

2014-2015 Educational Grant Application

Submission Date	2014-03-03 09:47:45
Name of Grant	AHS Backyard Garden
Primary Contact	Heidi Reese
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Phone Number	(972) 345-3621
Campus	Allen High School
Curriculum Area	Career & Technology
Other Curriculum	Science
Grade Level(s)	11-12
Students Impacted	100
Approver Name	Shannon Watson
Approver E-mail	shannon_watson@allenisd.org
Project Purpose	<p>We are introducing a new class, Advanced Plant and Soil Science, at Allen High School. Students who take this class will develop an organic gardening program and market the produce they grow to the AHS Blu Restaurant and other potential produce buyers. The students will be utilizing both the AHS greenhouse to propagate seeds and a 1/3 acre garden plot located on the east side of the greenhouse to grow the plants. Since this is a new class, there is significant start up equipment and supplies that need to be purchased in order for the program to be a success. Students who take this class will gain a fundamental skill that has been lost in recent times. They will be able to grow their own food. They will also have a much better grasp on where the food we eat comes from and how it is processed. Some specific things they will learn about are soil properties, seed germination, transplanting techniques, plant growth habits, pest prevention/remediation, genetics, harvesting techniques and marketing.</p> <p>Grant dollars would be used to purchase basic supplies like potting soil, seeds, pots, tomato cages, rabbit fencing, organic fertilizer, organic pesticides, shovels, hoses for the greenhouse and a rear-tine rototiller.</p> <p>While the main costs of getting this project off the ground are being covered by donations, grants and other department budgets, we are lacking the start-up funds to cover the everyday requirements that would make this project a success. Like any business, we need the start-up capital in the beginning so we can make a profit in the long run. After the first year of operation, the profits made from selling the produce should offset most of the ongoing costs of growing the produce. (More than half of the requested funds will be going towards the purchase of a rototiller,</p>

which will be a one-time purchase.)

Project Description

The AHS CTE Department, Heidi Reese, Judge John Payton and the City of Allen have been collaborating on this project since the Spring of 2013. The first step was to start improving the soil in the garden plot next to the greenhouse. This was accomplished with the help of the City of Allen and a community volunteer. The City donated more than 60 yards of compost over the course of the past year and the community volunteer, Barnes Waste Disposal, utilized a tractor to mix it into the soil. The garden plot is slated to have the soil turned again this spring, which should be sufficient to make the garden plot ready for planting. The next step was to address maintenance issues with the AHS greenhouse. The Allen ISD facilities department addressed the maintenance issues in January of this year and the greenhouse is completely operational at this time. The final step is to get an automatic drip irrigation system installed in the garden plot. The plans have been drawn up and at this time, we are in the process of getting bids and maybe donations from irrigation specialists. As soon as the irrigation system is in place and we have the required gardening supplies, we will be ready to make this a sustainable project!

While the class is the main focus, the “AHS Backyard Garden” will also benefit other youth in the community as well. Results from this entire community project are expected in multiple forms. Youth in the Collin County Juvenile Probation system will be participating in gardening activities, especially during summer months to keep the garden producing all year long. The AHS Environmental Awareness Team, as well as elementary and middle school environmental clubs, will advance their knowledge of urban farming and its health benefits by joining in on gardening activities throughout the school year. The community stands to be impacted by this entire project in the form of more socially aware youth with increased volunteerism and community ties, thus leading to a thriving population of youth. The contributions of these youth will lead to a safer, healthier community with a higher quality of life for all residents.

Allen ISD Goals/TEKS

130.21 Advanced Plant and Soil Science

(b)3 This course is designed to prepare students for careers in the food and fiber industry. Students will learn, reinforce, apply and transfer their knowledge in a scientific setting.

(c)(2)B The student is expected to practice soil and plant evaluation as it applies to agricultural and urban settings.

(c)(4) The student develops an advanced supervised experience program as it relates to agriculture, food and natural resources.

Measurements

The measurement used to evaluate the effectiveness of this program is the successful and sustainable growth of fresh garden herbs and vegetables. Growing a successful garden is more difficult than one might expect if they have never tried it. There are a myriad of problems that might crop up and the best defense against things like pests, weeds and disease is prevention. As the class progresses through the

	<p>year, the students will learn about these problems and how to deal with them. Since they will be putting their knowledge to practical use, they will have immediate feedback on their decisions.</p>
<p>Teaching Methods</p>	<p>More than 40% of this class will be project-based learning. Since project-based learning is filled with active and engaged learning, it helps inspire students to obtain a deeper knowledge of the subjects they are studying. Research indicates that students are more likely to retain the knowledge gained through this hands on approach far more readily than through traditional textbook-centered learning. Students also develop confidence and self-direction as they work through both team-based and independent work.</p>
<p>Timeline for Project</p>	<p>Students will spend the first part of the school year learning basic soil characteristics and plant physiology. By late fall, the students will plant salad greens such as spinach, swiss chard, kale and arugula either in the greenhouse or in the garden plot depending on the weather conditions. In February, the students will plant potatoes, onions, peas and other early season vegetables in the garden plot. Tomato and pepper seeds will be started in the greenhouse. By early late March, the garden plot should be completely planted. Harvesting will be continuous from late winter until late May. For longer season crops like corn, watermelon and okra that mature later in the summer, students from the Collin County Juvenile Probation system will take over the maintenance and harvesting of these crops. The garden plot will be rototilled in late August between crop seasons and as needed.</p>
<p>Curriculum/System Support</p>	<p>The state legislature, at this time, is in favor of advanced career related courses. Advanced Plant and Soil, which is listed as an agricultural Career and Technical course, can also be taken as a fourth year science credit. This “dual” credit capability gives the students at Allen High School more flexibility in choosing their required credits for graduation. When students are provided with more choices, it enhances Allen High School’s offered curriculum.</p>
<p>Additional Comments</p>	<p>The experience of seeing seed, soil, water and sun come together to transform into a tiny plant is a lesson in itself, and one not soon forgotten. Learning to appreciate the wonder and power of nature is the core of an environmental education. Planting a seed teaches students about the need to protect our natural resources, since clean soil and water are necessary for the plants to grow. Children learn that we need to preserve open land for food crops, trees and enjoying nature. By tending the garden and taking care of their environment, they see that they are helping nature make the magic happen.</p>
<p>Instructional Supplies or Resources</p>	<p>N/A</p>
<p>Supplies Budget</p>	<p>0.0</p>
<p>Technology</p>	<p>N/A</p>
<p>Technology Budget</p>	<p>0</p>

Staff Training / Staff Development	N/A
Training Budget	0
Transportation/Field Trip	N/A
Transportation Budget	0
Other	Troy Bilt rear-tine rototiller, 100ft garden hose, organic fertilizer, organic pesticide, rabbit fencing, seeds and potting soil.
Other Budget	1200
Total Budget	1200
Additional Funds	Donations from the City of Allen Donations/grant from Rain Bird Irrigation Systems Allen ISD Facility funds City of Allen \$200 community grant