



Foundation For Allen Schools Grant Application

Scholarship Fund Amount: \$0

Application #: AP238522

Applicant First Name: Melissa

Applicant Last Name: Davis

Applicant Email Address: melissa.davis@allenisd.org

Gender:

Cell Phone #:

High School:

Post Secondary School:

Application Status: Submitted

Application Questions and Answer

Question	Answer
Preferred name/name that you go by:	Melissa
Best phone number to reach you at:	+12147094992
Campus	Vaughan Elementary School
Grade(s)	6
I have co-applicants:	No
Please provide your work-related Facebook contact information.	
Please provide your work-related Twitter contact information.	@melissamdavis04
Name of Grant	Energy for the Future
Please select the MAIN curriculum area your grant addresses.	Science / STEAM

Does your grant have a technology component?	No
Will other campuses be involved/impacted?	No
Will other grades be involved/impacted?	No
How many students will be involved in this grant?	125
Are there any additional funds available for this grant?	Yes
<p>What is the problem, need or opportunity that this grant will address? Describe the impact of this project on your students.</p>	<p>In 6th grade science, students are expected to research and debate the advantages and disadvantages of alternative energy. Students are also expected to spend at least 40% of their instructional time conducting laboratory and field investigations. This grant would provide the opportunity for students to design and implement alternative energy projects first hand. Students can compare and analyze the energy output of each energy source. The kit allows students to design and build a solar oven, a solar-powered car, a water wheel for hydropower, a wind turbine and a biofuel powered balloon vehicle. This kit brings innovative and relevant topics right into the classroom. The grant will meet the academic standards of knowledge for our students as well as the invaluable investigative component. These students will be our future leaders and its is necessary for them to understand the potential of these alternative energy sources.</p>
<p>How will the project or program be implemented? Describe activities and tasks.</p>	<p>The project will be implemented in partners within the classroom. Each pair will learn about their energy source and become "experts" on their topic. Then each pair will design and build their prototype for their project. Building will take place in the lab where students have space to build and test their design. The design, building, adjustment process will take several weeks. Time will be given for students to reflect and make adjustments to their projects to increase energy output and efficiency. Students will share their projects and results with the class. The pairs will teach the class what they learned about their energy source and the design on their project. This allows all the students to learn and see how</p>

<p>Who is the target population and in what ways will they benefit?</p>	<p>each energy source works and can be potentially used. The target population will be the 6th grade science classes at Vaughan. Students will benefit because they will learn the required material in a hands on, creative manner. The students will get to implement their own ideas in the projects and share what they have learned with the other students. So many of the learning standards can be included in this project. The students can easily draw on their knowledge of potential and kinetic energy as well as energy transformations. The project allows students and teachers to include a whole units worth of knowledge into an real world problem solving investigation.</p>
<p>Provide a brief summary for use on the Foundation's website and social media.</p>	<p>Energy of the Future Project will put alternative energy sources into the hands of our students, our future leaders. Students will investigate, design and build models using solar power, hydropower, wind power and biofuels. Students will experience the energy of the future in their classrooms.</p>
<p>Which Allen ISD goals/TEKS does this project support? Please provide 2 or 3 examples.</p>	<p>This project supports Allen ISD mission statement of creating effective problem solvers. The project supports TEK 6.7(A) research and debate the advantages and disadvantages of using coal, oil, natural gas, nuclear power, biomass, wind, hydropower, geothermal, and solar resources. The kit provides materials using solar power, wind power, hydropower and biofuels. The project supports TEK 6.8(A)^ compare and contrast potential and kinetic energy. Students are able to identify the sources of potential and kinetic energy within their project and how they may change as the energy is used. The project supports TEK 6.9(C)^ demonstrate energy transformations. Students will experience energy transformations as the project is powered by the alternative energy sources and is transformed into energy required for every day living. Finally, since the project will require a significant amount of field and laboratory investigation, TEK 6.1 The student, for at least 40% of instructional time, conducts laboratory and field investigations will be supported.</p>
	<p>Students will be evaluated by three rubrics throughout their project. First students will be</p>

<p>What specific measurements will be used to evaluate the effectiveness of the project?</p>	<p>evaluated on their investigation of the alternative energy source. Students need to have a good understanding of the advantages and disadvantages their energy source. Second the design of their project should be logical and benefit their audience. Third how well did the students consider their energy source and audience when building their project. Also was the project successful in using that energy resource to achieve the goal.</p>
<p>What teaching methods will be used to implement this project?</p>	<p>Initial teacher demonstrations will be helpful to familiarize students with the expectations of each challenge. These will include how to investigate each energy resource, how to design a prototype and how to build a prototype with the given project materials. With the energy activities provided by this grant, students working in pairs will now have the opportunity to carry out the techniques demonstrated above first hand. Research indicates that students are more likely to retain the knowledge gained through hands-on learning than through the passive acquisition of knowledge from worksheets. Students will develop confidence and self-direction as they work through the investigation, design and construction aspects of the project.</p>
<p>What is the project timeline and the date of implementation?</p>	<p>The project is to be completed in the Fall of the 2020-2021 school year. The project is expected to take about two weeks.</p>
<p>Explain how this idea or project enhances/supports Allen ISD curriculum or existing systems.</p>	<p>Allen ISD cultivates innovation in education that empowers every learner to realize his or her full potential. This grant will allow 6th grade students the opportunity of a hands on application of alternative energy. It is very different from prescribed labs where students follow a series of instructions to get to the "right answer." The goal is always progress, and this could lead to the development of completely new lines of inquiry that were not apparent at the outset. It is a great lesson for students to learn that good science is as much about the process as it is about the outcome and that often as much can be learned from a negative result as from a positive one.</p>
<p>Total Grant Budget Requested:</p>	<p>704</p>

AP

Project Budget Set Number 1

Question	Answer
Item Type	Instructional Supplies or Resources
List item to be purchased under item category:	Alternative Energy-Flinn STEM Design Challenge 5-Kit Bundle
Unit Cost	352
Quantity	2
Total cost of items in this category:	704