

# #11

**COMPLETE**

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**Q1 LEA School/District Name**

Kirby Public Schools

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**Q2 LEA Contact Name**

Mark Reed

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**Q3 LEA Contact Title**

Teacher

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**Q4 LEA Contact Email**

mark.reed@kibrytrojans.net

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**Q5 LEA Contact Title**

Teacher

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**Q6 LEA Contact Phone Number**

9037015954

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**Q7 Grant Level Proposal**

**Small - Under \$7,500**

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**Q8 PROPOSAL DESCRIPTION (MAX 3000 Characters)** - provide a narrative regarding the need for the proposed program/project, specific goals to be achieved, and how if funded the program is likely to achieve those goals.

Kirby School District has no local industry and is in a high poverty district, with 80% of our students on free and reduced lunch. We propose using coding tools and innovative literacy and hands on projects that tie computer science with Math, Science, English, and Reading to engage students at all grade levels K-7 in activities that make computer science, as well as core subjects, more interesting, thereby improving student interest in computer science at high school, as well as improving opportunities for student growth in core subject areas. At the same time, we have enrolled all 36 of our 8th grade students in Computer Science levels 1 and 2 with coding, with an emphasis on engaging 8th grade female students in hands on activities such as building and repairing computers, 3D printing and app development. We propose using hands on activities to encourage all students, but especially female students, to solve problems involving building and coding physical computing devices. for specific tasks and developing apps for exploration, and early warning of extreme weather events in isolated rural areas. We also propose taking female students to the local cooperative to explore the maker space and computer science. We have 8 students enrolled in a high school robotics course, which is an improvement of 60% over last year, and a 700% improvement over the year before that. Our focus in robotics is on hands on coding and constructing of robots that could be used in industry. We are building a robot to mitigate potential school shooting situations, and another robot that can be used in commercial chicken house operations, in addition to the robots we build for competitions. We propose using physical computing devices and drones to help students gain experience creating real world problems solving tools with computer science.

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**Q9 PROPOSAL TIMELINE (MAX 1500 Characters)** - list major activities of your proposal with approximate target dates

Jan 2019 - Purchase coding tools and components. Begin teaching K-8 faculty to implement coding tools in the classroom.. May 2019 - Students will have worked with coding tools and physical computing devices to gain skills in computer science, core subjects, app development and networking Oct 2019 - Students will have used coding tools to broadening understanding of concepts related to computer science and core subjects. Dec 2019 - Students have had multiple opportunities to learn about computer science through literacy activities, in addition to building proficy in core subjects. High school students have developed apps to help with communicating in isolated areas and in emergencies. May 2020 -Students have gained intermediate level proficiency with coding tools, have built and coded physical computing devices. Students will be demonstrating increased understanding of core subjects in state mandated exams. Students will work to implement developed apps in rural and isolated areas with no internet or cell service Oct 2020 - Students who have not, will begin using coding tools, students who have will continue coding to work on advanced skills. The number of students in high school computer science classes above Level 1 will be 30 or more. Dec 2020 - Students have had multiple opportunities to learn about computer science through literacy activities, in addition to building proficy in core subjects. Students will increase skill levels in computer science.

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**Q10 PROPOSAL EXPECTED RESULTS (MAX 1500 Characters)** - Describe the student outcomes, or changes, that will result if this proposal is funded.

30 or more students enrolled in computer science classes above level 1 Increase in student proficiency in Math, Science, and English  
Larger understanding within the school and community of the impact of computer science in normal activities

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**Q11 PROPOSAL EXPECTED IMPACT (MAX 1500 Characters)** - Describe the estimated number of students, teachers, and/or community members that will be impacted and how they will be impacted if this proposal is funded.

360 students K-12 25 teachers and administrators Members of the community that visit local, isolated recreation areas, or live in isolated locations.

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**Q12 INNOVATIVE ASPECT (MAX 1500 Characters)** - Describe why this proposal is creative and should receive funding as an out of the box way to support student growth/achievement.

This proposal ties hands on activities and real world applications of core subjects to computer science., including electronics, sensors and programming. It also links computer science applications to real world situations that affect students and families outside of school, and create opportunities for students to learn how to use computer science to solve real world problems. It will require students to work with professionals in state and federal agencies, as well as members of the community, thereby creating partnerships between the school and those groups.

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**Q13 TRANSFORMATIVE POTENTIAL (MAX 1500 Characters)** - Describe how this proposal if funded and implemented beyond your program has the ability to raise student achievement across the state.

This proposal has the opportunity to raise student achievement because it brings together different subject areas that students need improvement in, with creative, student centered tasks. By incorporating computer science, student interest and core subjects, students find the why learning skills they would normally find boring.

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**Q14 FOLLOW UP and/or MARKETING/OUTREACH (MAX 1500 Characters)** - Describe how your organization will follow up on this program after completed and/or how it will be marketed to and awareness raised within the community if the proposal is funded.

Community awareness of this proposal will be made an ongoing priority with the use of periodic advertized computer science nights, outreach in local newspapers, and social media posts. Specific products of projects related to this proposal will be written up for the local newspaper, with many pictures in social media, and an opportunity for students to directly engage members of the community during computer science nights at school, as well is in the community while working on projects.

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**Q15 Budget Proposal**

**Grant Budget.pdf (29.8KB)**

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Micro bit 14.95 x 60	897.00
Rasperry pi 35.00 x 10	350.00
Arduini Mega 38.58 x 10	385.80
Electronics tool and arts kit \$50.00 X 20	1000.00
Code-a-pillar x 2	60.96
Coding mouse x 2	70.00
Ozobots x 16	944.00
Gotenna Mesh	329
Parrot drone	400
Quadcopter frame	25.49
1000KV Brushless Motor w/ ESC x 4	59.96
3x 2600 mAh Lipo battery x 2	43.98
Pixhawk flight controller with GPS x 2	255.96
2.4 Ghz transmitter	49.99
3.5 mm battery connectors(20 pack)	7.99
Quadrotor landing gear x 4	27.96
Battery tester	9.99
USB data cable	10.99
915 Mhz 100mW 3DR telemetry kit x 2	49.98
5.8 G Micro FPV Camera	35.99
5.8G 7 inch FPV monitor	90.54
7' 16GB Fire Tablet x 5	299.95
Transportation costs	200

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