

2014-2015 Educational Grant Application

Submission Date	2014-03-27 16:47:55
Name of Grant	Techno Kids!
Primary Contact	Kellie Latson
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Phone Number	(972) 7270560
Campus	Boyd Elementary School
Curriculum Area	Career & Technology
Other Curriculum	Science, Math
Grade Level(s)	5th and 6th
Students Impacted	20
Approver Name	Kyle Pursifull
Approver E-mail	kyle_pursifull@allenisd.org
Project Purpose	<p>These grant funds would be used to seed the start of a Technology Club at Boyd Elementary School. Boyd is a Title I campus, and many of our students do not have the technology exposure that students in other Allen schools have. Technology club members would have the opportunity to learn about basic computer design and programming language through the use of the Raspberry Pi, a credit card sized computer that was developed in the UK by the Raspberry Pi Foundation to address the need for an inexpensive accessible computer which could be used to teach students computer programming as well as address the need for more affordable computer access. Each Raspberry Pi computer, when combined with a keyboard, mouse and monitor will provide access to many typical PC functions, including word processing, spreadsheets, games and high definition video. Each unit cost around forty dollars. The keyboard, mouse and monitor can be obtained at little to no cost through local thrift outlets or donations. Each student in the Tech club at Boyd will use the Raspberry Pi to learn how to build and program their very own computer. Students will then work cooperatively to identify and solve a problem or need at Boyd by using their programming skills on their computers. This technology club will help our students develop skills which may be shared with peers and staff, as well as build confidence and strength in the content areas of Science and Math.</p>
Project Description	<p>This club will be implemented at the start of the 2014-2015 school year. After meeting with 5th and 6th grade classes to talk about the new club, interested students will complete an application obtaining parent permission. Twenty students will be selected from the application pool to participate. The</p>

club will meet 2-3 times per month after school. Initial activities will concentrate on iPad, PC, and laptop use until the Pi units have been received. Each session will include time to address Technology Application TEK related activities which will be chosen after initial screening and assessment of skills of participating students. Raspberry Pi activities will include working with the actual Pi computer and peripherals as well as loading the initial software and learning basic programming using the Python and/or Scratch languages. Students will self-select Pi activities to work through, Students will also work cooperatively in the spring to identify and solve a problem or need at Boyd using their computers. An example for the cooperative problem solving activity might be writing a program and building a multimedia information kiosk for visitors at Boyd. Participating in these activities will allow students to gain both curricular and transition related skills which will serve them as they progress through school and into higher education or the workforce.

Allen ISD Goals/TEKS

Allen ISD Bundled Curriculum Technology Applications 3-5
1. Creativity and innovation. The student uses creative thinking and innovative processes to construct knowledge and develop digital products.
4. Critical thinking, problem solving, and decision making. The student researches and evaluates projects using digital tools and resources.
6. Technology operations and concepts. The students demonstrate knowledge and appropriate use of technology systems, concepts, and operations.

Measurements

Measurements will be both formal and informal. Formal measurements based on Technology Application TEKS include evaluation of skills through work samples produced or identified skills demonstrated by the student using appropriate technology applications or hardware. Informal measures include conferencing with students as well as guiding students through a self-reflection process after completing a project or activity.

Teaching Methods

Club members will receive direct instruction and modeling when working with new equipment or software applications. Much of what is done will be hands on learning and as students become more familiar with their computers and projects a facilitation model will be adopted to encourage students to break down and think through problems that need to be solved. These methods foster student ownership in their learning and allow for independence which builds confidence.

Timeline for Project

August-September 2014: Prepare order for materials and Raspberry Pi units, develop club application, and Meet with 5th and 6th grade classes to introduce the club, select meeting dates, select participants from applicant pool and begin meetings by mid-September.
September 2014-May 2015 meet 2-3 times monthly after school to complete club activities. Meetings will be held until 4 p.m.

Curriculum/System Support

This technology club enhances and supports Allen ISD Curriculum by helping students become literate in computer science applications which would typically fall under the

	<p>curricular areas of Math and Science. Students will be learning how to analyze data and use logic to solve problems and create new products to impact their world. Math areas impacted include Geometry and functions and variables. Science concepts impacted include experimentation and modeling or simulation. More globally, students will strengthen skills in critical thinking, sequencing and problem solving which translate across all areas of the curriculum.</p>
Additional Comments	<p>Plans going forward beyond this initial year include expanding the program to grades 3/4 (year 2) and then grades 1/2 (year 3) in order to build technology skills in a developmental manner. An age appropriate robotics component will be added to each club beginning with the the grade 5/6 and 3/4 clubs in the 2015-2016 school year.</p> <p>Additional information on the Raspberry Pi may be found at: http://www.raspberrypi.org/about</p>
Instructional Supplies or Resources	Instructional books and supplies
Supplies Budget	\$200.00
Technology	20 Raspberry Pi units (Model B with 8GB SD card, Noobs preinstalled) through Allied Electronics @ 37.50 each plus shipping
Technology Budget	800.00
Staff Training / Staff Development	N/A
Training Budget	0
Transportation/Field Trip	N/A
Transportation Budget	0
Other	N/A
Other Budget	0
Total Budget	\$1000.00
Additional Funds	Additional needed peripheral equipment (keyboards, mice etc.) will be obtained through staff/parent/community donations.