Budget

Chagrin Falls Exempted Village (045286) - Cuyahoga County - 2016 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (103)

U.S.A.S. Fund #: 466

Plus/Minus Sheet (opens new window)

Object Code / Purpose Code	Salaries 100	Retirement Fringe Benefits 200	Purchased Services 400	Supplies 500	Capital Outlay 600	Other 800	Total
Instruction	0.00	0.00	0.00	168,090.38	46,995.00	0.00	215,085.38
Support Services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Governance/Admin	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prof Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Family/Community	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Safety	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Facilities	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transportation	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect Cost						0.00	0.00
Total	0.00	0.00	0.00	168,090.38	46,995.00	0.00	215,085.38
						Adjusted Allocation	0.00
						Remaining	-215,085.38

Application

Chagrin Falls Exempted Village (045286) - Cuyahoga County - 2016 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (103)

Please respond to the prompts or questions in the areas listed below in a narrative form.

A) APPLICANT INFORMATION - General Information

1. Project Title:
Project 2033

2. Project Summary: Please limit your responses to no more than three sentences.
Project 2033 aims to develop the skills needed for success in an uncertain future through programming, robotics, and 3D design.

This is an ultra-concise description of the overall project. It should only include a brief description of the project and the goals it hopes to achieve.

3. Estimate of total students at each grade level to be directly impacted each year.

*This is the number of students that will receive services or other benefits as a **direct result** of implementing this project. This does not include students that may be impacted if the project is replicated or scaled up in the future. It excludes students who have merely a tangential or indirect benefit (such as students having use of improved facilities, equipment etc. for other uses than those intended as a part of the project). The Grant Year is the year in which funds are received from the Ohio Department of Education. Years 1 through 5 are the sustainability years during which the project must be fiscally and programmatically sustained.*

Grant Year

0 Pre-K Special Education	113 K	100 1	124 2	124 3
148 4	145 5	177 6	154 7	178 8
181 9	177 10	176 11	168 12	

Year 1

0 Pre-K Special Education	100 K	113 1	100 2	124 3
124 4	148 5	145 6	177 7	154 8
178 9	181 10	177 11	176 12	

Year 2

0 Pre-K Special Education	100 K	110 1	113 2	100 3
124 4	124 5	148 6	145 7	177 8
154 9	178 10	181 11	177 12	

Year 3

0 Pre-K Special Education	100 K	110 1	110 2	113 3
100 4	124 5	124 6	148 7	145 8
177 9	154 10	178 11	181 12	

Year 4

0 Pre-K Special Education	100 K	110 1	110 2	110 3
113 4	100 5	124 6	124 7	148 8
145 9	177 10	154 11	178 12	

Year 5

0 Pre-K Special Education	100 K	110 1	110 2	110 3
110 4	113 5	100 6	124 7	124 8

148 9	145 10	177 11	154 12

4. Explanation of any additional students to be impacted throughout the life of the project.
This includes any students impacted or estimates of students who might be impacted through future scale-ups or replications that go beyond the scope of this project.

5. Lead applicant primary contact: - Provide the following information:

First and last name of contact for lead applicant
Mike Daugherty

Organizational name of lead applicant
Chagrin Falls Exempted Village Schools

Address of lead applicant
400 E Washington St

Phone Number of lead applicant
4402475500

Email Address of lead applicant
Mike.Daugherty@chagrinschools.org

Community School Applicants: After your application has been submitted and is in Authorized Representative Approved status an email will be sent to your sponsoring entity automatically informing the sponsor of your application.

6. Are you submitting your application as a consortium? - Select one checkbox below

☐ Yes

☑ No

If you are applying as consortium, please list all consortium members by name on the "Consortium Member" page by clicking on the link below. If an educational service center is applying as the lead applicant for a consortium, the first consortium member entered must be a client district of the educational service center.

Add Consortium Members

7. Are you partnering with anyone to plan, implement, or evaluate your project? - Select one checkbox below

☐ Yes

☑ No

If you are partnering with anyone, please list all partners (vendors, service providers, sponsors, management companies, schools, districts, ESCs, IHEs) by name on the "Partnering Member" page by clicking on the link below.

Add Partnering Members

B) PROJECT DESCRIPTION - Overall description of project and alignment with goals

8. Describe the innovative project: - Provide the following information

The response should provide a clear and concise description of the project and its major components. The following questions will address specific outcomes and measures of success.

a. The current state or problem to be solved; and

2033. 2033 is the year that students currently enrolled in kindergarten will enter the workforce. Our teachers are helping to create future doctors, entrepreneurs, astronauts, architects, innovators, and problem solvers. Today's teachers are attempting to educate students for jobs that do not yet exist in a vastly unpredictable future. This is not a new problem though. As a child growing up in the 80s, my teachers recognized this issue. They were right. My role as the Director of Technology did not exist when I was in school. So what's the difference? How is this problem any different now than it was thirty years ago? The difference is this generation is growing up with access to more information than any generation to ever come before them. More than just the access to information is the amount of information that is available to these learners. For example, in the mid 1980s, there were approximately 38 billion photos taken every year. It's estimated that one trillion photos will be taken in 2015 alone. In April of this year, the Economist published the results of a global survey of business executives that asked the top three skills they felt employees of the future would need to possess. Half of the respondents to that survey identified problem solving as the most important skill of the future. Other highly rated skills identified include collaboration, creativity and critical thinking. Accessing information is no longer a challenge for our students; vetting, analyzing, and using information to collaborate and problem-solve is of utmost importance. We need to cultivate thinkers and innovators who can maximize access to technology.

b. The proposed innovation and how it relates to solving the problem or improving on the current state.

Our initiative is a K-12 curriculum that teaches the students problem solving skills using three core themes: Computer Programming,

Robotics, and Design. The curriculum will create a logical growth path in each core track that introduces new tools and concepts along the way. Programming Students in K-3 will use online interactive simulations as an introduction to computer programming. These tools teach learners the basics of writing computer code using block based coding. In layman' s terms, kids will use pre-written instructions or "blocks" of code to tell objects on the screen what to do. The programming that takes place at this level will be focused on understanding how directions work in a sequence. At the intermediate school level, students will be introduced to a programing language created by MIT called Scratch. Scratch continues with the concept of block based coding. Scratch also provides students with the ability to create their own projects as opposed to simply solving predetermined problems. Starting in 7th grade, students will begin learning how to program in small basic and javascript. Small basic, developed by Microsoft, is an entry level coding application. Unlike Scratch though, Small basic does not use a block based architecture. Students will be required to write traditional lines of code as opposed to just dragging and dropping pre-written blocks. As students enter the high school they will have the opportunity to experience coding at the college level through a sequence of two Advanced Placement courses and an Advanced Data Structures course modeled on the discontinued Advanced Placement Computer Science AB curriculum. Robotics K-3 students will learn the fundamentals of engineering using Legos in the robotics portion of this initiative. Simple Machines is a Lego designed system to teach students engineering basics by constructing working models. The models serve as an introduction to common engineering tasks. Students will solve problems related to buoyancy, energy, and bounce using simple pulleys, gears, wheels, and levers. Students in the intermediate grades (4-6) will dive deeper into robotics and engineering using the Lego Mindstorms platform. With this robotics lab the students will be able to create everything from a light-sensitive intruder alarm to a robotic rover that can follow a trail, and move around obstacles. The students will first build their robot using the EV3 micro-computer brick. From there, students will add additional Lego elements, attaching sensors, motors, gears and other bricks. The students must use creativity and innovation in order to design and construct their robots. At the 7-12 level, the curriculum revolves around the Lego Mindstorm EV3 product. Students will use customizable Lego EV3 sets investigate a variety of STEM related topics such as gear ratios, renewable energy, and wireless communications. Design Students will use a combination of gaming and traditional 3D modeling software to learn design skills. Tinkercad and Minecraft EDU will be the core curriculum for K-6 Students in K-6 will be tasked with creating projects with an increasing level of difficulty. Students will be allowed to select a few projects each year to be printed on a 3D printer so they can touch and hold a physical representation of the virtual object they designed. Printing the objects also teaches students how to identify potential flaws in their creations. Once students reach 7th grade, they will have daily interactions with the innovation center on our main campus. The Innovation Center is a multi-purpose transdisciplinary, learning space that supports flexible learning to maximize student collaboration, promote creativity and innovation, grow authentic research, and integrate technology in a connected and seamless way. In addition to technical and entrepreneurial classes, teachers in all subject areas will design assignments that use the technology found in the innovation center.

9. Select which (up to four) of the goals your project will address. For each of the selected goals, please provide the requested information to demonstrate your innovative project. - (Check all that apply)

☑ a. Student achievement

i. List the desired outcomes.
Examples: fewer students retained at 3rd grade, increase in graduation rate, increased proficiency rate in a content area, etc.

Projects 2033's mission is to provide students with the skills they need to be successful in an uncertain future. We believe those skills to be collaboration, problem solving and critical thinking. Our desired outcome are that all students will see a substantial increase in those core skills with practical, authentic learning in the areas of programming, robotics and 3D design. We expect that students will transform their ideas into creations both in the physical world through the use of 3D printers, robotics, CNC routers, and similar equipment and in the virtual world through computer programming. A secondary outcome is the expectation that the district will create an environment of individualized learning to help prepare students for the world that awaits them after high school. The expectation is that teachers involved in the Project 2033 initiative will integrate the core skills into their curriculum. We will ensure that all 2,010 K-12 students enrolled in any of the four Chagrin Falls Exempted Village Schools are able to maximize their individual potential and illustrate growth and competency through the provision of personalized and flexible learning experiences. Finally, we expect that with each year of the program in place, we will see an increase in the number of students graduating and entering post-secondary fields which integrate Collaboration, Critical Thinking, and Problem-Solving. This, coupled with student exposure to Robotics, Programming, and 3-D Design will undoubtedly best-prepare them to compete in a global society and find success in any field.

ii. What assumptions must be true for this outcome to be realized?
Examples: early diagnosis and intervention are needed to support all children learning to read on grade level; project-based learning results in higher levels of student engagement and learning, etc.

In order for these desired outcomes to be realized, the teaching staff at Chagrin Falls must embrace the three core skills: collaboration, problem solving and critical thinking. The staff must provide opportunities to practice these skills outside of technology classes. Here are a few examples to consider. At the higher grades, our high school science teachers have a yearly project where students are asked to construct a model of a bridge in order to teach them about physics principles. In our new model, teachers would ask the students to design and print that same project using the CNC routers in the innovation lab. The process on an assignment may be the similar to years past, but the product of that assignment will be quite different. In this example, students will still need to research the topic, learn the dynamics of bridge constructions, employ physics principles and create a model. The difference is that they will use technology to create the final product. In the younger grades, students may be tasked with creating a simulation or even a game inside of Scratch to explain a concept or an idea. Students would be tasked with a problem to solve. Then, teams of kids could collaborate on programming a Scratch project that would illustrate a working model of their solution. Projects would be presented to the class then evaluated based on factors such as creativity, feasibility and collaboration. Another area to consider is access. Students will need to be given access to the technology and the tools outside of the classroom so they can explore learning on their own time. Student's already have a district provided Chromebook which they take home on nights and weekends. The district will need to ensure that students know what additional curriculum, software and tools are available to them.

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

Chagrin Falls has implemented several early efforts to test these assumptions. Last year, every student K-12 participated in the global Hour of Code event. The goal of the event is to demystify computer programming by having students spend an hour learning how to write code. Participation in this event has lead to an increased enrollment in our existing computer courses at the High School. The Hour of

Code participation also lead to the formation of an elementary club dubbed the "Coding Cubs". The club is made up of third grade students who are partnered with High School students to explore various aspects of computer programming and robotics. Students collaborate to program Sphero robots. Students at the 9-12 campus have been given the opportunity to work with the Lego Mindstrom EV3 units in an elective class taught by our computer science teacher. The kids assembled the units from a kit. From there, they've been learning how to program the devices using the same coding languages described in our program above. The elective has only been available for a semester, but we've seen some immediate success in the areas of student engagement, critical thinking and problem solving. While our younger students do not yet have access to the Lego robotics, our technology teachers have been researching what tools they will need to be successful. We believe the robotics portion of Project 2033 will be the easiest section to implement due to our extensive research on the topic. From the design aspect of the grant, we've been working with 3D printers at the 7-12 level for the past 18 months. Students use them as a part of a course on entrepreneurship or they can request to print something they have designed on their own. We've had several staff members trained in the operation and maintenance of the printers themselves as well. This Spring, we plan to expand the offerings to include younger students. Our technology teacher at the K-3 building is partnering with a High School class to help students in her building design a 3D object. Once the object has been designed and reviewed by the older students, students will be able to submit it for printing. As stated in the question above though, one of the most obvious assumptions is that teachers in all subject areas will need to incorporate this technology into their course work. While we do not have any core teachers doing this yet, we have the seen an increased interest level. We plan to foster that interest by providing opportunities for staff members to work with our technology integration specialist on ways they can utilize these new resources.

iv. List the specific indicators that you will use to measure progress toward your desired outcome.
These should be measurable changes, not merely the accomplishment of tasks. Example: Teachers will each implement one new project using new collaborative instructional skills, (indicates a change in the classroom) NOT; teachers will be trained in collaborative instruction (which may or may not result in change).

Students will be required to employ skill sets relative to Collaboration, Critical Thinking, and Problem-Solving. Courses offerings will be created to reflect the aforementioned skills sets within each grades level, K-8. Because "Tech" is a course currently offered as a weekly elective offering to all K-8 students, it will be easy to ensure progress toward completing each grade level curriculum completion relative to Collaboration, Critical Thinking, and Problem-Solving. A second indicator would come in the form of survey data. Student surveys in grades K-8, completed at the end of each school year will evidence experiences per grade level via technology course curriculum. Another indicator would be provided through tracking data from graduates each year, reflecting ongoing growth in the number of students pursuing post-secondary programs which integrate Collaboration, Critical Thinking, and/or Problem-Solving skills. Similarly, tracking data relative to our alumni will reflect growth in the number of graduates who will pursue careers which integrate Collaboration, Critical Thinking, and/or Problem-Solving skills. Indicators will measure progress in core content areas as well. Each teacher will be expected to identify at least one yearly project that integrates with the technology found the Innovation Center. This will be completed using a shared template that will collect data on how the technology is being used at each grade level and subject area. The district will provide a variety of professional development offerings at the 7-12 level designed to show teachers ways in which they can integrate these tools into their curriculum.

v. List and describe pertinent data points that you will use to measure student achievement, providing baseline data to be used for future comparison.

For this initiative, the most reliable data points would be examples of student work. During the implementation phase, we'll capture a baseline of student projects created in the existing environment. We would then compare those works with projects designed by students post implementation. The assumption would be that project sophistication would increase each year after the new curriculum and tools were introduced. Over time, the goal of Project 2033 will less about teaching students how to use the equipment and more about the extent to which students can take a project as these tools become commonplace within our district. For example, students will view creating a physical, 3D model as a common practice when completing an assignment. Teachers will have designed level-specific rubrics to evaluate projects relative to skills expected per grade. Rubric scores will reflect an increase in overall mastery of these skills each year. Checklists will be created by teachers and used to reflect the quantity of occurrences which reflect behaviors that promote Problem-Solving, Collaboration, and Critical Thinking. For example, this might include, "student listens to ideas of others, student piggybacks upon the ideas of other students in the team, student is able to re-state the problem and apply it to a familiar situation, etc."

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

Our team has attempted to anticipate all of the potential barriers with our assumptions, but with any new idea, there are bound to be unanticipated issues that arise. Project 2033 will be reviewed at regular intervals to ensure the intended outcomes are being realized. In the event that an outcome is missing the target, the district will adjust the implementation accordingly. For example, we may need to adopt a different software package to better accommodate younger learners. We may need to consider adding an integrationist to help teachers adjust their lessons plans to include the use of the new tools. Whatever the case may be, our district is dedicated to learning from its mistakes and altering our implementation to achieve the desired results.

b. Spending reductions in the 5 year forecast

i. List the desired outcomes.
Examples: lowered facility cost as a result of transition to more efficient systems of heating and lighting, etc.; or cost savings due to transition from textbook to digital resources for teaching.

ii. What assumptions must be true for this outcome to be realized?
Example: transition to "green energy" solutions produce financial efficiencies, etc.; or available digital resources are equivalent to or better than previously purchased textbooks.

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

iv. List the specific indicators that you will use to monitor progress toward your desired outcome.
These should be specific dollar savings amounts. THESE MUST MATCH THE COST SAVINGS AS PROJECTED IN THE FINANCIAL IMPACT TABLE (FIT).

v. List and describe pertinent data points that you will use to measure spending reductions, providing baseline data to be used for future comparison.

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

☐ c. Utilization of a greater share of resources in the classroom

i. List the desired outcomes.
Example: change the ratio of leadership time spent in response to discipline issues to the time available for curricular leadership.

ii. What assumptions must be true for this outcome to be realized?
Examples: improvements to school and classroom climate will result in fewer disciplinary instances allowing leadership to devote more time to curricular oversight.

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

iv. Please provide the most recent instructional spending percentage (from the annual Ohio School Report Card) and discuss any impact you anticipate as a result of this project.
Note: this is the preferred indictor for this goal.

v. List any additional indicators that you will use to monitor progress toward your desired outcome. Provide baseline data if available.
These should be specific outcomes, not just the accomplishment of tasks. Example: fewer instances of playground fighting.

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

☐ d. Implementing a shared services delivery model

i. List the desired outcomes.
Examples: increase in quality and quantity of employment applications to districts; greater efficiency in delivery of transportation services, etc.

ii. What assumptions must be true for this outcome to be realized?
Example: neighboring districts have overlapping needs in administrative areas that can be combined to create efficiencies.

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, data analysis etc), or how these are well-supported by the literature.

iv. List the specific indicators that you will use to monitor progress toward your desired outcomes.
These should be measureable changes, not the accomplishment of tasks.
Example: consolidation of transportation services between two districts.

v. List and describe pertinent data points that you will use to evaluate the success of your efforts, providing baseline data to be used for future comparison.
Example: change in the number of school buses or miles travelled.

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

10. Which of the following best describes the proposed project? - (Select one)

- [ ] a. New - Never before implemented
- [ ] b. Existing - Never implemented in your community school or school district but proven successful in other educational environments
- [ ] c. Replication - Expansion or new implementation of a previous Straight A Project
- [x] d. Mixed Concept - Incorporates new and existing elements
- [ ] e. Established - Elevating or expanding an effective program that is already implemented in your district, school or consortia partnership

C) BUDGET AND SUSTAINABILITY

11. Financial Information: - All applicants must enter or upload the following supporting information. The information in these documents must correspond to your responses in questions 12-19.

a. Enter a project budget in CCIP (by clicking the link below)

Enter Budget

b. If applicable, upload the Consortium Budget Worksheet (by clicking the Upload Documents link below)

c. Upload the Financial Impact Table (by clicking the Upload Documents link below)

Upload Documents

The project budget is entered directly in CCIP. For consortia, this project budget must reflect the information provided by the applicant in the Consortium Budget Worksheet. Directions for the Financial Impact Table are located on the first tab of the workbook. Applicants must submit one Financial Impact Table with each application. For consortium applications, please add additional sheets instead of submitting separate Financial Impact Tables.

215,085.83 12. What is the amount of this grant request?

13. Provide a brief narrative explanation of the overall budget.
Responses should provide a rationale and evidence for each of the budget items and associated costs outlined in the project budget. In no case should the total projected expenses in the budget narrative exceed the total project costs in the budget grid.

The budget for Project 2033 includes three main sections aligned with the three key areas of this initiative: Computer Programming, Robotics, and Design. To be clear, we do not expect Project 2033 lead to any cost savings for the district. The initiative is primarily focused on student achievement. We are requesting funding to jump start the program and will sustain it with local dollars going forward. The overall costs for maintaining the program is approximately $10,000 per year which demonstrates long term budget neutrality when you consider the district's operating budget is $27 million. Although Project 2033 is not designed to generate cost savings for the district, the initiative was created with fiscal responsibility in mind. Over one third of the proposed project does not require any funding. For example, the entire computer programming focus of Project 2033 does not require any grant funding. The applications and programming languages we intend to use are completely free for public use. Computer coding is an essential aspect of our design so not including it in the project narrative was not an option. Aspects of the design portion of Project 2033, such as Tinkercad, are also free for educational use. The Lego robotics classroom sets make up a significant portion of the budget. These Lego sets will be used K-12 to explore topics in engineering, science, mathematics, physics and more. Students in the younger grades will work with the Simple Machines series while students in 4-12 work with Lego Mindstorm EV3. The students will first build their robot using the EV3 micro-computer brick. From there, students will add additional Lego elements, attaching sensors, motors, gears and other bricks. The students must use creativity and innovation in order to design and construct their robots. We are requesting a classroom set of age appropriate Lego sets, software, and expansion kits for each building. We will need to provide iPads (K-3) or desktop computers(4-12) that can run the Lego software. We've included those devices in the budget as well. The other expenditures in the proposed budget revolves around the creation of an innovation center in on our 7-12 campus. The Innovation Center is a multi-purpose trans disciplinary, learning space that supports flexible learning to maximize student collaboration, promote creativity and innovation, grow authentic research, and integrate technology in a connected and seamless way. The current 4000 square feet within Middle School will offer students on the entire 7- 12 campus the ability to create, collaborate, research, and iterate in a seamless and ongoing way. Project 2033 intends to use the innovation center to intertwine all of the skills students will need to be successful in the future. Students will be able to use their knowledge of coding, robotics, and design to create products using the tools found in this space. A great example of this is the Roland Milling machine. Commonly referred to as a CNC router, this machine will be used to digitally fabricate real world objects made of wood, plastic, aluminum and more. This is a great way to students to test their ability to solve a problem effectively. Research a problem, design a solution, then create a prototype of that solution to test. Students experience authentic, real world problem solving using digital tools with a physical product.

14. Please provide an estimate of the total costs associated with maintaining this program through each of the five years following the initial grant implementation year (sustainability costs). This is the sum of expenditures from Section A of the Financial Impact Table.

9,879.00 a. Sustainability Year 1

10,175.37 b. Sustainability Year 2

10,480.63 c. Sustainability Year 3

10,795.05 d. Sustainability Year 4

11,118.90 e. Sustainability Year 5

15. Please provide a narrative explanation of sustainability costs.

Sustainability costs include any ongoing spending related to the grant project after June 30, 2017. Examples of sustainability costs include annual professional development, staffing costs, equipment maintenance, and software license agreements. To every extent possible, rationale for the specific amounts given should be outlined. The costs outlined in this narrative section should be consistent and verified by the financial documentation submitted and explained in the Financial Impact Table. If the project does not have sustainability costs, applicants should explain why.

To be clear, we do not expect Project 2033 lead to any cost savings for the district. The initiative is primarily focused on student achievement. We are requesting funding to jump start the program and will sustain it with local dollars going forward. The overall costs for maintaining the program is approximately $10,000 per year which demonstrates long term budget neutrality when you consider the district's operating budget is $27 million. The sustainability costs each year would be derived from two areas: equipment maintenance and project materials. In terms of equipment maintenance, the devices in the Innovation Center that will require the most maintenance will be the CNC mill machine, laser engraver, and the vinyl cutter. We are estimating 10% of their total cost each year for maintenance. Project 2033 is requesting a large number of 3D printers (12), however, the ongoing maintenance in including in the purchase of those devices. In additional to the machines in the innovation center, we expect minor maintenance costs on the Lego robotics kits and the Dash robots. We've included $1,000 per year for those units. Maintenance is expected to be less of an issue based on the modular design of the Lego robotics systems. We have estimated the purchase of additional project materials each year at $4,000. These materials would include wood, plastics, filaments, and other related items for use in the Innovation Center. While we do expect to see an increase in use of the machines every year, we do not expect an increased purchase of materials. The materials will not be fully consumed every year. The carry over material from year to year will account for the increased use. For the first year, the total sustainability costs will be $9,879.00. For each additional year, we included a 3% increase to account for inflation, depreciation in the devices, and potentially unforeseen costs.

0 16. What percentage of these costs will be met through cost savings achieved through implementation of the program?

Total cost savings from section B of the Financial Impact Table divided by total sustainability cost from section A of the Financial Impact Table. If the calculated amount is greater than 100, enter 100 here.

17. Please explain how these cost savings will be derived from the program.

Applicants who selected spending reductions in the five-year forecast as a goal must identify those expected savings in questions 16 and 17. All spending reductions must be verifiable, permanent, and credible. Explanation of savings must be specific as to staff counts; salary/benefits; equipment costs, etc.

To be clear, we do not expect Project 2033 lead to any cost savings for the district. The initiative is primarily focused on student achievement. We are requesting funding to jump start the program and will sustain it with local dollars going forward. The overall costs for maintaining the program is approximately $10,000 per year which demonstrates long term budget neutrality when you consider the district's operating budget is $27 million.

100 18. What percentage of sustainability costs will be met through reallocation of savings from elsewhere in the general budget?

Total reallocation from section C of the Financial Impact Table divided by total sustainability cost from section A of the Financial Impact Table
Note: the responses to questions 16 and 18 must total 100%

19. Please explain the source of these reallocated funds.

Reallocation of funds implies that a reduction has been made elsewhere in the budget. Straight A encourages projects to determine up front what can be replaced in order to ensure the life of the innovative project.

To be clear, we do not expect Project 2033 lead to any cost savings for the district. The initiative is primarily focused on student achievement. We are requesting funding to jump start the program and will sustain it with local dollars going forward. The overall costs for maintaining the program is approximately $10,000 per year which demonstrates long term budget neutrality when you consider the district's operating budget is $27 million.

D) IMPLEMENTATION

20. Please provide a brief description of the team or individuals responsible for the implementation of this project, including other consortium members or partners.

This response should include a list of qualifications for the applicant and others associated with the grant. Please list key personnel only. If the application is for a consortium or a partnership, the lead should provide information on its ability to manage the grant in an effective and efficient manner. Include the partner/consortium members' qualifications, skills and experience with innovative project implementation and projects of similar scope.

Enter Implementation Key Personnel information by clicking the link below:

Add Implementation - Key Personnel

For Questions 21-23 please describe each phase of your project including its timeline, and scope of work.

A complete response to these questions will demonstrate awareness of the context in which the project will be implemented and the time it will take to implement the project with fidelity. A strong plan for implementing, communicating and coordinating the project should be apparent, including coordination and communication in and amongst members of the consortium or partnership (if applicable). Not every specific action step need be included, but the outline of the major steps should demonstrate a thoughtful plan for achieving the goals of the project. The timeline should reflect significant and important milestones in an appropriate time frame.

21. Planning

a. Date RangeMarch 2016 - August 2016

b. Scope of activities - include all specific completion benchmarks.

Our faculty has done a fantastic job at research the best technologies to teach students the three core skills in Project 2033: Computer programming, robotics, and design. If our district were to be award this grant, our teachers will work from March through August to develop lessons plans for implementing the new technologies into their classroom for the 2016-17 school year. The district will purchase several sample Lego sets, Dash robots, and other related devices to allow teachers to become familiar with exactly how each device works. This learning phase will help remove any potential roadblocks to success. Completion benchmarks will include successful setup of the devices and their related lessons plans.

22. Implementation(grant funded start-up activities)

a. Date RangeAugust 2016 - May 2017

b. Scope of activities - include all specific completion benchmarks

The implementation phase of Project 2033 will revolve around students interacting with various aspects of the project. Our technology teachers will be implementing the new course work in phases. Students will spend August to December learning computer programming. January through March will focus on the robotics curriculum and software with Lego Mindstorms. In the final few months of school, April through June, students will work on the design aspect of Project 2033. Benchmarks for success will include demonstration of mastery in fundamental concepts in all three areas through student work and SLOs. (Pre-assessments in all Tech classes will be given reflecting abilities and content mastery relative to modules and Collaboration, Critical Thinking, and Problem-Solving skills within each course. Data from these assessments will be compiled as a part of SLO's and will be used by each Tech teacher to establish SMART goals to indicate student growth in each course from the pre-assessment to the end of March. Growth targets will be established relative to pre-assessment baseline scores and SLO's and Growth Targets will be approved by each Principal by the end of November each year. In April of each year, post-assessments relative to modules and Collaboration, Critical Thinking, and Problem-Solving skills taught within each course will be administered and scored. This data will inform whether each student has met the identified growth target. Results are due to Principals by April 30, 2017.) Additionally, surveys will be given to students in August to obtain a baseline. The survey will be repeated again in June to give our staff insights on how the first year of the initiative impacted the students. The program will be adjusted accordingly based on the survey results, as well as feedback from parents, students, and staff.

23. Programmatic Sustainability (years following implementation, including institutionalization of program, evaluation and communication of program outcomes)

a. Date RangeSeptember 2017 - September 2022

b. Scope of activities - include all specific completion benchmarks

All activities listed below will be performed annually. September - Pre-assessments in all Tech classes will be given reflecting abilities and content mastery relative to modules and Collaboration, Critical Thinking, and Problem-Solving skills within each course. Data from these assessments will be compiled as a part of SLO's and will be used by each Tech teacher to establish SMART goals to indicate student growth in each course from the pre-assessment to the end of March. November - Growth targets and SLO's will be approved by each Principal annually. April - Post-assessments relative to modules and Collaboration, Critical Thinking, and Problem-Solving skills taught within each course will be administered and scored. This data will inform whether each student has met the identified growth target. Results are due to Principals by April 30, 2017. May - Students, teachers, and parents will be given post-surveys to collect data on the effect of the new courses. Data will be compiled by June 15, 2017. May - Graduating Seniors will be asked to complete a survey to reflect post-secondary programs of study planned.

E) SUBSTANTIAL IMPACT AND LASTING VALUE

24. Describe the expected changes to the instructional and/or organizational practices in your institution.

The response should illustrate the critical instructional and/or organizational changes that will result from implementation of the grant and the impact of these changes. These changes can include permanent changes to current district processes, new processes that will be incorporated or the removal of redundant processes. The response may also outline the expected change in behaviors of individuals (changes to classroom practice, collaboration across district boundaries, changes to a typical work day for specific staff members, etc.). The expected changes should be realistic and significant in moving the institution forward.

Please enter your response below:

By implementing 1:1 computing across the district, Chagrin Falls has begun creating an environment of individualized learning that is helping to prepare students for the world that awaits them after high school. The Project 2033 initiative seeks to take the learning to the next level by focusing on the skills students will need to be successful in the future. We expect to see changes in the instructional practices at our district along with changes in student learning. We envision an environment where students will be creators, not just consumers. The Straight A fund would drastically change the landscape of learning at the Chagrin Falls Exempted Village Schools. We predict several large shifts in our organization as a result of Project 2033's implementation, both with students and educators alike. Our first expected organization shift revolves around individualized learning. Many of the technologies we intend to implement can easily be accessed outside of the classroom. For example, the tools needed for the programming aspect of Project 2033 are freely available on the Internet. Students will have the opportunity to dig deeper into any topic through various free online resources with their district provided Chromebook. This new curriculum will provide students an additional avenue to personalize their experience within Chagrin Falls Exempted Village Schools. Our second expectation is an increase in cross grade level collaboration due to a stronger vertical alignment in the curriculum. Students will be encouraged to use their new skills in programming, robotics, and design in collaboration with other learners who have similar interests. For example, students in 4th grade may work with students in 6th grade on designing a new game based on their mutual skills and interest level. Teams of kids will pool their knowledge to create higher level projects. By providing the students with a device and the software tools needed to be successful, we expect this teamwork, research, and collaboration to be more authentic. Similarly, we expect that with each year of the program in place, we will see an increase in the number of students graduating and entering post-secondary fields which integrate

Collaboration, Critical Thinking, and Problem-Solving. Finally, with our focus on problem solving, we expect to move toward a mastery based learning approach in these three areas. Mastery based learning is not new to education, but the tools available to students are. As previously mentioned, the students will have the tools they need to learn at their own pace. When a student demonstrates mastery of a concept, more advanced problems can be attempted. The teaching staff at the district would be affected by Project 2033 as well. Technology teachers at all four of our buildings will be implementing a new curriculum or advancing the pace and outcomes of their current course work. Our staff across all content areas will have a better understanding of how tools like a CNC router can be used in their subject area. Teachers will develop lessons that require students to use these skills and technical tools. The process on an assignment may be the similar to years past, but the product of that assignment will be quite different. Chagrin Falls' staff and students already rely heavily on the features provided by our learning management system, Google Classroom. We expect that usage will continue to increase as classes collaborate on assignments, share resources, and communicate with their instructors.

25. Please provide the name and contact information for the person and/or organization who will oversee the evaluation of this project.

Projects may be evaluated either internally or externally. However, evaluation must be ongoing throughout the entire period of sustainability and have the capacity to provide the Ohio Department of Education with clear metrics related to each selected goal.

Please enter your response below:

Mike Daugherty Director of Technology Chagrin Falls Exempted Village Schools Mike.Daugherty@chagrinschools.org (440) 247 5500

26. Describe the overall plan for evaluation, including plans for data collection, underlying research rationale, measurement timelines and methods of analysis.

This plan should include the methodology for measuring all of the project outcomes. Applicants should make sure to outline quantitative approaches to assess progress and measure the overall impact of the project proposal. The response should provide a clear outline of the methods, process, timelines and data requirements for the final analysis of the project's progress, success or shortfall. The applicant should provide information on how the lessons learned from the project can and will be shared with other education providers in Ohio. Note: A complete and comprehensive version of the evaluation plan must be submitted to ODE by all selected projects.

The Project 2033 initiative will be evaluated relative to progress toward each of the Straight A Fund identified goals. The district will use a variety of methods to measure both short term and long term progress of the project. For this initiative, the most reliable data points for evaluation would be examples of student work. During the implementation phase, we'll capture a baseline of student projects created in the existing environment. We would then compare those works with projects designed by students post implementation. The assumption would be that project sophistication would increase each year after the new curriculum and tools were introduced. Over time, the goal of Project 2033 will less about teaching students how to use the equipment and more about the extent to which students can take a project as these tools become commonplace within our district. For example, students will view creating a physical, 3D model as a common practice when completing an assignment. Teachers will have designed level-specific rubrics to evaluate projects relative to skills expected per grade. Rubric scores will reflect an increase in overall mastery of these skills each year. Checklists will be created by teachers and used to reflect the quantity of occurrences which reflect behaviors that promote Problem-Solving, Collaboration, and Critical Thinking. For example, this might include, "student listens to ideas of others, student piggybacks upon the ideas of other students in the team, student is able to re-state the problem and apply it to a familiar situation, etc." Additionally, In the specific courses directly affected by this curriculum, teachers will create student learning objectives (SLOs). Pre-assessments in all Tech classes will be given reflecting abilities and content mastery relative to modules and Collaboration, Critical Thinking, and Problem-Solving skills within each course. Data from these assessments will be compiled as a part of SLO's and will be used by each Tech teacher to establish SMART goals to indicate student growth in each course from the pre-assessment to the end of March. Growth targets will be established relative to pre-assessment baseline scores and SLO's and Growth Targets will be approved by each Principal by the end of November each year. In April of each year, post-assessments relative to modules and Collaboration, Critical Thinking, and Problem-Solving skills taught within each course will be administered and scored. This data will inform whether each student has met the identified growth target. Results are due to Principals by April 30, 2017. The students, teachers, and parents will be given surveys to collect data on the effect of the new courses. The district will contract with a program evaluator to aid in the creation of the survey. The questions will seek to gather data on items such as peer collaboration, organization, problem solving, and communication. The surveys will be administered using SurveyMonkey two times throughout the year: September and May. The SurveyMonkey software along with a program evaluator will provide in depth analysis of the results which gives the district relevant information on the impact on subsections of the student population. Chagrin Falls will adjust the program implementation accordingly based on the data received.

27. Please describe the likelihood that this project, if successful, can be scaled-up, expanded and/or replicated. Include a description of potential replications both within the district or collaborative group, as well as an estimation of the probability that this solution will prove useful to others. Discuss the possibility of publications, etc., to make others aware of what has been learned in this project.

The response should provide an explanation of the time and effort it would take to implement the project in another district, as well as any plans to share lessons learned with other districts. To every extent possible, applicants should outline how this project can become part of a model so that other districts across the state can take advantage of the learnings from this proposed innovative project. If there is a plan to increase the scale and scope of the project within the district or consortium, it should be noted here.

Project 2033 is attempting to solve a problem that many school districts across the nation are facing. How do you prepare students for an uncertain future? The answer is really quite simple: create problem solvers. Our project aims to provide students with the skills they need to design their future, not just navigate through it. One of the key aspects of this project is its replicability. The curriculum and course work defined here can easily be adapted to meet the needs of any school district, regardless of size, demographics, or financial situation. One key factor for replicability is a commitment to success from the administration as well as the teaching staff. Staff must truly embrace the learning objectives of Project 2033 in order for it to be successful. The transformation comes when teachers in all content areas begin to provide students with the opportunities to use their growing skill set in an authentic way. Project 2033 is designed in a way that allows a district flexibility if they want to replicate our expected success. School district could replicate the entire initiative all at once or choose to implement one portion at a time. A great example of this is the computer programming portion of Project 2033. The applications and languages are available on the internet free of charge. A district looking to replicate the coding portion of our initiative could easily adjust our model to fit their needs. Chagrin Falls intends to make our lesson plans, handouts, project requirements, and any other relevant documents freely available

online through our website. The district also intends to share implementation details and success stories at various state and national conferences. Additionally, Chagrin Falls will host visits from other districts interested in pursuing a similar path. Our previous Straight A Fund grant, Project Ignite, has received both local and national interest based on our implementation and replicability. We have hosted around twenty schools districts looking to implement a program similar to Ignite. Additionally, our project team has spoken at events hosted by Google in Pennsylvania and New York where we've shared our story and our success. Google has contacted our district about doing a case study on our program as well. We believe our model works very well and the awards and visits from other districts help to validate that belief. We believe Project 2033 will receive a similar level of success in the years to come.

By virtue of applying for the Straight A Fund, all applicants agree to participate in the overall evaluation of the Straight A Fund for the duration of the evaluation time frame. The Governing Board of the Straight A Fund reserves the right to conduct an evaluation of the project and request additional information in the form of data, surveys, interviews, focus groups and other related data on behalf of the General Assembly, Governor and other interested parties for an overall evaluation of the Straight A Fund.

PROGRAM ASSURANCES: I agree, on behalf of this applicant, and any or all identified consortium members or partners, that all supporting documents contain information approved by a relevant executive board or its equivalent and to abide by all assurances outlined in the Straight A Assurances (available in the document library section of the CCIP).

I agree.

Consortium

Chagrin Falls Exempted Village (045286) - Cuyahoga County - 2016 - Straight A Fund - Rev 0 - Straight A Fund

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Consortium Contacts

No consortium contacts added yet. Please add a new consortium contact using the form below.

Partnerships

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Partnerships

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Implementation Team

Chagrin Falls Exempted Village (045286) - Cuyahoga County - 2016 - Straight A Fund - Rev 0 - Straight A Fund

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Implementation Team								
First Name	Last Name	Title	Responsibilities	Qualifications	Prior Relevant Experience	Education	% FTE	Delete Contact
Mike	Daugherty	Director of Technology	Mike will be responsible for overseeing the implementation of the entire project. He'll handle the purchasing, inventory, and compliance reporting.	17 years' experience as a technology director. Mike's Project Ignite was awarded a Straight A Fund grant last year so he is familiar with the process.	Mike has been responsible for many successful large scale roll outs in his career. His most recent success was deploying 1200 with his team on a Saturday afternoon.	Bachelors in Business Administration - Kent State University	100	
Carolyn	Petite	High School Computer Programming Teacher	Implementation of the High School portion of computer programming and robotics portions of the grant.	Carolyn has taught Computer Science since 1998. She's also been piloting the Lego robotics devices in our district this year.	20 years teaching experience. Additionally, wrote software for the medical industry and hold two US patents.	BS in Computer Science from College of Engineering, Ohio State University MEd in Instructional Technology Kent State University	100	
Jay	Schach	Entrepreneurial Leaning Initiative Teacher	Mr. Schach will be repsonsible for the entrepreneurial aspects of the grant at the 7-12 level. Jay will also oversee the use and maintenance of the equipment in the proposed innovation center.	Thirty plus years of working in the private sector as an Entrepreneur. (Multiple Industries)	Microsoft Partner (SharePoint, Office365) , COSE - Council of Smaller Enterprises (Strategic Planning Course 10 years). Mr. Schach has also been trained in the use of several of the requested equipment specified in the grant application.	MBA from Monte Ahuja College of Business, Cleveland State University, Bachelors in Business Bradley University	100	
Katie	Adick	Technology Integration Teacher	Katie will be responsible for implementing the all aspects of the grant and its curriculum in our 4-6 grade building.	Katie is has been teaching technology to our students for year. She's attended many technology conferences including OSBA, OETC, and LEGO Robotics. Additionally, Katie has taken several online courses related to technology in education.	Mrs. Adick has taught SCRATCH for two years in the technology classroom to students in grades 4-6. She has also been researching and investigating Lego robotics for the past few years.	Bachelors in Education from John Caroll Univerisity Masters in Education from Kent State University	100	
Kelly	Purcell	Information Literacy Teacher	Mrs. Purcell will focus her efforts on implementing the proposed curriculum and equipment to our youngest learners in grades K-3.	Kelly has seven years teaching experience at the K-3 level. She has spent the last four years working as the information literacy teacher.	In her technology lab, Mrs. Purcell teachers students how to use various technologies, sites, and apps. She's also formed a "Coding Cubs" club for third grade	Bachelor of Science in Education, Early Childhood Education from Bowling Green State University	1000	

					students interested in learning how to write computer code.			