

Glassboro Education Foundation, Inc.

Send the completed application to [Grants@glassboroed.org](mailto:Grants@glassboroed.org)

or

Send the completed to the attention of:

Betty Ann Marchese  
Beach Administration Building  
Joseph L. Bowe Blvd  
Glassboro, NJ 08028

A. General Information

Applicant(s): Alisa McDermott and Erin Pimpinella

School: J. Harvey Rodgers School

Principal: Aaron Edwards

Grade Level or Subject: Kindergarten

Phone: (school) (856) 652-2700 ext. 75400

(Home): McDermott-856-986-8795(cell) Pimpinella-856-243-5914

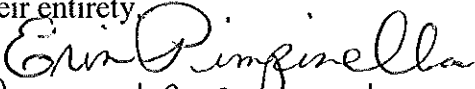
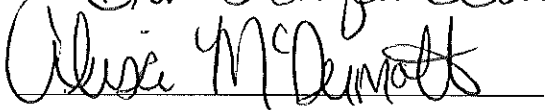
E-mail(s): [amcdermott@glassboroschools.us](mailto:amcdermott@glassboroschools.us)/[epimpinella@glassboroschools.us](mailto:epimpinella@glassboroschools.us)

B. Statement of Assurances:

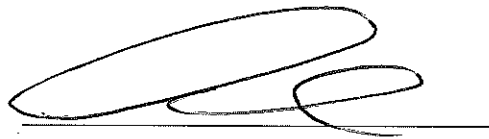
The applicant hereby assures the Glassboro Education Foundation that:

1. The applicant(s) meet(s) the eligibility criteria.
2. The activities and services for which the grant is sought will be implemented as written.
3. Any monies not expended within the school year shall revert back to the Glassboro Education Foundation, unless permission to carry it into the next school year is granted.
4. All publicity releases regarding a funded project will acknowledge the Glassboro Education Foundation and/or a particular mini-grant sponsor as the funding agency.
5. The grant recipient(s) will submit a final report summarizing the project's evaluation results.
6. The Board of Education authorizes the filing of this application.

We do hereby certify that all of the facts, figures and representations made in this application are true and correct to the best of our knowledge and that the assurances as stated above are understood and will be followed in their entirety.

Signature of Applicant



Signature of Principal

Please note: from this page on, please do not include your name or your school in any of your descriptions as all applications are coded to prevent bias.

## C: Project Title and Description

Title of Project: Science Initiative

Subject Area(s): Science

Approximate Number of Students Participating: 40

Project Starting Date: Fall 2014 Project Completion Date: Spring 2015

Need: Describe the problem or deficiencies that exist which require the improvements described.

There is a need for effective strategies and materials for teaching and improving scientific literacy and the need to gain knowledge and vocabulary through practice of scientific habits of mind. There is a deficiency in inquiry-based science instruction through written, oral, graphic and kinesthetic forms of expression.

In order to engage students, we need hands-on materials for child-centered science activities and stations. The problem is the need to teach content with just not a brief overview and introduction to vocabulary but to deepen content knowledge in a meaningful interactive approach with true understanding of learned vocabulary. The problem is we need to maximize all science opportunities with scientific experiences. There is a lack of experience and scientific talk with true understanding of learned vocabulary and content especially with our ELL learners and strivers. Limited traditional science instruction and lessons done in isolation with limited materials and tools is not conducive to conceptual development.

This lack of a hands-on approach with science materials leads to more abstract learning when we need more concrete learning. To refer to Howard Gardner's idea found in his book *Multiple Intelligences: The Theory Practice*, the traditional approach to instruction often addresses only one or two of these intelligences. When we take into account the different learning styles of our learners, it is in our students' best interest for us to take an alternate approach rather than the traditional direct instruction approach. Experience is the key factor. We have a lack of concrete experiences and this means our children have fewer resources to draw on their efforts to make sense of the world. Children today have increasingly little contact with the natural world as they grow.

Strategy: Briefly describe your plan to alleviate the need/problem.

Our plan is to use materials and deepen science experiences to benefit our youngest learners. The children will benefit by:

- a. Students participate in activities as they learn vocabulary.
- b. Students work collaboratively and interact with others about science content.
- c. Hands-on activities offer students written, oral, graphic and kinesthetic forms of expression. (Examples: graphic organizers, turn and talk, collaborative group work, chalkboard splash, scientific discussions, technology).

Each science concept will be introduced with nonfiction texts, graphic representations, and science experiments. While working in small groups, students will use hands-on materials to test predictions,

make observations, chart results and discuss outcomes. Students will convey new understanding by participating in inquiry-based discussions and completing writing activities. The goal is for our students to develop problem solving skills that they will use as lifelong learners. Students will begin to see themselves as scientists as they accumulate knowledge about the world around them.

Through this grant, we will continue to develop and improve our science curriculum to teach our students that science is all around us and is influenced by human uncertainties, judgments, values and interests. Through this grant, students will become actively involved in his or her learning and create ownership in hands-on activities. Research shows that when students become actively involved, it gives them motivation and a sense of excitement that help them to understand the content and integrate it into their knowledge base.

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D. Objectives, Activities and Evaluation Techniques (This page may be duplicated if necessary)

Objectives	Program Activities to Accomplish Objectives	Completion Date	Evaluation Techniques
<p>Students will engage in hands-on exploration of the butterfly life cycle by observing and recording changes in the size, color, position, quantity and movement of caterpillars, chrysalises and butterflies.</p> <p>Students will work in small groups to learn about the life cycle of a plant by investigating the answer to self-generated questions about organisms. They will describe the requirements for the care and survival of plants along with the relationship between the Sun and plant growth.</p>	<p>Students will observe a classroom butterfly habitat. Students will record observations in their science journal/record sheet. Students can use hand lenses to aid in observations. Students will report in discussion observations to small and whole group. Together we will chart.</p> <p>Students will investigate through exploration and inquiry, Students will work in small groups to decide cooperatively on a question to investigate the life cycle. Examples could be factors that affect seed dispersal, flower design, growth factors-air, soil, light, amount of water, determine the effects on the life cycle and organisms' survival. Students will collect and record data, request materials and assistance from teacher as needed. All students in the group are required to make notes/pictures/words of observations and record in science journal. All members of the group are required to participate in</p>	<p>June 2016</p> <p>June 2016</p>	<p>Turn and talk, oral and written representation, teacher observation, notes. Participation in cooperative small and whole group comparisons and contrasts. Science journals.</p> <p>Students will be assessed informally through teacher observations of small group investigations and oral presentation. Students will be assessed formally on the content of their science journals.</p>

<p>Students will engage in an observation of the life cycle of the ladybug. Students will examine characteristic changes that occur during the life cycle of ladybugs and butterflies and distinguish between their growth and development.</p>	<p>investigation and report in some meaningful way. The group can self-assess on their contributions to the group as well as other members.</p>	<p>June 2016</p>	<p>Students will be evaluated by discussing in group comparisons and contrasts on Venn Diagram of the ladybug life cycle and the butterfly life cycle we have studied/investigated. Assess information of schema and discussions. Science journals.</p>
<p>Students will observe the ladybug life cycle in a habitat in the classroom. Students will make observations, record notes and illustrations in science journals. Students will ask questions, participate in class discussions and participate in one or more inquiry investigations. The teacher will facilitate student questions and help determine which can be investigated. Students can take ownership with charting how to investigate the questions. Example- The class may vote on investigating what ladybugs prefer to eat and the students will then find a way to test this.</p>			

Students will investigate and model the various ways that inanimate objects can move. They will predict an object's relative speed, path, or how far it will travel using various forces and surfaces. They will distinguish a force that acts by direct contact with an object (pushing or pulling) from a force that can act without direct contact (the attraction between a magnet and a steel paper clip). Students will actively use new vocabulary terms as they experiment with different types of force.

Students will create anchor charts with teacher to describe different forces: push, pull, and magnetism. Students will sort visuals/pictures of objects to be explored in experiments and make appropriate predictions. Students will then test their predictions in actual experiment using a variety of objects, ramps and materials created. Students will work in groups, using vocabulary learned and exploring and investigating their predictions. Students will record results in science journal/record sheet. In a whole group activity, students will complete a Venn diagram to make a comparison between two different types of forces.

Teacher will informally observe students engaged and collaborating in groups. Data collection in science journal/record sheet. Comparison to class chart of predictions to their recorded results of actual experiment in science journal/record sheet. Completed Venn diagram comparing different types of force.

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Objectives	Program Activities to Accomplish Objectives	Completion Date	Evaluation Techniques
<p>Students will make and test predictions about items that sink and float. They will classify objects according to physical properties. Students will develop process skills in observing, questioning, predicting, interpreting and communicating.</p>	<p>Students will help prepare a class chart for sink and float with the teacher. Students will use learned vocabulary to describe sink and float. Create an anchor chart for this. Students will be shown an object one at a time and feel it and make observations. Teacher will create a large class chart with columns for item/prediction/result and or outcome.</p> <p>Teacher will sketch item in first column and label on chart. Teacher will model appropriately her prediction and reasoning for so. Teacher will then demonstrate actual experiment placing item in water. Teacher will chart results. Whole class experiment will continue with the following objects and students participating and charting with teacher together. Teacher will then put students in small groups with materials/items to be explored and tested in tub of water. For each item the students will complete their own sink/float recording sheet to be put in science journal later. Experiment to be demonstrated in small group just as teacher demonstrated with whole class. When groups are done testing their objects and recording their</p>	<p>June 2016</p>	<p>Recording sheet from small groups for sink and float with predictions/results. Participation and ideas for reasoning in larger class group discussion. Class ideas on chart with generated questions to continue exploration.</p> <p>Predictions for different items to be tested on another day. Are the children understanding why things sink and float from this demonstration and experiment therefore next sink/float with different objects made of some of the same material will aid in their predictions. Teacher observation, notes.</p>

	<p>observations/results have students discuss results of finding. Students can sort items into float pile and sink pile and discuss characteristics, similarities and reasoning. Write ideas on chart paper. Can inspire their questions to carry out their plan on another day and tested. This investigation/experiment may be done over several days.</p>		
<p>Students will observe and document daily weather conditions and discuss how the weather influences your activities for the day.</p> <p>Students will compare how different animals meet their basic needs, survive in their habitat, care for their young, and interact with other organisms. Students will describe and record similarities and differences between animal parents</p>	<p>Students will track weather using a write-on/wipe off board. They will record and chart daily temperature and precipitation using bar and line graphs. They will mark weather throughout the major cities in our country using vinyl cling weather symbols and a US map. Students will also record wind chill, humidity, wind speed and pressure. Students will discuss the current weather conditions, make predictions for future weather and weather patterns. Students will independently write about appropriate activities to do in the specific weather and/or season.</p> <p>Students will explore an all about animals photo library. They will read facts about different animals and sort animals into different categories by color, number of legs, diet, habitat, etc. They will make comparisons as they match pictures of adult animals to their young. Using a magnifying</p>	<p>June 2016</p> <p>June 2016</p>	<p>Participation and ideas for reasoning in larger class group discussion. In Science station, students will use the weather data to write about appropriate activities to do in the weather/season. Cross curricular connection into Math: Each month students will use weather data to create bar graph. Graphing is formally assessed on midyear Math Benchmark and final Math Benchmark.</p> <p>Station artifact sheets, science journals, turn and talk, chalkboard splash, graphic organizers (KWL, Venn diagram, web), teacher observation, and anecdotal notes. Participation in cooperative small and whole group activities.</p>



and their offspring. They will identify the characteristics of a habitat that enable it to support the growth of many different animals. Students will communicate ways that humans protect habitats and improve conditions for the growth of the animals that live there, and also discuss ways that humans might harm habitats.

Students will identify and describe the components of the solar system. They will explain the role of the sun and moon and how they affect our planet Earth.

glass, students will examine hands-on specimens of birds, reptiles, insects, mammals and sea life to gain a deeper understanding of each animal class. Students will examine the skeletal system of different animals using animal X-Rays. They will write about each animal's anatomical features that help with its survival. Students will discuss discoveries with a partner and record findings in a science journal. Using the hover cam, students will explore various habitats, how it supports animal growth, and human impact on the environment. Teacher will build upon this knowledge during whole and small group instruction using nonfiction read-alouds, class discussions, chalkboard splash, and graphic organizers.

Students will participate in a demonstration to recreate the solar system. They will identify the components of the solar system: Sun, Moon, and all the planets. They will identify the size of the sun and other planets. They will discuss facts about each planet and why the Earth is the only planet with life. They will discuss the sun's role as a source of light and heat. Students will make daily sky observations of the Sun and Moon to determine a set of general rules for when the Sun and Moon are

June 2016

KWL chart, Anchor charts, moon/sun observation log, Planetarium trip follow up writing activity, science journal, station artifact sheets, pictures of solar system demonstration

<p>Students will explain why some foods are healthier to eat than others. They will identify foods and their food groups. They will compare various types of food and their effect on humans.</p>	<p>visible. They will study the different phases of the moon and determine why our view of the moon changes.</p> <p>Students will taste test different foods and identify their food group. They will compare and contrast foods by taste, color, texture, smell, and shape. They will sort food pictures by various categories (healthy and unhealthy; food groups). Students will recreate the food pyramid using food pictures. They will discuss the recommended daily food intake, the importance of eating healthy foods and how food choices affect one's livelihood.</p>	<p>June 2016</p>	<p>Venn Diagram, science station artifact sheets, anchor charts, teacher observation, science journals, pictures of student sorting work</p> <p>**Informational Writing Pre and Post Assessment will be used to formally assess students' vocabulary development, understanding of science content, and ability to use this information to enhance nonfiction writing.</p>
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E. Itemized Budget

<u>Item(s)</u>	<u>Cost</u>	<u>Item(s)</u>	<u>Cost</u>	<u>Item(s)</u>	<u>Cost</u>
Butterfly Nursery	\$39.99	4 Packs of Mead Black Composition Notebooks (12 for @ 14.99)	\$59.96	Hands-On Science Supply Center-	169.00
Ladybug Land	\$14.99	Sticky Notes-Thinking Bubble Post (2 Packs @ 8.20)	\$16.40	Read It! Sing It! Big Books for Science Complete Set	129.00
Botany Lab	\$35.99	Post-It Notes (100 Sheets; 2 packs @ 6.09)	\$12.18	Healthy Plate Magnet Sorting Set	\$37.95
Animal Snapshots	\$18.99	Post -It Super Sticky Notes (2 @ 9.99)	\$19.98	Inflatable Solar System	\$19.00
Hands-on Specimen set	\$139.00	3 (Packs of 3 @ 5.39) Recycled Hardboard Clipboards	\$16.17		
Animal X-Rays	\$29.95	Arrow Sticky Notes (2 packs @ 4.83)	\$9.66		
All About Animals Photo Library	\$39.99	\$134.35 X 2 =	\$268.70		
Match and Sort Games	\$29.99	Hand Magnifiers Set of 12	\$39.99		
Weather Tracker	\$34.95				
6 Can-Do Science Kits	\$109.00				
		<u>Subtotal:</u>	311.16 + 39.99 =	<u>Sub-total:</u>	\$354.95 X 2 =
<u>Sub-total:</u>	\$492.84 X 2 =		\$985.68		\$709.90
				<u>Grand Total:</u>	\$2,004.27