to this seaweed. Cover the cut out centers with clear plastic wrap or blue cellophane. Hang it from the ceiling or display on a bulletin board.

A Puppet Story - Have students draw and color pictures of fish, rocks, seaweed or any other object that might be in the ocean. Cut the pictures out and glue them to craft sticks to create hand puppets. Students can use the puppets to retell the stories or make up their own story to tell.

Sea Mobile - Have students work in groups to draw and color pictures of sea animals that live in each zone of the ocean. Cut the pictures out and glue to heavy construction paper. Punch holes and tie them to a clothes hanger to make the mobile. Display them around the room and have students identify the area of the ocean represented.

Saltwater Paintings - Mix one fourth cup of warm water with six teaspoons of salt and 3 drops of food coloring in a small container. Mix well. Have students paint ocean pictures with the mixture on white paper. Let dry. The water evaporates but the colored salt remains, creating beautiful pictures. This is a good chance to discuss evaporation with students. What evaporates and what didn't?

Aquatic Mural - On a long sheet of butcher paper have students draw their favorite fish or cut out fish shapes to glue onto the paper. Add a sandy bottom some seaweed and you have an ocean scene to display. This is especially good to use with Swimmy. Draw the outline of a big fish on the paper. Have students sponge paint red fish onto the mural in the shape inside the fish shape and put one little black fish for the eye. To use with Rainbow Fish, have students create their own Rainbow fish with cutouts of fish and aluminum foil scales. Attach to the mural and add the other features of the undersea world.

Paper Bag Fish Puppets-Stuff paper bags with newspaper and secure the tail with a rubber band. Decorate the 'fish' with eyes, fins, etc.

Fish Facts

Fish Anatomy

Fish Adaptations

Fish Games

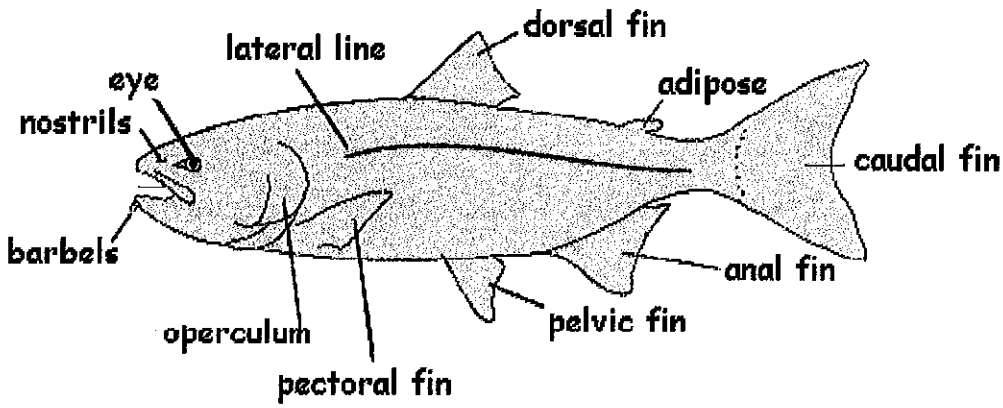
Fish Links

Fish Home

Under the Sea

Fish Anatomy

It is important for the children to be able to identify the different parts of a fish. Use a diagram such as the one below to identify the major parts of a fish. You can find fish pillows at some department stores which show the parts of a fish and are good illustrations.



The gill cover, called an operculum, protects the gills. Agnathas (jawless fish), sharks and rays have gill slits. Water passes through the mouth and over the gills of the fish. As the water passes over the gills, oxygen enters the fish's bloodstream and is carried throughout its body. The nostrils of a bony fish are used for smelling and not for breathing.

Bony fish have fins that are used for swimming, stability, and steering. The dorsal and anal fins keep the fish level in the water and keep it from rolling. The caudal fin helps propel the fish forward and steer. The pelvic fins help keep the fish level in the water. The pectoral fins help the fish steer and brake.

The lateral line is a sense organ that helps the fish detect vibrations in the water.

Bony Fish - Word file

THE EDUCATION FUND

FOR EXCELLENCE IN MIAMI-DADE PUBLIC SCHOOLS

IMPACT II
ADAPTER APPLICATION

Use this form to get seed funding to ADAPT an idea

APPLYING FOR AN IMPACT II ADAPTER GRANT

A teacher seeking to become part of the IMPACT II network as an ADAPTER chooses one of the curriculum ideas profiled in past or this year's *IDEAS with Impact* catalogs and creatively modifies it to their own classroom. (For a list of past years' ideas, contact Lorna Valle, 305-892-5099, x18 or visit www.eductionfund.org).

Adapter Grant awards average $200. *To apply, you must contact the teacher who developed the idea before submitting your application.* Contact can be made by attending a workshop given by the disseminator, communicating via e-mail or telephone, by visiting the disseminator in their classroom, or by having the disseminator visit your classroom. Project funds must be spent within the current school year or an extension must be requested. A final report and expense form with receipts are required. Periodic site visits may be conducted.

Deadline: December 1

1. GENERAL INFORMATION (Please TYPE. All information must be completed for consideration.)

A. Name: _____ **B.** School: _____

School Address: _____ City/State: _____ Zip Code: _____

School Phone: _____ School Fax: _____

C. Home Address: _____ City/State: _____ Zip Code: _____

Home Phone: _____ E-mail: _____

2. PROJECT INFORMATION

A. Title of Project (as it appears in the Idea catalog): _____ Catalog Year: _____

B. Name of Project disseminator(s): _____

C. You are REQUIRED to make direct contact with the disseminator(s) of the project you are interested in adapting BEFORE a grant can be approved.

I made contact via: ☐ Workshop/EXPO ☐ Telephone ☐ Visit ☐ Letter/E-mail

☐ Other (Please specify): _____

If no contact was made, please state why: _____

3. IMPLEMENTATION INFORMATION

A. Who are the students involved in your adaptation? How many? _____ Grade level(s)? _____

Ethnic distribution? _____ Achievement levels? _____

B. How will it help low-performing students in your classroom? _____

_____

C. What is the educational need for this project in your class? (Use one additional page if necessary.)

_____

D. How will you implement the project with your students and integrate it with your curriculum? What changes will be made from the original project ideas? Will you be adapting the project to fit with a current theme or event? (Use ONE additional page if necessary.)

_____

_____

_____

E. May IMPACT II staff and teachers visit your class with prior approval? ☐ Yes ☐ No

F. Are you willing to help the disseminator network this idea? ☐ Yes ☐ No

4. BUDGET INFORMATION

A. What materials are needed to adapt this project to your class? *Be specific.* (Use ONE additional page if necessary.)

Item and Description	Cost	Source of funds (this grant, school funds, other)

TOTAL REQUESTED $ _____

5. COMMUNITY AND SCHOOL RESOURCES

A. What other persons, if any, will be involved in implementing this project? (e.g. teachers, specialists, library media specialists, para-professionals, parents, other volunteers) _____

_____

B. What other resources does your school have to assist in adapting this project? (e.g. library materials, equipment, instructional materials, community agencies) _____

_____

6. ADMINISTRATIVE SUPPORT (TO BE COMPLETED BY SCHOOL PRINCIPAL)

I support implementation of this project during this school year. ☐ Yes ☐ No

Principal's Comments: _____

_____

Applicant's Signature _____ Principal's Signature _____ Date _____

Deadline for application is **December 1** Send an original, typed application and **four** copies with **four** self-addressed mailing labels to:

The Education Fund, 900 NE 125th St., Suite 110, North Miami, FL 33161

*****This application may be photocopied to distribute to other educators.***