The Centennial Academy
255 W Cannon Ave,
Centennial Park, AZ 86021
PHONE NUMBER

April 27, 2022

The Demund Private Family Foundation
174 Santa Rosa Ave.
Sausalito, CA 94965

To whom it may concern,

The Centennial Academy, a private high school in northern Arizona, has developed an environment where students can pursue an accelerated education in tandem with their religious beliefs. Due to the Academy's dedication to providing this education to its community, Centennial Park, the school has a notoriously low tuition rate. As of the 2021-2022 academic year, tuition was less than $2,000 per student. While the faculty and staff are eager to engage students in an advanced curriculum, sometimes academic opportunities are out of reach due to expenses. This issue particularly emerges in the STEM field, where necessary equipment can be costly. The Centennial Academy is seeking funding from the Demund Private Family Foundation to increase the STEM educational opportunities of our students.

Given the vitality of STEM education and the rising influence of STEM fields in employment, it is vital that students are able to access challenging, hands-on experience in the sciences during secondary education. The Centennial Academy is devoted to providing this high-quality education to its students. Our goal is to provide a rounded and in-depth education to our students to imbibe them with analytical thinking skills, deepen their STEM education, and encourage personal investment in the sciences. To provide this hands-on experience, the Academy needs to purchase two chemical fume hoods. These will allow teachers to safely integrate exciting experiments that require the use of dangerous chemicals and materials with possible fume hazards. This project outlined in this proposal will provide us with the funds needed to fulfill this mission,

Your organization shares our profound interest in the education of religious youth. We would like to pursue a relationship with you to achieve our mutual goals by purchasing chemical fume hoods and the necessary equipment for the Centennial Academy science lab. Through the dedication and generosity of the Centennial Academy faculty and staff, the funds secured through this project will definitively foster students' current and future educations in a space that prioritizes their religious politic.

Thank you for your consideration. Please contact us with any questions or concerns as you review our proposal. If we have not heard back from you by May 10th, we will reach out to your organization to follow up.

Sincerely,

Pauline Hammon
Centennial Academy Administration
(435) 619-5814 | paulinehammon@gmail.com

STEM for Centennial Academy

THE CENTENNIAL ACADEMY
THE DEMUND FAMILY
PRIVATE FOUNDATION
27 APRIL 2022

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Executive Summary

The Centennial Academy fosters a learning environment that encourages students to solve real-world problems. Through a student-motivated curriculum, the Academy's science faculty has facilitated students' individual projects and in-class experiments as far as the available equipment currently allows. However, without access to chemical fume hoods, the science faculty has been unable to assign more complex, involved experiments that would deepen and broaden the students' concept comprehension. Hands-on experience is vital to student success in the STEM fields (Kontra et al., 2015) and may contribute significantly to shaping students' future interest in STEM (de Jong et al., 2013). Therefore, it is essential that the Centennial Academy obtain the necessary equipment for these engaging hands-on experiences.

With two chemical fume hoods, the Centennial Academy will be able to continue to provide a challenging and engaging curriculum to its students. The project plan follows from the purchase and installation of the chemical fume hoods and their necessary accessories to the evaluation of the project's success two academic years after the chemical fume hoods will be integrated in the science curriculum. This evaluation will synthesize teacher feedback in tandem with test and grade data to see that the project has successfully and positively impacted the education of the students at the Centennial Academy. Mr. Tyler Steed, one of the core science faculty at the Academy, will be the leader of this project. He will oversee the purchase and installation of the fume hoods in the science lab and ensure that his fellow science faculty are prepared to safely use the fume hoods in their classes.

This project will positively impact the social landscape of Centennial Park by shaping the students' academic and personal futures. Additionally, with a careful selection of the chemical fume hoods and accessories as well as a prepared plan for providing additional necessary materials in the long-term, the Centennial Academy anticipates future financial and technical needs. The teachers at the Academy are prepared and qualified to integrate these chemical fume hoods into their classrooms. Alongside professional qualifications, they have exhibited passion and dedication during their time at the Academy.

This plan offers significant benefits. Through the installation of these fume hoods in the Centennial Academy labs, students themselves can interact with the materials and engage with the experiments. Through these experiments, the students at the Centennial Academy will engage their analytical processing skills, develop a deeper comprehension in their science classes, and cultivate a passion for the experimental sciences that will shape the remainder of their lives and their future education. To implement this plan, we are requesting $17,492.30. These funds will be used exclusively to purchase and ship the necessary equipment. The Centennial Academy staff and faculty freely dedicate their time and energy to the completion of this project.

Introduction

The Centennial Academy is a private religious school based in Centennial Park, Arizona. The school's mission is to provide an advanced education, with emphasis on real-world inquiry and lifelong learning, in a religious context. With the efforts of the faculty and staff, all of whom donate their time to the institution, the Centennial Academy offers this education at an extremely affordable rate; most students successfully earn their own tuition for the school year over the summer. The Academy is a small organization, with an average of 100 students every year. These students have chosen to prioritize an education that works in tandem with their religious views. As the only religious high school in its area, the Academy is foundational to the religious center of Centennial Park and surrounding communities. It is vital that its students do not sacrifice educational opportunities for the religious perspective they enjoy at the Centennial Academy.

With help from the Demund Private Family Foundation, the Centennial Academy is prepared to revitalize their science programs with the installation of two chemical fume hoods in the science lab. The Centennial Academy shares the Demunds' interest in religious groups, the quality of education for the American youth, and a goal of giving religious students educational opportunities. Particularly in STEM courses, where religious students often feel misplaced, it is essential that teachers encourage students to engage with their schoolwork. Although the Centennial Academy has a history of student involvement in the STEM fields, the lack of fume hoods in the science lab prevents teachers from implementing in-depth experiments in their classes. The purpose of this proposal is to implement a plan that will strengthen the STEM educational opportunities for these students.

This proposal addresses the Centennial Academy's current situation as a private school with limited funds and outlines a detailed plan to see this project to a successful conclusion. Additionally, this proposal describes the financial, technical, and social sustainability of the project and the qualifications of the Centennial Academy, its science faculty, and its students. Lastly, this proposal fronts a budget for the successful completion of the project.

Current Situation

The Centennial Academy is interested in strengthening their current science curriculum by installing two chemical fume hoods in the science lab. The Centennial Academy, a private religious organization founded in 1960, has been unilaterally focused on providing the most effective education to religiously oriented youth in the Centennial Park and Colorado City area in northern Arizona. As a self-made institution, the Centennial Academy has strived to develop a learning environment that challenges students to develop life-long learning, concrete, analytical, and comprehensive skills. For over 60 years, the Centennial Academy, through the passion of its teachers, staff, and faculty, has continually provided a quality education to its students. Due to the Centennial Academy's dedication to providing this education at an affordable rate to the students and parents, the institution relies largely on volunteer work and charitable donations to meet their financial needs.

The Centennial Academy significantly emphasizes a rounded STEM experience in all its graduates. Alongside general required courses such as Biology, Biology Lab, Trigonometry, and so on, students at the Centennial Academy are required to participate in additional STEM electives, such as Physics, Plant Physiology, and Chemistry. However, though there is ample student interest in deeper investment in STEM education, the Academy lacks the funds to provide an in-depth experimental experience in their science classrooms. In particular, the lack of chemical fume hoods in the science lab prevents teachers from including experiments that involve potentially harmful chemicals and fumes, a disadvantage that has prevented the Academy from involving students in higher-level labs and hands-on experiments. Two chemical fume hoods will allow teachers to demonstrate labs that student groups can replicate under proper supervision. This resource will significantly improve the Academy's students' analytical skills, impact the depth of their STEM education, and ignite a passion for the sciences.

STEM Support and Student Success

The need for STEM skill sets in the contemporary field has become increasingly defined in the past several decades. These skills include the ability "to solve problems, make sense of information, and gather and evaluate evidence to make decisions" (Cabell et al., 2021). While these skills can be harbored in a non-experimental capacity, providing hands-on experience for students in a STEM environment can drastically improve a student's concrete analytical skills as well as information retention. As illustrated by Kontra et al. (2015) in their analysis of student success with hands-on experience in the sciences, students that participated actively in experiments and physical demonstrations are 10% more likely to accurately remember the information being taught, and that, even several days after a

Current Situation

lab, students with hands-on experience scored about 7% higher than those that merely observed. It therefore becomes essential that science classrooms maintain “practices in which experience with the physical world is an integral part of learning” (Kontra et al., 2015). Students are more likely to conceptualize scientific theories concretely when they participate in hands-on experiments.

Furthermore, hands-on experimental experience with STEM is far more likely to inspire students to pursue a career in STEM than non-experimental experience. As noted by Jong et al. (2013), even when teachers use non-hands-on experiments to successfully develop a conceptual understanding, student interest in the sciences may not be sparked as it would be in active experimentation. Students’ ability to both observe and participate in advanced experiments is vital to developing their comprehension, preparing them for upper education, and encouraging a passion for the STEM fields. A STEM curriculum is characterized by “an environment that inspires students to become active learners” and “cultivation of high-level thinking skills in students” (Szu-Chan 2020). The Centennial Academy has a history of maintaining this environment.

Inquiry-Based Instruction and the Academy's Curriculum

Since its conception, the Centennial Academy has prioritized inquiry-based instruction. This approach is student-centered, guided by instructors, and, most vitally, requires students to investigate real-world questions. As written in the school’s student and parent handbook, the Academy’s curriculum focuses on “project-based content learning” that is “relevant to the world today, meaningful to students’ lives, compelling for their effort and fun to experience.” The Academy’s dedication to an engaging education is particularly highlighted by classes in which all required technology and materials are already available. One such class is System Design, where students become familiar with the AutoCAD program and produce projects that showcase real-world technical and scientific skills. The viral success of these classes illustrates the incredible potential for students to benefit from advanced experiments in their chemistry, biology, and other lab-based classes. With the installation of these fume hoods, the Academy can continue to offer the best education to its students.

As a private religious institution, the Centennial Academy aims to prepare its students for a productive life in any career. The long-term interest that Academy students have persistently expressed for the sciences indicates the vital importance that experimental experiences may have on students’ potential futures in the STEM fields. The Centennial Academy’s experience with a STEM-heavy education particularly qualifies it for a future in providing these advanced experiments to its students. Chemical fume hoods will give students vital hands-on exposure that imparts essential analytical processing skills and a love for the sciences that will shape Academy graduates for the rest of their lives.

Project Plan

Given the vital importance of an experimental education in fostering lifelong success and student interest in STEM fields, providing access to the required equipment is a necessity. The staff of the Centennial Academy are eager and qualified to initiate student STEM success through experimental experiences. Through the installation of chemical fume hoods in the Centennial Academy's science lab, this project will revitalize the science programs and foster critical and analytical thinking skills in Centennial Academy graduates. The Centennial Academy is prepared with the necessary space and personnel to effectively utilize the chemical fume hoods in experimental labs; this project will make such an experimental future possible.

The Centennial Academy aims to impart relevant analytical and comprehensive skills that will positively transform the lives of its students and prepare them for future careers. The objective of this project is to foster these skills through hands-on experience in the sciences. This project will help the Centennial Academy achieve this goal by providing opportunities for personal engagement that significantly impact the students' concrete analytical skills and promote an interest in the STEM fields. Through the installation of these chemical fume hoods, these experiences become within the Centennial Academy's grasp.

This section addresses the detailed step-by-step plan for the proposed project. The following project plan has been color-coded to match the Gantt chart in Table A. There will be four major phases that structure this project, beginning with the purchase and installation of the chemical hoods and concluding with an evaluation that analyzes the success of the project in meeting its goals and objectives.

First Phase - Purchase and Installation

The Centennial Academy administration will purchase two ductless chemical fume hoods from Cole-Parmer with the necessary accessories, including fume hood filters, spill trays, and wheeled tables (see Appendix C). Additionally, they will purchase two plaques that read "Courtesy of the Demund Family Private Foundation." An Academy administrator will affix one plaque to the sides of each fume hood. To ensure that the hoods are properly installed, Mr. Tyler Steed, a chemistry and biology teacher that has taught at the Academy for eight years, will oversee the installation of the fume hoods and the fume hood filters.

- Deliverables: The chemical hoods will be fully and securely installed in the Centennial Academy's science lab with the plaques affixed.

Project Plan

Second Phase - Integration

While the Centennial Academy staff are familiar with experimental work with chemical fume hoods, to guarantee that all experiments are carried out correctly, science teachers must become familiar with the operations, safety regulations, and maintenance requirements of the fume hoods. Mr. Tyler Steed will become familiar with the fume hoods using maintenance and use guidelines from the manufacturer. He will then oversee the training of Mrs. CarolAnne Knudson and Mr. Marion Zitting, the two other teachers that will be using the chemical fume hoods on a regular basis. This training will occur before the opening of the new school year in September. A Centennial Academy administrator will print out the full handbook developed by the manufacturer and secure one to each fume hood table in plastic report covers. Additionally, under the supervision of Mr. Steed, Angela Hammon will prepare a shorter manual for operating and maintaining the fume hoods that will be more directly and conveniently accessible, particularly in the case of an emergency. These will also be kept in plastic report covers and secured to the fume hood tables. Mr. Steed, Mrs. Knudson, and Mr. Zitting have selected several labs that require this safety feature that will be integrated into their syllabi for the upcoming school year.

- Deliverables: ·The Cole-Parmer handbook for the selected model of ductless fume hood, alongside a smaller comprehensive manual for daily operations and emergencies, will be printed, placed in plastic report covers, and secured permanently to each table.

Third Phase - Active Use and Experimentation

During this phase of the project, students and teachers will actively use the chemical fume hoods to meet the objectives and goals of this project. These labs will be included in Biology Lab, a class that is required for each student, as well as Chemistry, Plant Physiology, and Environmental Science, secondary sciences that are often elected by juniors. Mr. Steed, Mrs. Knudson, and Mr. Zitting will lead students safely through advanced labs. This phase will last over the course of two academic years and conclude in the spring of 2024.

Fourth Phase - Evaluation

At the end of this two-year session, the Centennial Academy administration will evaluate the comprehensive STEM skills of the students that have had this hands-on experimental experience. A school administrator will interview Mr. Steed, Mrs. Knudson, and Mr. Zitting. This interview will address the following questions:

Project Plan

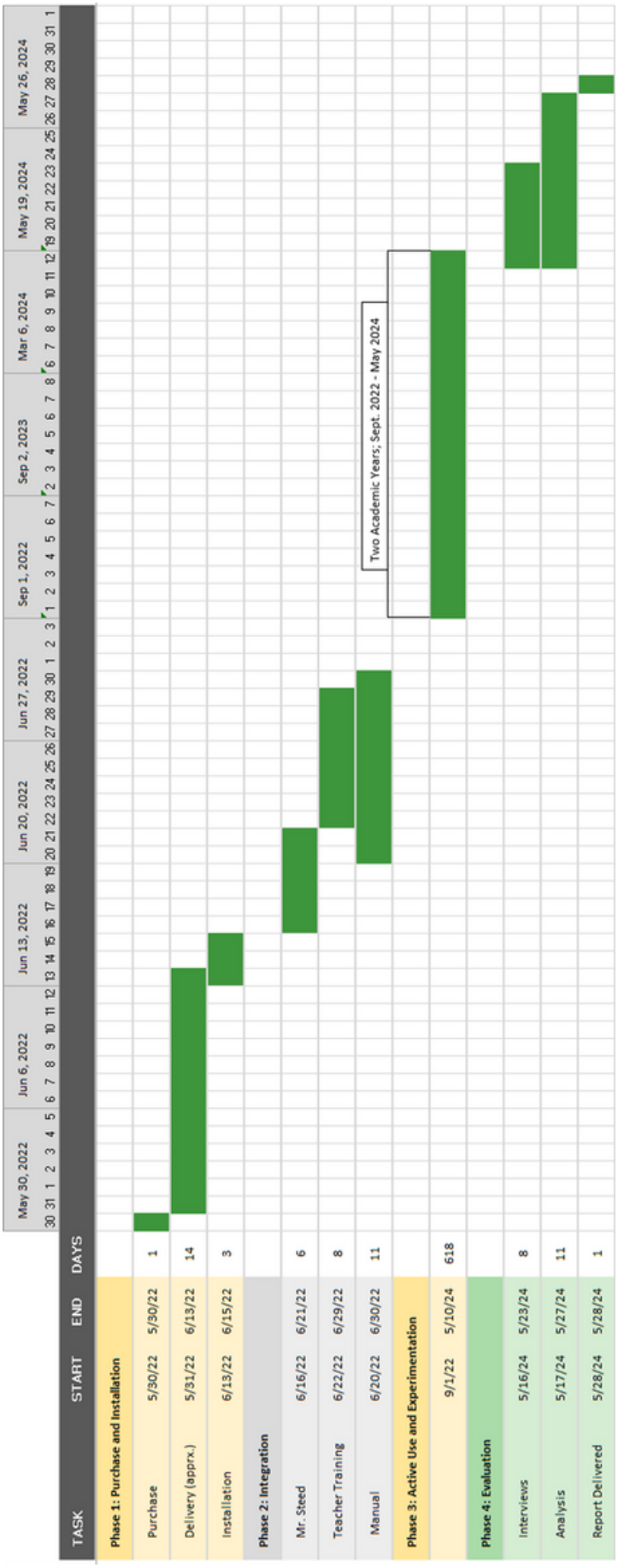
1. How have the chemical fume hoods changed the way you teach your classes, particularly in the experiments you are able to assign?
2. How have these experiments affected student engagement?
3. Have you perceived a change in students' excitement for the sciences since the integration of the experiments made possible by the chemical fume hoods?

The administrator will also examine the average grades in these classes over the two-year period and synthesize the information into a report that will be sent directly to the Demund Private Family Foundation.

- Deliverables: An evaluative summary that analyzes the results of the teacher interviews with students' grades from 2022 to 2024 to ensure that the objectives and goals of this project have been met.

This project plan describes the specific tasks necessary to complete this project. After the chemical fume hoods have been purchased and installed in the science lab, Mr. Steed will work with the other science faculty to make sure that they are prepared to safely use the fume hoods in class. At the same time, the manuals will be prepared for easy, long-term access to necessary information. After two years, a report will be composed by a member of the Academy staff that evaluates the success of the project in meeting the goals and objectives. This report will showcase the importance of this project in the educational quality of the students at the Academy and their future academic careers. See Table A for a Gantt chart with the scheduling details.

Table A: Project Schedule



Evaluation & Dissemination

Evaluation

By the end of the two-year evaluation period, students at the Centennial Academy will have hands-on experimental success in their science courses. These experiences will prepare students for success in future STEM related courses, inspire an interest in STEM fields, and, most significantly, encourage analytical and lifelong learning skills that will benefit all graduates of the Centennial Academy. The installation of these fume hoods in the science lab is necessary to reach these objectives. Under the supervision of their teachers, students will perform experiments with the fume hoods in their core science classes and STEM electives. Before the opening of the 2022-2023 academic year, three of the lead faculty in the science department will be adequately trained to use the fume hoods in class. The experiments made possible by the chemical fume hoods will be an integrated requirement in the compulsory science classes. By the conclusion of two years, every Centennial Academy graduate will have had the opportunity to engage in advanced experiments that require the use of the chemical fume hoods and this will be considered an expectation upon graduation.

These experiments ultimately provide a more in-depth experience that advance the students' education and prepare them for university-level STEM courses. Vitally, these labs will encourage the students to develop a passion for the sciences; the access to two chemical fume hoods will allow each student hands-on participation, which is essential for fostering students' long-term interest in STEM. To ensure that these objectives are being met, the report at the conclusion of the evaluation period analyzes the teachers' impression of the students' class involvement during labs that utilize the chemical fume hoods. The report will address the teachers' responses to the interview questions included in the fourth phase of the project plan. Additionally, this report will also account for the impact that these experiments have had on students' overall academic success in these courses. An increase of 7%-10% in average student test scores is expected, as established by Kontra (2015). The evaluation report will include details about the students' grades and test scores before and after the integration of the chemical fume hoods.

Evaluation & Dissemination

Dissemination

To recognize the the Demund Private Family Foundation's interest in the Centennial Academy and dedication to providing these educational opportunities to religiously-minded youth, a plaque with the Demund Private Family Foundation name will be installed on each fume hood.

Mr. Tyler Steed will provide the necessary training regarding the use of the fume hood to all staff that will be using it, and students and teachers will be made aware of the project through its integration into the curriculum. At the conclusion of the two-year project scope, Angela Hammon will prepare the evaluation report to inform the Demund Private Family Foundation of the long-term effects and successes of the fume hoods in the Centennial Academy.

Project Sustainability

Financial Sustainability

Overall, this project has a high financial sustainability. Additional materials that will be needed for these labs, such as chemicals, biological substances, and any necessary protective gear, will be supplemented by the annual lab fee provided by the students. The two filters for each chemical fume hood, which cost about $1,100 accumulatively, will have to be replaced about every two years. The cost of this maintenance will be covered by student lab fees and tuition. By selecting ductless rather than ducted fume hoods, the Centennial Academy saves significantly in annual heating and cooling costs, which would be significant with ducted fume hoods.

Technical Sustainability

The chemical fume hoods themselves have an expected lifetime of at least ten years. The hoods will be useful to the Centennial Academy far beyond the scope of this project. Additionally, once the teachers have been instructed in the proper use of the fume hood and led the labs in the classroom, there will be little need for additional technical training, except in the instance of a new member of staff; in this case, the qualified teachers will be readily available to provide the necessary training. Furthermore, the manuals that will remain with the chemical fume hoods ensure that the necessary information for every situation is readily available.

Social Sustainability

Foremost, this project is socially sustainable. The benefits of the chemical hood extend beyond the students' time at the Centennial Academy into their future academic, personal, and professional lives. This interest in the quality of education benefits the entire body politic of the community by producing students that are passionate, analytical, and prepared for future classrooms.

Qualifications

The Centennial Academy is staffed by a group of teachers and faculty that are committed to providing the highest quality of education to its students. Not only are these staff members qualified to implement this project and lead students through advanced experiments, but they are also dedicated to developing a space where these students can explore the sciences in tandem with their religious beliefs. This section will address the unique qualifications and experience of the Centennial Academy and the staff that are pertinent to this project.

The Centennial Academy

The Centennial Academy was founded in 1960 by JM Hammon in an effort to provide a religiously centered education to students in the Colorado City area. This effort was met with a rousing response from the surrounding community. Students, parents, and teachers all gathered to literally build up the school; Ray Timpson, who was a child at the time, remembers helping the older students craft mud bricks to use in building the school's foundation. Since its conception, the Academy has relied on the support of the surrounding community to staff its faculty, fill its halls, and maintain its ground. Over the course of sixty years, the community has steadfastly fulfilled this need.

According to *The Centennial Academy Student & Parent Handbook*, the principal goal of the Academy is to provide an education "that will prepare students to live life with integrity and values while meeting the demands of their world." The mission statement of the Centennial Academy is "Vivit," which is Latin for "He lives!" The Academy faculty strive to create life-long learners by encouraging students to synthesize information, pursue individual projects, and investigate real-world questions. Academy students are dictated by only four school rules: be on time, be prepared, be respectful, and be responsible. Faculty and staff support students in following these school rules and provide them with the necessary framework to achieve academic success. Due to the Academy's small student population and class size, with about one hundred students attending each year, each student is able to develop close relationships with their teachers and their source material. At the conclusion of each academic year, all Academy students participate in the standardized tests for Arizona schools.

Qualifications

Faculty and Staff

Mr. Jedd Hammon has been the principal of the Centennial Academy for X years. Mr. Hammon prioritizes teaching students self-encouragement, self-direction, and self-sustainability, so that each student takes responsibility for his or her own education. With the assistance of Ms. Pauline Hammon, a chief administrator, Mr. Hammon has successfully maintained the Centennial Academy, and his dedication and passion for the Academy is demonstrated in his leading contributions to the daily devotional and the school-wide choir class he teaches once a week.

Mr. Tyler Steed, the leader for this project, has embodied similar qualities as a part of the Academy Staff. After graduating from the Centennial Academy, Mr. Tyler Steed went on to receive a bachelor's degree in Zoology with a minor in Chemistry. After he graduated, he committed himself to the Centennial Academy's cause by volunteering his teaching services throughout the week. He has been teaching at the Centennial Academy for eleven years, from 2011 to the present. Mr. Steed is responsible for one section of Biology Lab, a required core course, as well as two upper science electives, Human Anatomy and Chemistry. While working at the Centennial Academy, he recognized the capabilities of the students and their enthusiasm for engaging in hands-on experiments. Given his background as a student of the Academy, as well as his decade of experience as a member of the staff, Mr. Steed is familiar with the expectations of his classes and capabilities of his students. As a lifelong chemist, he is also fluent with the safety requirements of the hands-on experiments that require the protection of a chemical fume hood. His dedication to the education of the young people has been proven by the consistent contribution of his time, energy, and effort into his classes. Although working on a volunteer-basis without monetary recognition, Mr. Steed has persistently returned to the Centennial Academy to fulfill this vital role in the students' educations.

Alongside Mr. Steed, **Mrs. CarolAnne Knudson** and **Mr. Marion Zitting** are at the head of the science faculty at the Academy. Mrs. Knudson graduated from Southern Utah University with a bachelor's degree of Integrated Science. She has been teaching at the Academy since 2004 and oversees one of the sections of Biology Lab, as well as two upper science electives, Environmental Science and Plant Physiology. With the efforts of Mr. Zitting, who has been teaching at the Academy for thirteen years and oversees the remaining sections of Biology Lab, these three teachers share forty-two years of teaching experience. As illustrated by their long history of volunteer work with the students, these teachers are dedicated to fulfilling the Centennial Academy's mission. They are completely qualified and prepared to integrate advanced experiments into their classrooms and safely handle the necessary materials and equipment, including the chemical fume hoods themselves.

Qualifications

Prior Experience

The Academy faculty has a long history of overseeing large projects and renovations. Before any student can graduate from the Academy, they must complete a senior thesis that contributes back to the school. Over the decades, to fulfill this requirement, many students have chosen to repair and renovate the Centennial Academy's facilities. In the past year, a group of students decided to add an additional strip of concrete sidewalk in the space leading up to the main office. A few years prior, another graduating group chose to replace the carpet in the study hall. Firstly, these projects indicate the dedication of Academy students to upholding the school physically. Secondly, they illustrate the capabilities of the Academy staff in overseeing the completion of significant projects.

The Centennial Academy is committed to helping their students develop vital skills for a successful life in any field. Through the continuous support of the surrounding community, the Academy has provided a unique, comprehensive education to its students for over 60 years. By diligently progressing to meet the standards of contemporary life, the Academy commits to giving each student the opportunity to develop skills, habits, and behaviors that will positively impact them for the rest of their life, including in their future education.

Budget

The following section addresses the details of the budget for this project, including the personnel and materials costs. This budget will present all necessary expenses for safely and effectively fulfilling this project's goals of broadening the educational opportunities of Academy students, encouraging analytical processing skills and long-term information retention, and igniting a passion for the STEM fields. The Academy students will benefit tremendously from access to quality chemical fume hoods with teachers that are equipped to safely guide them through new and exciting educational opportunities.

As illustrated in the budget summary presented in Table B, the most significant cost of this project is the chemical fume hoods themselves, followed by the fume hood filters. By selecting quality chemical fume hoods (see Appendix C) and purchasing necessary replacement filters upfront, the Centennial Academy ensures the longevity of this project and the safety of its students. At $3008.00 each, the two chemical fume hoods cost $6016.00. Each fume hood requires two filters, one for filtering organics and solvents, and the other for filtering acids and sulfur. Each of these filters should be effective for at least two years; however, to guarantee that the Academy staff can proceed with their expected schedules without delay if these filters need to be suddenly replaced, this budget includes an extra set of filters for each fume hood. Four organic/solvent filters cost $1088.00 and four acid/sulfur filters cost $1220.00, bringing the cost of the filters to $4,144.00.

The labor from the Centennial Academy staff will be entirely volunteered. Each of these individuals are willing to freely contribute their time to the completion of this project. Their contributions have been calculated according to average hourly pay rate for their position and the time expected to complete this project as outlined in the project plan.

The primary objective for the *STEM for Centennial Academy* project is to ultimately benefit the education of religiously-minded students. This budget has been calculated with long-term goals in mind to answer the original needs of this project while remaining cost-effective.

Table B: Itemized Budget

Budget Category and Items	Cash In-kind Costs	In-kind Costs	Requested from Sponsor	Subtotal Project Costs
Personnel				
Mr. Tyler Steed[1]		1,782.72		1,782.72
Mrs. CarolAnne Knudson[2]		1,058.49		1,058.49
Mr. Marion Zitting[3]		501.39		501.39
Angela Hammon[4]		51.00		51.00
Academy Administrator[5]		85.00		85.00
Subtotal of Personnel Costs		3,478.60		3,478.60
Non-Personnel				
Chemical Fume Hoods[6]			6,016.00	6,016.00
Fume Hood Filters[7]			2,308.00	2,308.00
Spill Trays[8]			450.00	450.00
Wheeled Tables[9]			1,872.00	1,872.00
Shipping			4,900.00	4,900.00
Tax and Surcharge[10]			1,946.30	1,946.30
Lab Materials[11]	5,940.00			5,940.00
Plaques	30.98			30.98
Subtotal of Non-Personnel Costs	5,970.98		17,492.30	23,463.28
Project Totals	**$5,970.98**	**$3,478.60**	**$17,492.30**	**$26,941.88**

Table C: Budget Narrative

[1]Steed: ~15 hours for setting up the fume hoods and overseeing the training of faculty. $18.57 per hour * 15 hours = $278.55. Combined class hours using the chemical fume hoods over the course of the two-year evaluation period is ~81 hours. $18.57 per hour * 81 hours = $1,504.17. $278.55 + $1,504.17 = $1,782.72

[2]Knudson: ~6 hours for training with the chemical fume hood. $18.57 per hour * 6 hours = $111.42. Combined class hours using the chemical fume hoods over the course of the two-year evaluation period is ~51 hours. $18.57 per hour * 51 hours = $947.07. $111.42 + $947.07 = $1,058.49.

[3]Zitting: ~6 hours for training with the chemical fume hood. $18.57 per hour * 6 hours = $111.42. Combined class hours using the chemical fume hoods over the course of the two-year evaluation period is ~21 hours. $18.57 * 21 hours = $389.97. $111.42 + $389.97 = 501.39.

[4]Hammon: $8.50 per hour * 6 hours = $51.00

[5]Administrator: $8.50 per hour * 10 hours = $85.00

[6]Fume hoods: $3,008.00 per hood * 2 hoods = $6,016.00

[7]Filters: 4 organic/solvent filters at $272.00/each = $1,088.00. 4 acid/sulfur filters at $305.00/each = $1,220.00. $1,088.00 + $1,220.00 = $2,308.00

[8]Spill Trays: $225.00 per spill tray * 2 spill trays = $450.00

[9]Wheeled Tables: $936.00 per table * 2 tables = $1,872.00

[10]Tax and Surcharge: Per Cole-Parmer, due to current market conditions, a surcharge of about $1,090.00 will be added to this order. The standard tax of $860.12 + $1,090.00 surcharge = $1,946.30.

[11]Lab Materials: Supplied by student lab fees. $30.00 per student * 99 students * 2 years = $5,940.00.

Final Remarks

By the end of this project, every student at the Centennial Academy will have had the opportunity to use these chemical fume hoods in hands-on experiments in their science courses. Two chemical fume hoods will be installed in the Centennial Academy's science lab, and three of the core science faculty will have successfully implemented advanced experiments into their classrooms. Foremost, students will have received the benefit of an education in the STEM fields that positively influences their analytical and processing skills, their future education, and their relationship with the sciences. Like the Demund Family Private Foundation, the Centennial Academy values the upcoming generation and strives to secure a future for religious youth as valuable members of the community and the world. With the financial assistance of the Demund Family Private Foundation, the Centennial Academy will continue to benefit the students and surrounding community by providing these educational opportunities in a religious space.

Appendix A: References

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Appendix B: Resumes

Resumes of the lead science faculty involved in the project.

Tyler Steed
[Resume]

CarolAnne Knudson
[Resume]

Marion Zitting
[Resume]

Appendix C: Specialized Equipment

This section displays and describes the necessary equipment for this project, including the two ductless chemical fume hoods and the filters.

1. The Cole-Parmer Standard Ductless Fume Hood, 48"W; 115 VAC, 60 Hz, item # EW-78900-04. This ductless fume hood is highly efficient for protecting the users from potentially dangerous fumes. The durable epoxy-coated steel is inert to most harsh chemicals and applications, and the filters are designed to be easily accessible. The large size allows for easy access and visibility.

2. Right: The Cole-Parmer Carbon Filter for Organics and Solvents. Main filter for organic vapors including solvents and hydrocarbon vapors. Left: The Cole-Parmer Carbon Filter for Acids and Sulfur. Main filter for inorganic vapors including acids, cyanide, and sulfur vapors.

Appendix D: Sample Lab

This is an example of the lab that students can complete with the chemical fume hoods.

[Sample Lab from Mr. Steed]