

**The SSF Memorial Educational Grant Program
PO Box 53674
Fayetteville, NC 28305**

Recipients will be notified by December 15, 2013. Awards will be made in January 2014 to the recipient's school.

APPLICATION COVER PAGE

SCHOOL NAME	Douglas Byrd High School
SCHOOL ADDRESS	1624 Ireland Drive Fayetteville, NC 28304
PRINCIPAL NAME	Dan Krumanocker
CONTACT PERSON	Denise Renfro
PHONE NUMBER	910-484-8121
FAX NUMBER	910-323-4127
EMAIL	deniserenfro@gmail.com
PROJECT NAME	Sun Stewards Outreach
DATE SUBMITTED	10/23/2014
CURRICULUM AREA	Environmental Science and Technology
TOTAL AMOUNT REQUESTED	\$3388
BRIEF SUMMARY (3-5) SENTENCES	Douglas Byrd High school students in the Academy of Green Technology will go out into the community and volunteer their time, enthusiasm, and knowledge about the environment to area k-12 students. Their mission is to teach sustainability topics like solar and wind energy, protection of species, relationship of humans to environmental health, and many more topics, using hands-on, experiential methods. Our students have already shown their commitment by reaching out in 2014 to TC Berrian Elementary School shortly after their Sun Stewards mobile lab was completed. They are already scheduled for three new outreach opportunities this coming school year, the largest being the Cumberland County Earth Day Fair for approximately 300 K-3 students. Not only will students present at the Earth Day event, they will also help organize it. Any funding will serve student populations for years to come.

Douglas Byrd High School

1624 Ireland Drive
Fayetteville, North Carolina 28304
www.dbhs.k12.nc.us



Daniel J. Krumanocker, Jr.
Principal

Phone: 910-484-8121
Fax: 910-323-4127

October 24, 2014

To Whom It May Concern:

As principal of Douglas Byrd High School in Fayetteville, North Carolina, I can assure you that Denise Renfro, Director of the Academy of Green Technology, has the authority to implement the Sun Stewards Outreach Program and its projects as written in the Stephen Fincher Foundation Grant.

We further grant permission and provide a release for the Foundation to use, publish, or link any grantee photo, video or website material for SSF Memorial Foundation's promotional activities, including project plans, materials developed during the project, and reported results. Such permission indicates the grantee has sought and received permission from individuals included in photos, as well as parents or guardians of any minor children in such photos.

Thank you for your consideration

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel J. Krumanocker, Jr.", written in a cursive style.

Daniel J. Krumanocker, Jr.
Principal

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Stephen Shane Fincher Memorial Foundation Educational Grant Proposal

Purpose: To support the ongoing community outreach of the Sun Stewards program which strives to use peers to teach important environmental concepts through engaging and challenging hands-on science activities.

In the past year the Academy of Green Technology completed phase one of their Sun Stewards Outreach Program. With a bus load of Green Academy students and our solar trailer in tow, we took our inaugural trip into the community to share the message of solar energy and the environment with 2nd – 3rd graders at TC Berrien elementary school. At their Earth Day Fair, organized by Fayetteville State University, students participated in activities like beekeeping, healthy juices, container gardens, and of course, our Sun Stewards solar energy trailer. We interacted with about 100 elementary school children that day as they worked with solar cells, motors and propellers. Our mission continues, and this year we will take an active role in the organization of a county-wide Earth Day fair for K-3 students with the Cumberland County *Go Green Initiative* and Fayetteville State University. Not only do we look to increase the number of students reached to at least 300, but we also hope to increase the curriculum we can share. The Earth Day Fair represents our largest outreach opportunity so far this year, but it is not our only one. Our general plan is to teach solar and wind energy, as well as aquatic turtles as an indicator species for the environment.

Need

There is a distinct need for youth to understand and respect their environment. Their future depends on it more now than ever. It is difficult to deny the tremendous number of environmental issues we are facing in our communities and around the world. By 2030 we will need one and a half earths to provide the necessary resources to maintain our current lifestyles. A Green Academy student would tell you that we are running out of mineral resources and fresh water; that we are overfishing our oceans and polluting them at the same time, and that we are putting so much CO₂ in the air that climate change is threatening to change our planet in irreversible ways. The changes required are massive, expensive and difficult to achieve; it will require innovation and a change in outlook. The Sun Stewards Outreach Program is our small way of making an impact in our own community by introducing youth at an early age to their environment, and developing leaders and innovators of our own students in the process. Our AoGT students, and maybe some of the youth we reach out to, will go on to be ambassadors for the planet-- stewards of our environment.

Further, current school funding often makes it very difficult for schools and teachers to provide field trips, and many Cumberland County Schools have large numbers of students on free and reduced lunch, making it even more difficult to arrange alternative funding. We hope to eliminate the travel costs for 15 schools, and introduce into the elementary schools not just environmental science, but science in a way it can rarely be taught, experientially.

Our Goals

- 1) To teach children the process of science through engaging and challenging outdoor science activities.
- 2) To sow the seeds of environmental responsibility with our youngest students.
- 3) To encourage youth to engage in environmental science and motivate them to make a difference in their home and community, even at a young age.
- 4) To reach at least 300 K-3 youth on the county Earth Day Fair.
- 5) Provide transportation costs (\$50) to at least 15 elementary school for the County Earth Day Fair.

Specific Objectives

- Objective 1:** Teach young people the relationship between species and environmental health through a hands-on activity with aquatic turtles.
- Objective 2:** Teach students about renewable solar energy by “wiring” a solar cell that powers a fan.
- Objective 3:** Teach students about renewable wind energy by building a wind turbine and powering a musical chime.
- Objective 4:** Inspire youth to get outdoors and feel the excitement of education beyond the four walls of the classroom.
- Objective 5:** Provide community outreach opportunities that help students from Douglas Byrd’s Academy of Green Technology learn the importance of giving to their community.

Students and Educators Benefitted

The Sun Stewards program is committed to three events so far this year. The biggest commitment is a county-wide Earth Day Fair held in mid-April which will reach up to 300 youth in grades K-3. As one of the key event organizers, the 70+ AoGT students will benefit as peer teachers and as volunteers assisting with Earth Day. We feel strongly about the impact that our students can have on their local community, but we also believe in the importance of these experiences for our students. It is a special environment when young energetic high school students interact with younger and even more energetic elementary school students. There are plenty of smiles to go around, and it is difficult to know who is benefitting the most from the interaction. Of course, there will also be approximately 300 K-3 youth who will benefit as well. They will benefit from the peer relationship, they will benefit from the time outdoors, and they will benefit from the message to protect and cherish their environment. Please note, the Earth Day Fair is only one commitment of three already scheduled for this year. All materials are reusable for any or all scheduled events. The Earth Day Fair is our core event for the year so far, but it is the Sun Stewards overall mission that we hope benefits from a grant.

Plan for Implementation

Jan—Order materials. The Earth Day Organizing Committee, Sun Stewards Outreach Committee, and Herp Atlas committee meet to organize Earth Day stations in wind, solar, and aquatic turtles. Visit and map Earth Day site.

Feb—Committees continue to meet and prepare station activities. AoGT students collaborate to build and/or create materials for their three to four stations at the earth day fair. AoGT will have a solar station, a wind turbine station, an aquatic turtle station and perhaps a solar car station. We will also meet with other county leaders of Earth Day to assign volunteers, sort out jobs, prepare schedules, and to mail flyers and letters to elementary schools in Cumberland County.

Mar—AoGT media team makes plans for pictures, for promoting the Earth Day event, and for follow up coverage. AoGT Director and Cumberland County Schools collaborate to organize the attending schools and to pay for the \$50 local bus cost for elementary schools.

Apr—Final prep for activities on Earth Day. Clean and load the Sun Stewards trailer and review Earth Day responsibilities. Earth Day event occurs in mid-april. Post activity coverage on website, local news, etc.

Tracking of Funds

This process is standard in Cumberland County Schools. Funds would be deposited in a specific account for the grant. Principal approved purchase orders would be used to acquire equipment according to the rules and purchase agreements of the Cumberland County School System. The Academy Director would receive an account update with each purchase to insure no cost over runs. Necessary small cost over-runs could be covered with Academy budget to insure a complete curriculum. When the program is completed a county evaluation form is completed that must account for funds. A review with all receipts will be sent to the foundation. Any money remaining will be returned.

Evaluation of Program Success

Given the unique outreach of the program, evaluation needs are also unique. The best indicator of success will be the number of students reached and their satisfaction with the program. One means of evaluating satisfaction will be a videotaped question and answer station, we actually hope to elicit stories from the young people on their experience. We would ask what they enjoyed the most and what they learned. We will also provide a short question prompt for teachers as a post event summary, and provide return mail for the student answers. The concept is to use it as a writing lesson that we can later evaluate. We will also provide an electronic survey to teachers. These will be required for those who get a complimentary bus, should we receive funding. We will interview our own students as well, and each Academy "team" who worked the fair will debrief the event during their next meeting. All the information will be used to prepare for next year's event as well as other outreach events Sun Stewards participates in, it is hoped that the Earth Day Fair will expand to multiple days and serve older students as well.

BUDGET

Item	Number	Cost	Total
Wind Turbine materials, wood base, pole, nacelle, blades, sound board, alligator clips (Vernier) x 1	15	\$45.00	\$675.00
Aquatic Turtle materials, turtle net, wader, digital calipers, scale, turtle shells, sardines (Forestry Suppliers) x 1	1 set*	\$500.00	\$500.00
Sun mascot costume	1	\$240.00	\$250.00
Solar Car materials, motor, solar cell, motor holder, wheels, axles, balsa wood, gears (Solarmade)	15	\$30.00	\$450.00
Video camera + tripod (Sony)**	1	\$425.00	\$425.00
Crates (Grainger)	3	\$36.00	\$138.00
Bus travel for in-county K-3 students	15	\$50.00	\$750.00
Misc items such as rope for turtle nets, shipping, etc.	1	\$200.00	\$200.00
Total			\$3388.00

* Two sets are better, but one can be made to work.

** The video camera is a wish, not a need. It will simply remove our reliance on others and allow for more flexibility.

Final budget Notes: We are open to partial funding. Also, costs for items have been researched and are closely approximated taking into consideration a good quality product at the cheapest possible price. If specific costs are required for individual materials, such as a turtle net, those can be provided. They are not included individually both due to the size of the table, and the variability in cost from one supplier to the next. County schools cannot always do business with a vendor because of their particular structure for customer charges and that is determined with paperwork from a company that has to be filled out, approved, and returned prior to the order. Therefore, although the cost of a turtle net, for example, may be \$120.00, it is possible the particular vendor cannot be used and the charge will be different when ordered from an approved vendor. This is not a common issue, but it does come up.