

**Humble ISD Education Foundation
2010 Innovative Education Grant Signature Page**

PRIMARY APPLICANT NAME	GRADE/ SUBJECT / DEPT	CAMPUS	EMAIL ADDRESS
Terry Harshaw	Science Coach	Lakeland Elementary	terry.harshaw@humble.k12.tx.us

ADDITIONAL APPLICANT NAMES	GRADE & SUBJECT CURRENTLY TEACHING	NAME OF CAMPUS
Shannon Green	5 th Reading and SS	Lakeland
Lee Burnett	5 th All subjects	Lakeland
Ashley Gabrysch	5 th Math and Science	Lakeland
Debbie Augustine	4 th Math and Science	Lakeland
Yolanda Walker	4 th Math and Science	Lakeland
Janine Higgins	3 rd All subjects	Lakeland
Laura Awe	3 rd All subjects	Lakeland

If more than eight applicants, please include additional applicants on a separate piece of paper and insert after this page in your application.

Signature of Principal/Supervisor:

Blenda Helder

In signing this application, I am certifying that this proposed project would be a good use of funds for our school or department.

If your project involves adding or supplementing curriculum, you are required to receive prior approval from the appropriate Academics Coordinator before submitting your proposal to the Education Foundation.

Signature of Academic Coordinator

Humble ISD Education Foundation 2010 Innovative Education Grant Proposal

DO NOT INCLUDE YOUR NAME OR THE NAME OF YOUR SCHOOL IN THE SUBSEQUENT PAGES OF YOUR GRANT PROPOSAL.

Type of Activity:

(double-click box that applies)

Student Development

Staff Development

location

Grade Level:

Elementary School

Middle School

High School

Level of Activity:

One Site Activity

District-wide Activity

Multi-site Activity *(your*

and at least one additional location/campus)

Title of Project: F.I.T for Science (FIT stands for Field Investigation Team)

Total Amount Requested: \$13,234.00

Brief Project Summary *(about 100 words or 4-5 sentences):*

I want to take our 5th grades students on four science field investigations to four distinct and different ecosystems around the Houston area. Teachers will carry a field pack filled with field investigation equipment for students to use like binoculars, field guides, measuring tools and cameras to gain knowledge about each area. Students will use digital cameras and digital microscopes and a mini laptop to gather data to use in a presentation on their discoveries from each ecosystem. The field experiences will be a major part of a unit of inquiry learning that will encompass all subject areas and all learning styles. The 5th grade students will "broadcast live from the field" to 4th grade classes back on campus. As a culmination of each unit, the students will present their finding in a Power Point project. The 5th graders will make presentations to the 3rd grade classes.

How many students will this project impact in one year? *(Do not state a grade level or the "whole school". Please give a numerical answer)* 300

This project is:

A new grant project

A request to continue a grant that was previously awarded to me *(If you check this box, be sure and explain in your Project Description how this year's project*

will be different than last year's project)

- A new grant request for me but replicates a previously funded project for a different teacher at my school or at a different school** *(If you check this box, be sure and explain in your Project Description the success of previously funded project)*

PROJECT DESCRIPTION

1. Provide a thorough description of the project and the need it addresses. Explain the duration of your project (i.e., two weeks, one year) and if available, include data to support your project.

I work at a Title I School where 80% of the population is economically disadvantaged and 40% is at risk. Most of these students do not get opportunities to explore the world outside of their neighborhood. As a teacher I know that background knowledge is paramount to the future learning of every child. In order to fully understand and care about nature students should have real life experiences in exploring different aspects of the world around them. I have a deep desire to inspire the love of science and nature in students. I love science and learning because I was able to go exploring, hiking and camping with people who pointed out the uniqueness of our natural world. I want to provide this type of experiences for my students. Next year the state of Texas will implement new Science TEKS for all grade levels. A focus on **field investigations** and **inquiry learning** is one of the major changes in the expectations of science learning. In order to lay the foundation for **inquiry based learning in a natural environment** and give my students the background knowledge they require I would like to take the 5th graders out of their neighborhoods and into four distinct ecosystems of Texas and give them a fresh way of looking at our state's natural treasures.

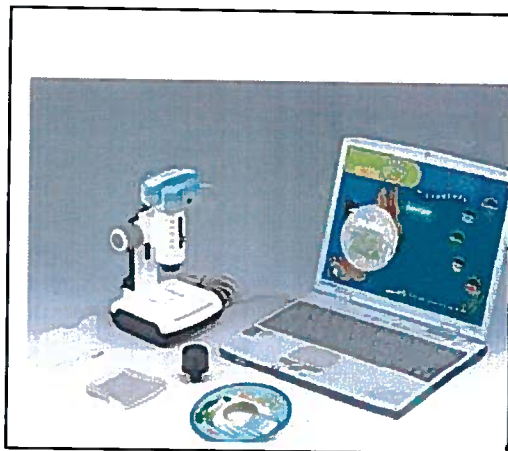
The new science standards recommend that 40% of instructional time should be classroom and/or outdoor investigations. This grant will offer my students an opportunity to participate fully in four comprehensive "Field Investigations" units of inquiry. Students will make first-hand observations and gather real data using tools and equipment for their field investigations. Although the primary focus of this unit is science it will incorporate all subject areas and touch all learning styles.

The inquiry learning unit will be based on four distinct and different ecosystems around Houston. Brazos Bend State Park, Galveston Island, the Piney woods of East Texas, and San Jacinto State park on the ship channel are the probable destinations. Prior to each trip students will practice using field equipment, research the area for scientific and historical information and develop questions to be answered on site. We would travel by charter bus leaving at 8:00 AM and returning by 5:00 PM twice in the fall and twice in the spring. Each investigation will include contact with a Biologist, or other science specialists, or a visit to an exhibit pertaining to the area. Language Arts activities will be used to explore one fiction and non-fiction book for each investigation.

Teachers will carry a backpack of field investigation equipment to support student learning including a Dell mini-laptop, a Digiscope, and a Flip Video recorder. The Digiscope, a portable microscope, will allow the students to make close observations of organisms living in collected water samples, soil, and other materials in the ecosystem. The Digiscope has the capabilities to attach to a laptop and record the images as seen through the lens as a still or short video. The "Flip" will allow the students to record stills or videos of the larger components of each distinct

ecosystem such as trees, water, evidence of erosion, flora and fauna. Students will incorporate the images from the Digiscope and Flip as part of a power point or video presentation on each ecosystem as a culmination of the unit of inquiry,

The Motic Digiscope 300



On each trip student groups will use all of the field investigation equipment to study the four distinct ecosystems in Texas as one component of the inquiry based unit. They will use measurement tools such as tape measures and thermometers to gather data as part of the physical science component. Students will be provided binoculars to get a closer view of things in the distance. The field guides *Animal Tracks*, *Texas Birds*, *Texas Mammals*, *Texas Reptiles* and *Texas Insects and Butterflies* will be used to identify the flora and fauna of the area. Use of the field guides will increase reading skills and allow students to use the guides in a real setting. Students will record their findings in individual Science Logs. This data will be used in the Language Arts component to prompt the students to analyze and interpret their data.



Field Guide on Texas Birds

As one element of the unit students will broadcast from the field back to a 4th grade class on campus to share their discoveries. The mini-laptops in conjunction with the Flip cameras will transmit the images of our **Field Investigation Team** in action. Once back on campus, the fifth graders can take their presentations into the lower grades and share samples of their field work.

The following is an example of what a student might experience as part of an inquiry based learning experience when traveling to San Jacinto State Park. Students will visit the monument to learn about the historic battles that took place there that lead to Texas independence as a link to Social Studies. Students will learn about the area and see why this area was chosen as a battlefield. We will walk through salt marshes and traipse down a boardwalk that leads through a dying deciduous forest that is barely hanging on from the after effects of Hurricane Ike that left

deposits of too much salt in the soil. We will stand at the edge of the busy ship channel and watch the biggest industry in our area function as large barges filled with goods from all over the world are pushed by tugboats to the docks that line our shores. Students will use their binoculars to observe sea birds in their natural habitat and use the field guides to identify what birds they see. They might photograph plants that grow in the dry, hot sand of the dunes and use a field guide to identify flowers and grasses. Students will take water samples and look at their specimens under the Digiscope to see what organisms are living in the different water sources in this ecosystem. They can attach the Digiscope to the laptop and record the movement of the living specimens and photograph the sample for further investigation. Students will witness the erosion of the waves and feel energy in the tides and wind. Distances will be measured to determine the foliage lines, high tide lines and to mark off soil plots for observations. A compass will determine the cardinal directions. Samples of sand and dirt will be analyzed for composition and grain size. Water samples will be viewed under the microscope to look for any living organisms and images will be saved on the laptop for further study. Evidence of animal activity, like scat or bones, will be observed and tracks will be identified and photographed. Casts of wild pig tracks will be made to take back to the lab. Student groups could broadcast live or be recorded presenting findings from the edge of the marsh, channel or monument.

As a culminating event of the inquiry unit students will create a hall display that represents the different ecosystems they visited and show how they are interrelated. Students will use their data to analyze the area and present a comprehensive comparison of the different ecosystems visited using the technology and equipment provided.

Students will be supplied with a T-Shirt of their own design identifying them as “**F.I.T. for Science**” (Field Investigation Team) Students, teachers, parent chaperones, and support staff who participate in this experience will see the world differently because they have been up close and personal with our Earth. This grant will promote lifelong learning in science for all involved which is part of the mission and vision of our school.

The biggest expense of this grant is for transportation. The school district requires that buses used for field trips be back to campus by 1:30 PM. This puts a time constraint on accomplishing a thorough field investigation at any location we need to visit. This grant would pay for a charter bus to transport us to places ecologically relevant to a field investigation. That cost was approximated by the school approved vendor. It will also pay for field investigative equipment, technological equipment, books, and printing supplies for completing each unit.

2. Specifically, how will your project improve, advance or enrich student learning? How does this project support the district's mission of personalizing learning and/or your campus plan?

Our district mission statements envision schools where students are engaged in learning within local environment. Our school mission is to “*..develop students to be contributors to the greater good of our international society.*” This grant would allow the students at my school to get out of their neighborhoods and experience the local environments first hand. They must understand their place in the world in order to understand the greater community of society. Exposure to science professional will open their minds to opportunities in science professions. Learning about the environment will help prepare our students to contribute to our international society.

The following information is supplied by the No Child Left Inside national coalition:

Environmental education is the study of the relationships and interactions between dynamic natural and human systems. Environmental education:

- *Includes learning **in the field as well as the classroom***
- *Incorporates the teaching methods **of outdoor education, experiential education, and place-based education***
- *Is inherently interdisciplinary*
- *Promotes school/community partnerships*
- *Is hands-on, student-centered, **inquiry driven**, engages higher level thinking skills, and relevant to students' everyday lives*
- *Develops awareness, increases knowledge, builds skills, and **creates the capacity for stewardship and good citizenship regarding the environment upon which we depend for life support.***
- *Helps address the causes of "nature deficit disorder"*
- *Boosts student achievement in math, science, reading, writing and social studies*

In order to fully understand and care about nature students should have real life experiences in exploring different aspects of a variety of habitats. One can only care about something they know. Taking students to a place where they can interact with the natural environment will allow them to understand the importance of caring for our environment. Our students need to get out there!

3. List the project objectives and how these objectives will be measured.

Objectives:

To fulfill the 40% outdoor field investigation recommendations of the new Science TEKS and help address the "nature deficit" in our 5th graders. This will be measured in time spent in the field.

To develop awareness, increase knowledge, and build skills regarding the investigation of the natural environment. This will be measured comparing the data from a pretest in August and the final unit project in May.

To boost student achievement in science and reading. This objective will be measured using data from the 2011 TAKS test.

To increase communication skills. This objective will be measured by comparing the first field investigative reports to the final report and observing students sharing information with the lower grades.

To develop environmentally aware students. Students will show an increase in awareness of why we need to "go green" in their final unit presentation.

4. Identify any community, business and/or parent support of the project.

(This is not a requirement for funding so if it does not apply to your project, just leave this blank)

5. List any matching funds to support this project. For example, if your campus, PT/APTO or other partners are contributing some of the costs for this project, list them here.

(This is not a requirement for funding so if it does not apply to your project, just leave this blank)

Detailed Workplan

List below the steps involved in completing your project. Include the positions (not names) of staff responsible for carrying out the activity, date activity will begin and end, and how much money is needed for each activity.

Description of Activity	Positions Responsible	Timeline		Funds Requested for this Activity
		Date Initiated	Anticipated Completion Date	
Purchase Field Investigation Equipment and T-shirts	Science Coach and IT	August 2010	September 2010	\$6834.00
Field Investigation #1 Transportation	Science Coach and 5 th grade team	September 2010	September 2010	\$1600.00
Field Investigation #2 Transportation	Science Coach and 5 th grade team	October/November 2010	October/November 2010	\$1600.00
Field Investigation #3 Transportation	Science Coach and 5 th grade team	January/February 2011	January/February 2011	\$1600.00
Field Investigation #4 Transportation	Science Coach and 5 th grade team	March/April 2011	March/April 2011	\$1600.00
Provide on campus support for the reception of the field investigation reports.	3 rd and 4 th grade teachers	September 2010	March/April 2011	none

Budget

List detailed information on how the grant funds will be spent. **DO NOT** guess at prices. Please research what the actual cost will be for each budget item. Don't forget to include shipping and handling costs. Also, contact the Purchasing Department to see if the district has a vendor that can provide the items requested at bid price.

If you need additional lines for your budget, continue on a separate page, print the additional page and then attach to all copies of your proposal.

Budget Item	Vendor	Cost
2 Coaches X 4 trips (Estimated \$800 per coach)	National – International Bus Charter Inc.	\$6400.00
4 Flip digital video camera (1 per teacher)	CDW-G	4 X \$126.00 = \$504.00
4 Flip digital video pouch and tripod (1 per teacher)		4 X \$31.00 = \$124.00
25 Compact Zoom Binoculars (1 per 4 students)	Nasco	25 X \$43.00 = \$1075.00 Plus S & H = \$40.00
4 Digiscopes (1 per teacher/class)	SK Science Kit & Boreal Laboratories	4 @ \$179 = \$716.00
4 Field packs/computer carrier (1 per teacher) High Sierra Wilder Pack / laptop carrier Item Number: 3568136	Sports Authority	4 X \$50.00 = \$200.00
10 sets of 5 Peterson's First Field Guides – (2 sets of 5 per teacher)	Barnes and Nobles	50 X \$5.35 = \$267.50
100 T-Shirts - F.I.T. (Field Investigation Team) for Science		100 X \$6.00 = \$540.00
4 Dell latitude 2100 Mini-Laptops (1 per teacher/class)	Dell	4 X \$637.00 = \$2548.00
Variety of field equipment, thermometers, compass, measuring tapes, specimen jars, pH paper, strainer, etc.	Nasco	4 X \$30.00 = \$120.00
100 Journals (1 per student)	Office Depot	100 X \$2.00 = \$200.00

2 Class sets of each fiction and nonfiction books (200 books)	Scholastic	\$500.00
Total Cost		\$13234.50

Can this project be implemented with partial funding? Yes No

If yes, explain here: One less field trip but the equipment would not get optimal use.

Have you requested funding from other sources for this project? Yes No

If yes, please list the name of the funder and the status of the request: Devon - application to be submitted March 30, 2010. I am asking for additional funding for 4th grade to participate in 4 field investigations. Also, I am asking for more of each piece of the field investigative equipment to lower the ratio of student to equipment to allow for more engagement.

Measurement of Accomplishments

1. List the outcomes that you will use to measure success of your project (outside of standardized testing). In other words, how will you know that this project was successful and should be replicated in other classrooms?

Student outcome:

The students will develop awareness, increase knowledge, and build skills regarding the investigation of the natural environment. Teachers will compare student's performance from the first field investigation in September with the last one in May and look for improvement. Discussions with teachers, peers and other grade level classes and project presentations will show an increase in student knowledge and awareness.

Student will increase their communication skills. We will know if this occurs by comparing the video clips from the first field investigating with the last one. Students will also be going into the classrooms of younger students and teachers will observe the growth in confidence and communication.

The student will become more environmentally aware. Students will become aware of jobs in the science field by interacting with science specialist in the field.

No Child Left Inside, NCLI is a national coalition that supports outdoor learning.

Former Secretary of Education, Richard W. Riley, issued a letter of support for the No Child Left Inside Act. Below is an excerpt from that letter.

*"If we want to have a green-jobs economy, we need to give our young people the skills to get the good-paying jobs that will become more and more available and attractive in the coming decade. **Indeed, environmental literacy and education are at the very foundation of a sustainable green-jobs economy. We cannot have one without the other.**"*

2. How do you plan to share the results of this project and to whom will you share this information?

I will share their success of this project with other science teachers during the District Cadre meetings and with other grade level teachers during student presentations. I will share the success of this project with the Foundation and in any way I can. Press releases, if any, of our field investigations will acknowledge the foundation.

3. How will the Education Foundation be recognized as the financial supporter of this project?

All equipment purchased by the grant will be labeled "Funds provided by the Education Foundation". Students will include acknowledgment of the Education Foundation in their Power Point and video presentations. Press releases, if any, of our field investigations will acknowledge the foundation.

NOAA/NMFS SEA TURTLE FACILITY

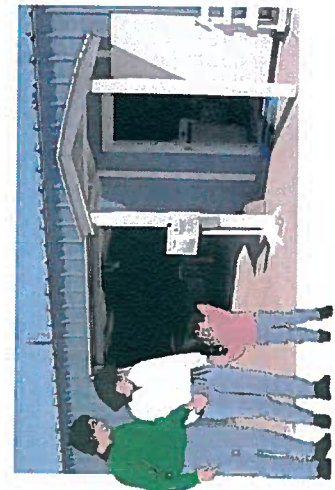


WHO ARE WE?

We are the National Marine Fisheries Service (NMFS) Sea Turtle Facility, which is part of the NOAA/NMFS Galveston Laboratory. We are not a public aquarium or a zoo. We are a U.S. Federal Government (U.S. Department of Commerce) Research Facility dedicated to rearing threatened and endangered sea turtles in captivity for use in fisheries research. Guided tours of our facility are offered to the public when staff and resources are available. This is the only facility of its kind in the World. The loggerhead sea turtles are part of a cooperative conservation program with the State of Florida. We are also a Sea Turtle Rehabilitation Center and the Sea Turtle Hospital for the upper Texas coast.

WHAT DO WE DO?

The Galveston Laboratory is known worldwide for its work on captive rearing of sea turtles. All species of sea turtles found in U.S. territorial waters are classified as threatened or endangered, and they are protected by the Endangered Species Act (ESA). We rear sea turtles in captivity as part of national and international sea turtle recovery efforts and programs which are required by the U.S. Endangered Species Act. Approximately 450 sea turtles are reared in our facility each year. Loggerhead hatchlings obtained from Florida are captive-reared for 2-3 years, used in research, and then released into the Gulf of Mexico or Atlantic Ocean. As we are a research facility, research is our primary goal.



COME VISIT US IN PERSON



A two year-old loggerhead sea turtle poses for a photo opportunity.



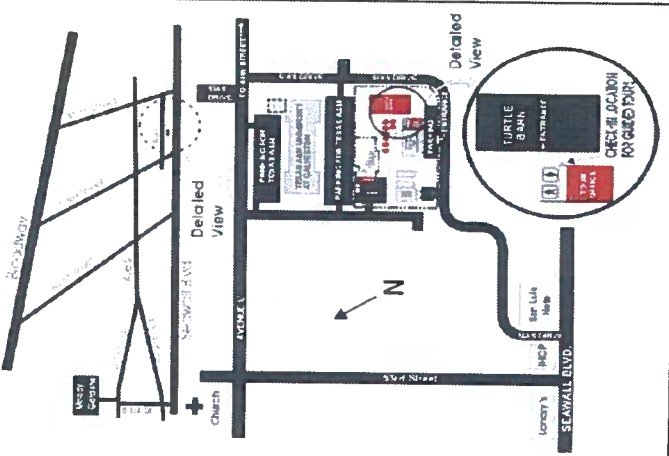
OR VISIT US ON THE WEB

<http://galveston.ssp.nmfs.gov>

WHEN ARE THE TOURS?

Tours are by advance reservation only. Some exhibits mentioned in the brochure have not been repaired or replaced since hurricane Ike in Sept. 2008. Call 409-766-3670 to schedule a turtle tour or for more information.

HOW DO I GET THERE?



WHAT WILL YOU SEE ON YOUR VISIT?

You will see up to 450 live sea turtles housed in 30 saltwater tanks. There is no glass or fence between you and the turtles. You can get face to face if you wish as long as you don't touch! Often our tour guides will pick up a sea turtle for enhanced viewing and photo opportunities. Special permits are required to handle sea turtles as they are protected by both federal and state laws. We ask you to refrain from handling the sea turtles because they can deliver a nasty bite. One of our staff biologists will lead you on a guided tour of the sea turtle facility. Your guide will discuss: biology and ecology of sea turtles, the threats to sea turtles, on-going research at the Sea Turtle Facility, conservation and protection measures being employed to save sea turtles from extinction.

Depending on the time of year you visit, you may see one or more species of sea turtles.

Aside from the living exhibits we also have numerous interactive and informative exhibits

New tagging methods are developed in the facility before they are used in the field. Sea turtle growth and feeding studies are ongoing at the facility. Captive reared sea turtles are used to test experimental fishing gear designed specifically to prevent sea turtles from drowning in



Questions are encouraged - here one of our biologists explains how a TED works.

fish trawls and becoming entangled or hooked in longline fishing gear.

Since 1978, almost 24,000 Kemp's ridleys and 2,000

loggerheads have been reared, tagged, and released. Tag returns from these releases have been reported from the Gulf of Mexico, the U.S. Atlantic Coast, France, and Morocco. Growth and migration studies of captive-reared sea turtles indicate they will adapt well to conditions in the wild and are found distributed throughout the natural range of the species.

Thousands of people visit our rearing facility each year. Public outreach and education are vital if sea turtle recovery efforts are going to be successful.



Injured or sick sea turtles found in the wild also are treated and rehabilitated at the laboratory and released back into the wild.

on sea turtle eggs, sea turtle tags and tagging techniques, sea turtle skulls and shells (Carapaces) that you can touch. We also have two shrimp net and Turtle

Excluder Device (TED) exhibits - including a full sized shrimp net fitted with a TED and Bycatch Reduction Device (BRD). Tours run about 30 minutes to an hour depending on the size and age make-up of the group. Tour information is tailored to suit the audience based on majority principle - if the audience is comprised mainly of young students - then information provided is geared more to that age group. Our experienced tour guides can tailor a tour for pre-kindergarten to post-secondary, scout groups to senior citizen groups. If you or your group has a special request or curriculum topic that you would like

our tour to include - just ask one of our tour guides before the tour and we will try to accommodate your request if possible. Time permitting, we incorporate numerous question and answer opportunities into the tour.

Our tour guides know much more about sea turtles than can ever be possibly presented in the average tour and we encourage you to tap their knowledge and experience.



A TED fishing video is on display in the main turtle rearing facility.

WHEN IS THE BEST TIME OF THE YEAR TO VISIT?

There are sea turtles in the facility year round. Loggerhead hatchlings arrive in August/September and they grow quickly. The best time to visit the facility to see hatchlings is mid August through November. The best time to see larger sea turtles is December through May. The end of the school year (March-May) can be a busy time as teachers book large school field trips. Make your reservations early in the year if you plan to bring a group March-May. The Sea Turtle Facility is climate controlled for the sea turtles' comfort. Sea turtles like it hot and humid. The facility is kept at a constant 85°F and near 100% humidity.



Small groups offer the best opportunities to interact with the turtles.

FACILITIES? COST?

Tours to the public are free of charge. Modern handicap accessible restrooms and a drinking fountain are on site. Food and drink are not permitted anywhere in the Sea Turtle Facility and there are no concession or eating facilities on site. Free parking is available on the street. Bus parking is available on the street. If you are looking for picnic facilities, try Crockett Park on 53rd Street - just 4 blocks North of the Ave U and 53rd Street intersection or the Seawall just 1 block south. No pets are allowed in the facility.