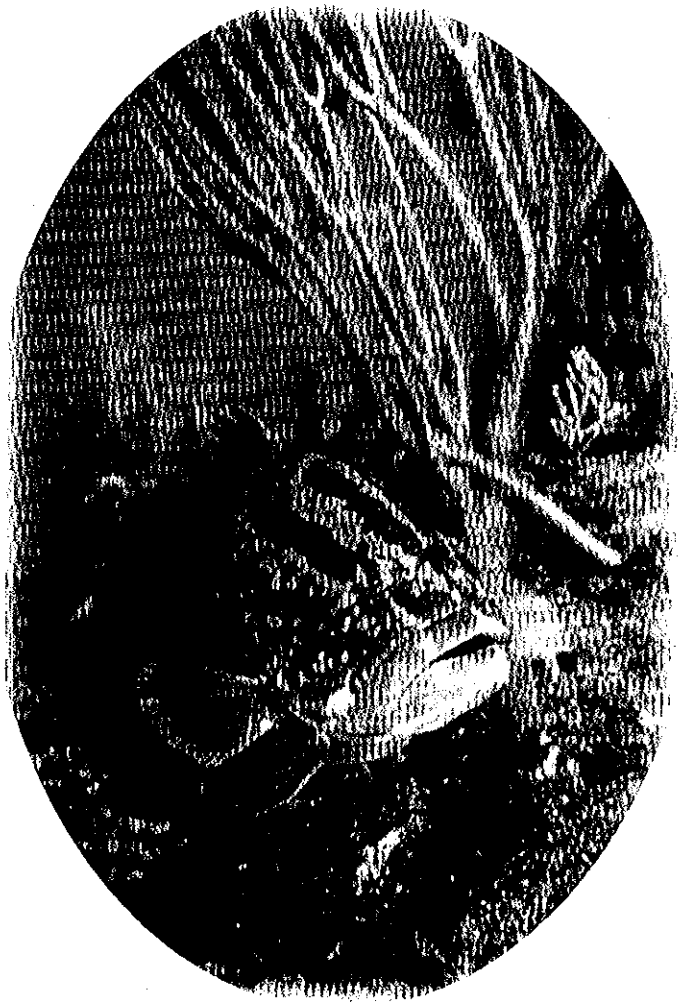

HOOKED ON FISHING! with the Reel Family

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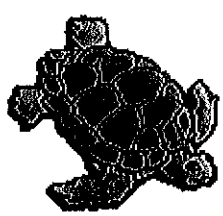
GOALS AND OBJECTIVES

Florida Sunshine State Standards

SC.A.1. (FL - SC.A. The Nature of Matter) The student understands that all matter has observable measurable properties.
SC.C.1. (FL - SC.C. Force and Motion) The student understands that types of motion may be described measured and predicted.
SC.C.2. (FL - SC.C. Force and Motion) The student understands that the types of force that act on an object and the effect of that force can be described measured and predicted.
SC.D.1. (FL - SC.D. Processes that Shape the Earth) The student recognizes that processes in the lithosphere atmosphere hydrosphere and biosphere interact to shape the Earth.
SC.D.2. (FL - SC.D. Processes that Shape the Earth) The student understands the need for protection of the natural systems on Earth.
SC.F.1. (FL - SC.F. Processes of Life) The student describes patterns of structure and function in living things.
SC.F.2. (FL - SC.F. Processes of Life) The student understands the process and importance of genetic diversity.
SC.G.1. (FL - SC.G. How Living Things Interact with Their Environment) The student understands the competitive interdependent cyclic nature of living things in the environment.
SC.G.2. (FL - SC.G. How Living Things Interact with Their Environment) The student understands the consequences of using limited natural resources.
SC.H.1. (FL - SC.H. The Nature of Science) The student uses the scientific processes and habits of mind to solve problems.
SC.H.2. (FL - SC.H. The Nature of Science) The student understands that most natural events occur in comprehensible consistent patterns.
SC.H.3. (FL - SC.H. The Nature of Science) The student understands that science technology and society are interwoven and interdependent.

OVERVIEW

HOOKED ON FISHING! with the Reel Family: The marine ecosystem including coral reefs, seagrass beds, mangroves, and all the various organisms that live in these habitats, exhibit tremendous complexity and a fragile balance among all its components to support the diversity of life we appreciate as snorkelers or divers, and consumers of seafood. The increasing human population along our coastal shores, and all of our associated behaviors, especially fishing, has become an important factor that affects many fish populations. This lesson provides the students with an opportunity to explore historical human impacts on marine fish populations in a game format that also uses a statistical analysis to obtain results. Students in three small study groups engage in a simulated game of "sport fishing" in an ocean representing three (3) regressing time periods (i.e., the state current state of the ocean in the present day, 50 years ago, and 100 years ago). The young fisherpersons mimic a fishing experience to collect coral reef data. The students scientifically investigate the results of observed coral reef dependent fish catches from the three different periods of time and constructively reach an education consensus.



LESSON PLAN

Lesson Plan

Title: Hooked on Fishing! with the Reel Family

Subject: Middle School Sciences

Course(s): Comprehensive Science 1, Comprehensive Science 2, Comprehensive Science 3

Grade level(s): Grade 6, Grade 7, Grade 8

Length: About 4 Days

Abstract or goal of lesson:

This lesson is composed of a series of group activities that engage the students as *Marine Scientists.*

Products:

- Artistic component
- Reading/Writing
- Data Collection
- Reports
- Group Project

Pre-Assessment Strategies:

Background Knowledge

Action Plan:

This lesson is composed of a series of group activities that engage the students as

Marine Scientists as they *collect and analyze quantitative data and employ the skill of critical thinking.*

Student Reflection:

Have you heard any good fish tales lately? How about a sea story? What's the biggest fish that you ever saw? Do you think the fish are bigger today than they were 100 years ago?

Career / Work:

Preparation for a variety of science-related professions and technical occupations.

Interdisciplinary/differentiation strategies:

Suggested instructional strategies for the Limited English Proficient (LEP) student can include:

- Small group peer interaction
- Use of questioning techniques for thinking, predicting, elaborating, and synthesizing
- Simplification of text using paraphrasing and soliciting background of prior knowledge
- Reading any text material aloud.

Activity: Shifting Baselines Middle School Inquiry

Activity Type:

Small Group with associated Class Discussion

Procedures for conducting the activity:

This inquiry-based science investigation is appropriate for grades 6-8. It is presented in a grand resource-extended view that can be modified to suit financial constraints. Students in three small study groups engage in a game of "sport fishing" in an ocean representing three (3) time periods (i.e, the current ocean, about 50 years ago, and about 100 years ago). In the ***Shifting Baselines Middle School Inquiry***, the students will collect and record data as well as analyze the results. The students are also invited to share in the experiences of ***the Reel Family***: a historical *sport fishing diary* authored by three generations of the Reel family, who fished in the waters off of the Florida Keys.

Student Procedures:

Students in three small study groups engage in a simulated game of sport fishing in an ocean representing three (3) regressing time periods (i.e, the state of the ocean in its present condition 50 years ago, and 100 years ago). The young fisherpersons use fishing techniques to collect coral reef dependent fish data. This science requires the students to investigate the results of observed coral reef-dependent fish of those three historical periods of time and constructively reach an educational consensus. You may refer to the activity as a game creatively entitled, *Fishing the Ocean Game*, or *Hooked On Fishing*, or *The Complete Angler* or any other name decided upon by the learning community.

Goal of the game:

Students catch fish in order to collect data and analyze the results. Either the teacher or the students or both can construct the gameboards, fishing equipment, and fish to catch. The three gameboards can be: a.) decorated placemats and the fisherperson is blindfolded while trying to catch fish or, b.) cardboard exhibit boards that can be readily purchased from an office supply store. In the latter case, the boards can also be decorated appropriately, but the fisherperson is not required to be blindfolded.

Gameboard Description:

The placemat or cardboard exhibit type of gameboards can be decorated with coral pictures on the front with labeled specimens of interesting corals or coral habitat-associated benthic [bottom] animals (e.g., elkhorn, brain coral, star, lettuce leaf, sea fans, finger, fleshy, sea whips, sea plume corals, sea stars, urchins, conch, lobster, various other invertebrates and vertebrates such as sea turtles). Artistic renderings of coral reef-dependent pelagic [swimming] animals is also encouraged (e.g., a variety of billfish [swordfish, marlin, sailfish], dolphin, grouper, snapper, mackerel, tuna, flatfish, permit, wahoo, shark, barracuda, and associated coral reef sealife such as trumpetfish, puffers, sea horse, angelfish, grunt). Pictures of these animals may be researched in books or on-line. One gameboard representing the current ocean status may also graphically reflect white-bleached corals, dying corals, anchor damaged coral heads, various pollutants, and other current areas of concern gleaned from students' prior

knowledge. The other two gameboards would represent the more pristine historical conditions of 50 and 100 years ago with increasingly biologically diverse and healthy specimens printed on the board in vibrant, eye-catching coral colors. Again, associated colorful pelagic and benthic animals/plants would be printed in increasing populations from the current to the 50 and historically 100-year-old ocean environment. The gameboards may also be adorned with interesting factual or historical information of the depicted coral and coral-reef dependent organisms as researched by the students. A summary of the life cycle of the fishes may be studied and attached to the gameboard.

The *faux* fish to be caught can be extravagantly constructed from cut-out figures of card stock and appropriately decorated. If time does not permit the students to research diagrams of coral-reef dependent fishes, index cards can be substituted to represent each fish. The fish should be labeled with their weight and identification. The lengths should not exceed about 25 cm., the girths can fluctuate, and an appropriate metric weight should be labeled on the fish with a felt marker as well as the fishes identification by common or scientific name. The type of fish and hypothetical weights [lbs. or kgm. or both] could be correlated with the fishes lengths and girths, but not necessary. Of course, the fishes would not be lifesize, but their sizes in the game could correlate to their sizes in nature. A large paper clip should be affixed to the snout or mouth end of each fish for magnetic capture with the fishing pole.

Constructing lifesize fish might entail another activity, or drawing fish on the chalkboard to illustrate the size of the really large groupers and billfish. Big fish might also be readily compared in size to objects in the room, such a table or filing cabinet.

The fishing poles can be constructed of wooden dowels or meter sticks with about a 1

m. line tied to the end of the dowel. A kitchen magnet piece should be tied to the other end of the fishing line.

Fishing:

There are three gameboards representing the current ocean status and two historical times (i.e., 50 and 100 years ago). The students are divided into three study groups: one study group per gameboard. One of the students may be blindfolded [this is not necessary if cardboard exhibit gameboards are used] and will act in the role as the fisherperson. As described above, each of the three fisherpersons representing three different periods of recent time will use a fishing pole (constructed of either plastic, or wood, or some other environmentally friendly material), string or monofilament line, and magnets (kitchen style) to fish for paper or plastic fish of various sizes [lengths], that have steel paper clip devices on their mouths [magnetic properties science], and are labeled with their identification, hypothetical weights [lbs. or kgms. or both] that may be correlated with the fishes lengths and girths.

Other members of the group associated with each gameboard should place the fish on or in the gameboard. Please note that there should be a greater number of gamefish (including billfish) with a greater variety of species and physical statistics placed on (or in) the historical gameboards as opposed to smaller sizes and weights and decreased variety of fishes as evident or displayed in the gameboard representing the current ocean status.

The blindfolding of the fishing student adds a dimension requiring the teamwork of their small study groups and a possible visually-impaired scenario that may be addressed by the teacher or this writing team in the critical thinking questions. [It also adds an

element of fun.]

Reflecting the increased US population as compared to 50 and 100 years ago, the current ocean place mat study group may have more than one blindfolded fisherperson and pole. Any billfish caught should probably mandate a "catch and release" policy. [Keep track on your *Data Collection Worksheet* of the fish that are released.] Fishing wasn't regulated at all 100 years ago; there were modest limits on the size of fishes that were "**keepers**" 50 years ago. Today, there are substantial limits and regulations.

Students and their fishing buddies should be limited to a time requirement but given ample opportunity to complete the pelagic population data worksheet described below.

The students could take turns as the fisherperson, which would represent another day of fishing for each new student that is fishing. As an example of a simulated day of fishing in the "current ocean," the gameboard may result in a zero catch ("**skunked**") or a day's labor may provide a small diversity of fish as compared to the historically plentiful fish population from the other two gameboards.

Each of the three groups records the data of their fishing expeditions on a student-designed table or can use the attached "Data Collection Worksheet."

The Science:

Data Collection Worksheet:

A table has been provided wherein, the students would record their fishing data by providing the fishing expedition number, species or type of fish caught, length, girth, weight. The students would need to measure the fish to obtain the length and girth data. This record of data will be used when students analyze the data in a whole class discussion or to complete the *critical thinking questions* associated with the *Data*

Collection Worksheet. A column of simulated GPS co-ordinates was included in the table. Each fishing or study area has been standardized at one square kilometer (1 km^2) for each expedition over the three generations for mathematical purposes. If the learning community is experienced in student-directed inquiry instructional techniques, then each investigative group may prefer to design the their own data collecting organizer based upon information of their study that they consider critical or possibly important for subsequent analysis.

***Word Puzzle Game*:**

There exists an on-line plethora of word puzzle game-maker programs that are freeware on the internet [Please conduct a search using an engine such as www.google.com]. Students of all ages seem to enjoy engaging and successfully completing word puzzle games. The students can initially be challenged to construct their own science lexis based upon their learning about the topic and use the internet to design a word puzzle game to confront their colleagues to solve. When students write the definitions of the lexicon that they were searching for in the puzzle, there are opportunities for vocabulary development and inquiry by the students while communicating the definitions of scientific terminology.

Noted Resources for Students and Teachers:

- The *Resources* section of this document contains many aesthetic websites for students to interact with as part of their learning. The Reef Relief website at: www.reefrelief.org, publishes comprehensive, but concise information about this

habitat.

- Information regarding fishing hooks that reduce fish mortality is available on-line at: http://www.miamibillfish.com/circle_hook/circlehooks.html
- You can receive additional classroom science activities that may a nautical theme by contacting the author at deresz_d@firn.edu. These additional activities are:
  - Float your boat with "Measuring the Buoyant Force"
  - Fish tails or their fin adaptations are studied with "What Shapes Mean Speed"
  - "Taxing Your Students' Original Expressions" as suggested by Big M (Ms. Mabel F. Miller).

The Fishing Diary of the Reel Family:

An abridged copy of the fishing diary of the hypothetical Reel family is attached to this document. You may relate to your students that unfortunately, the family photo albums of pictures depicting the recreational catches and commercial catches/scenery in the background over three generations (current, 50, and 100 years ago) were lost under mysterious circumstances. Scientists, presently are attempting to gather historical pictures of a fisherperson's catch, both commercial and recreational, in order to attempt to extrapolate biological data that will contribute to a baseline of marine population density data of coral reef-dependent organisms.

Recently, scientists have determined the current baselines of marine population data are actually invalid. They have proposed the concept and study of ***SHIFTING BASELINES***: *that is, the manner that each of us perceives changes [such as population density] in nature, depends on our point of [historical] reference.* For example, we may

have recorded a current baseline in the year 2003 that we consider to be a valid point of scientific reference; however, our grandparents or earlier generations may have orally and traditionally [with hand-me-down stories and fish tales] brought into reference a baseline of a much greater density. Pictures of recreational and commercial fishing catches taken generations ago may provide evidence to support a need to consider shifting baselines when considering legislation to protect sea organisms. Thus, history is included in the assessment of current ecological problems.

In other words, our ability to harvest a particular marine organism (e.g., swordfish, other game and commercial fish and shellfish, seagrass and other marine plants) has outpaced the marine resources' ability to sustain itself. So, ***how can we find out how things used to be?***

The abridged *Fishing Diary of the Reel Family* attempts to describe in an entertaining prose, the story of three generations of a multi-ethnic and gender sportfishing family. If historical photos were available, visual background markers in the pictures could have provided surreptitious clues [forensics] as to the size and weight of the catch of the family over several generations. The story can provide details of the impact of the human population on their sport fishing experiences over 100 years. Subsequent critical thinking questions regarding incidentals stated in the *Fishing Diary* are intended to guide the students toward an understanding of the concept of *shifting baselines* or at least the need to consider the anecdotal recordings and oral tradition of historical fish populations.

Additional Student Research and Discussion Topics:

1. Current literature that describes the benefits of the billfish "catch and release" program.

2. Monofilament line litter concerns.

3. Coral reef ecology.

4. Provide a world map of coral zones. The map could provide the hypothetical "area" of the simulated fishing experienced by the students during the game.

5. A table of Florida and Federal salt water fishing [recreational vs. commercial] regulations. "Did you catch any undersize fish that you should return back to nature?"

6. We may want to prompt the students to recognize "what formidable tasks does the visually challenged fisherperson experience?"

7. Take a field trip to the Florida Keys and experience the many passive resources provided by non-formal educators and their associated agencies and institutions.

8. A Call To Action: What Can We Do?!

Resources/Materials needed:

- Cardstock paper
- Or index cards
- Scissors
- Felt tip pen
- Artist supplies: crayons or paints, three dimensional decorating materials
- Paper clips
- Wooden dowels or meter sticks or fishing poles
- Fishing (monofilament nylon) line or twine
- Kitchen magnets
- Placemats or paper plates or mousepads or cardboard exhibit boards
- Optional blindfolds or sleeping masks

Data Collection Worksheet

DATE*	GPS Co-ordinates	Area	Type of Fish	Length (cm)	Girth (cm)	Weight (kgm)
		1 km^2				
		1 km^2				
		1 km^2				
		1 km^2				
		1 km^2				
		1 km^2				
		1 km^2				
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		1 km^2				
		1 km^2				

* Are you fishing 100 years ago, 50 years ago, or in the present?

Name_____

Analysis of Data

1. Determine the density of the most prevalent species of fish using the formula:

$$D = \frac{\text{Number (of animals of a species)}}{\text{Area}}$$

2. List possible sources or error in the population density survey.

3. Relative Density: a calculation of the percentage of the total count for a certain species. Determine the relative density of each species by using the formula:

$$\text{Relative Density} = \frac{\text{density of a species}}{\text{density of all species}} \times 100$$

4. Frequency: density of a species in a give area. Determine the frequency of each species by using the formula:

$$\text{Frequency} = \frac{\text{number of sampling units where a species occurs}}{\text{total number of sampling units}}$$

5. What is the significance if the number is low?

6. What is the significance if the number is high?

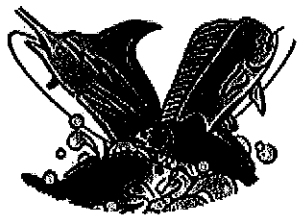
7. Determine the relative frequency of each species by using the formula:

$$\text{Relative Frequency} = \frac{\text{frequency of a species}}{\text{total frequencies of all species}} \times 100$$

8. What is the value of the team research approach in scientific field work?

9. Compare the density and frequency calculations of the three generations/groups of data. Which generation of time had the greatest density and frequency of a particular species?

10. Compare the total biomass from the three generations and hypothesize from your prior experiences as to the cause of any anomalies that you may note.



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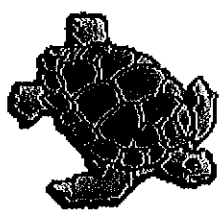

A special thanks to Steven L. Miller, Ph.D., Director of University of North Carolina at Wilmington's National Undersea Research Center and developer of an established coral reef research program in the Florida Keys, for the inspiration.

the Reel family fishing Diary

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From the journal of Newt Reel (Grandpa) who served in the U.S. Armed Forces during World War I:

I fish to eat. Well, actually I like the sport of the game also. It's quite enjoyable to take a boat into the Florida Keys and observe the daily routines of nature that are unique from day to day.

It may take me a long time to tell what I have learned from the sea; and I will never tell all, because I am forever learning. But the capture of fish is not all, nor the half of the secret of the spell of the sea. If I write it will be to impress this, as well as narrative an adventure with some denizen of the deep....

I was awakened at 5:30 [May, 1921] by the sun shining warm and bright into our room on Marathon Key. We left the dock at 8 o'clock on the boat and turned northeast toward the steamer course. We could feel the 4 knot force of the Gulfstream pushing on our vessel. I saw several leaping tuna and a few sunfish. A slight morning fog over the ocean had cleared and we had fine warm sunny weather with a few ground swells [of waves]. However, the sea was fairly glassy and a deep, deep, dark blue color. We ran into two other boats that seemed catching a fair share of fish.

The only bait we had was a big barracuda , much too big. But, we had to use it. Suddenly, Jill yelled "Swordfish!" I jumped up – not too carefully – and there to port [left side] were the fins of a broadbill. Somehow I did not quite grasp the fact. I guess that I was sort of stupid. We watched as the swordfish dove under and would hit the bait. My sensibilities seemed rather blocked. I felt him hit it twice more, and then he started off. The fish hit the bait causing the reel of the fishing rod to begin to sing: "Zziiiiinnnnngg!" It was exciting. I sat down to hook him. I jerked fairly hard – too hard – felt the weight of the broadbill several times, enough I was sure to hook him had the hook presented right. Anyway, he ran off, came up to splash once, and straightaway got rid of the hook. It was a big disappointment. The big barracuda was all smashed and cut.

....we had a pleasant couple of days fishing and caught four swordfish. One fought for three and a half hours. It weighed 410 pounds. The other three were somewhere between 200 –300 pounds each. Bull dolphin were well over 100 pounds - got quite a few of them

as well as over 130 schoolies. We did some bottom fishing and hooked about 11 grouper and 22 snappers. The grouper were at least 40 pounds apiece. A couple of the snappers weighed in at 24 pounds. Oh, we caught quite a few dolphin the 'Stream also. Nothing in this world tastes better than fresh fish right off the dock. But, since we couldn't eat all the meat in the week, we'll have a freezer full of fish for quite a few months.

****

Quinton Reel, who served in the U. S. Armed Forces during the Korean War, recorded:

. . . . . I recall in my youth the pristine conditions of the Keys...clear, blue water, great fishing - and big fish too! It took me a long, long time to realize that something was different around these islands. And then, it hit me the last time that we went fishin'. Yes - that was it - there were more homes and cabins being built as well as more trailer parks established on both sides of the highway. I noticed that they try real hard to grow a lawn grass as they water and water and fertilize and fertilize. I even saw some people just throw their beer cans and bottles and trash right into the ocean. Uncle Lou says that the cans make a good home for the lobster. I never a lobster in a can when I was diving... There are many, more boats, also. . .

. . . . . Last year [1960], there was talk about the need to display a dive flag when we're in the water divin'! Snorkling! Imagine that! I guess 'cuz of all the boats! One boat's anchor missed my 'noggin by a few feet the other morning and snagged a coral head instead. I didn't see as many fish around the coral heads like it was before the War (when I was just a kid).

. . . . . Came back to the mainland from fishing with Lou and Cyd and after nearly a week of fishing almost every day, Gosh! There were boats - and cars - everywhere! I don't think that it was a holiday weekend or anything. We only got one sailfish to mount which we gave to Lou for a wall although Cyd didn't seem to happy about it. We also did pretty good catching a 120 pound swordfish, caught about 50 or se schoolie dolphin and three 80 pound bulls, six grouper at about 30 pounds each and a dozen snapper a little less than 20 pounds each. Not too shabby! . . .

. . . . .my daughter, Kathleen, took a high school biology class where the teacher read an article about commercial overfishing. Some scientists are noticing that the fairly new large fishing trawlers are depleting vast amounts of large fish. There is a fear that the breeding stock will become extinct. One scientist said on the TV about industrial fishing that "If present fishing levels persist, these great fish will go the way of the dinosaurs."

****

Cindi's Sportfishing Diary

(for my eyes only - death to the intruding reader!)

I love to fish and dive! Dad takes me out once in a while from a fishing party boat down in the Keys and most of the time we get "skunked." But, I've seen other people catch a wahoo once and jacks seem to bite during certain times of the year. One day in early summer, the boat got about 20 schoolie dolphin. But, there were about 40 people fishing and only about six of the guys at the stern of the boat caught most of the fish. We usually catch a lot of bonito - they look like big tuna- but people call them junk fish and not good to eat because they are too, too bloody. Uncle Don says that bonita are in the tuna family and that at one

time tuna were considered a junk fish and had a different name. People wouldn't eat them until the fishing industry changed the name.

One time we were driving down to go fishing and were stuck almost a half a day on the Card Sound Bridge because of a traffic jam - there were so many cars. And most of them were trailing boats!.....

.....When I went fishing on Uncle Quinton's boat, we caught one grouper and about four good sized dolphin. He says we were pretty lucky as they were about 15 pounds apiece. I thought that I did a pretty good job! One night we went fishing and caught about 5 snappers. Uncle Q said they were a good size: about 10 to 12 pounds each. Those were the keepers in size.....

.....This was for a homework assignment about the coral reefs connection with many ocean fish species for school. A Jeremy Jackson of Scripps Institute of Oceanagraphy studied the decline of many ocean species over several centuries and documented how it set in motion the collapse of kelp forests and coral reefs. In 1998, President Clinton created the U.S. Coral Reef Task Force to try to halt the threats to the living corals:

- Land-based sources of pollution
- Lack of public awareness
- Recreational overuse
- Climate change and coral bleaching
- Disease

I wish that President Bush or the Governor Bush would continue to support a clean environment because that creates jobs too and protects a variety of life.

When I read our family's fishing diary, I realize that the big and even small fish are vanishing. We need places like the Florida Keys National Marine Sanctuary or even larger areas where sea life is protected.

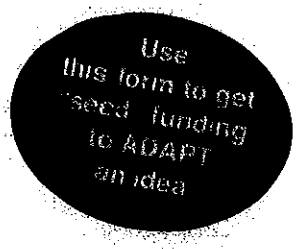
[Note: Cindi is presently serving in the U.S. Armed Forces in the Middle East.]

Explorations

1. What changes have you noted from one generation to the next as recorded in the fishing diary of the Reel family?

2. Use pocket PC probes or calculator based laboratory technology to investigate the water quality of several accessible ocean locations. What are your findings? [Distribute "polluted" sea water, such as a sample with a slightly higher pH, to the students and have them determine possible causes.]

IMPACT II
ADAPTER APPLICATION



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.***