

**PLAN NAME**

Lab Supplies for Tyee Chemistry to promote science engagement and access

**ID**

5605950

**LOGO**

**CREATED DATE**

10/17/19 11:03:27 AM PDT

**LAST UPDATED**

10/18/19 10:42:32 AM PDT

**SUBMISSION FORM**

**APPLICANT INFORMATION**

*While the proposal may involve multiple people working together, list one district person responsible for the submission of the grant and the final report. Please list the others involved with the grant in the field below*

**FIRST NAME**

Alison

**LAST NAME**

Thomas

**MY POSITION WITH HIGHLINE PUBLIC SCHOOLS:**

Teacher

**OTHERS INVOLVED WITH THIS PROPOSAL**

Tyee Science Department

Tyee High School students

**EMAIL (PLEASE USE YOUR HIGHLINE PUBLIC SCHOOLS EMAIL ADDRESS)**

**DAYTIME PHONE**

US/CANADA

OUTSIDE

US

**CELL PHONE**

US/CANADA

OUTSIDE

US

EXT Tyee High School

**SCHOOL OR DEPARTMENT**

Tyee High School

**PRINCIPAL'S OR SUPERVISOR'S NAME**

Tim Schlosser

**PRINCIPAL'S OR SUPERVISOR'S EMAIL**

**GRANT SPECIFICS**

## I AM APPLYING FOR AN

Excel Grant (up to \$2,500 to fund a program or project that serves a classroom or group of students)

## PROJECT TITLE

Lab Supplies for Tyee Chemistry to promote science engagement and access

***Provide a descriptive, but succinct, title for your project. Be creative and have fun with the name!***

## MAIN AREA OF PROJECT FOCUS:

Tyee Chemistry - supporting lab investigations and engineering design

## NUMBER OF STUDENTS INVOLVED

600

## NUMBER OF TEACHERS INVOLVED

6

***Be as accurate as possible in your estimate. Consider how many schools, classrooms, and grade levels will be involved.***

## PLEASE DESCRIBE WHO WILL BE INVOLVED (TEACHER, STUDENTS, PARENTS, COMMUNITY REPS, ETC.) AND HOW THEY WILL THEY BE INVOLVED.

These supplies will benefit all of the science classes at Tyee, especially the chemistry and biology classes. There are 6 science teachers at Tyee, each with approximately 100 students taking science classes. Students will be able to use these supplies to design and conduct a variety of investigations over multiple courses.

## OVERALL PROJECT DESCRIPTION

Starting last year, the chemistry course at Tyee High School changed from an elective that Juniors or Seniors (who were often on a college-bound trajectory) opted into, to a required course for all sophomores. This change has not only increased the amount of students who take chemistry but has necessitated more supports to help all have access to rigorous chemistry content and to find connections between their lives and the content they're learning in chemistry. By increasing the amount of lab equipment we have available, we can provide more students hands-on and design-problem learning opportunities, which in turn will build engagement, access to content, and confidence and identity as a chemist and engineer. Additionally, the equipment purchased by this grant will be usable by the other science courses offered at Tyee (biology and physics, which are both required classes as well). Furthermore, as Tyee moves to a 5-tri system, we hope to offer more science electives. These electives will also increase the demand for lab equipment, making the equipment purchased from this grant all the more valuable.

***What will you be doing in this project? Feel free to explain who or what inspired you, where you got the idea or how you identified the need, and why it is important to you and others.***

## WHAT MAKES THIS PROJECT INNOVATIVE OR ESSENTIAL?

Our biology and chemistry courses did not receive a budget from the district this year for lab supplies. We are currently in need of additionally pipettes, thermometers, test tubes, well plates, stopwatches, and water quality test strips. Many of our essential lab supplies, such as the pipettes, are consumables, and can only be used a handful of times before requiring a replacement. These pipettes are a standard piece of lab equipment necessary for transporting precise quantities of liquids used in not only a variety of science labs, but in real-world research and medical professions. Thermometers are used in all of our science courses to measure changes in energy. Test tubes and well plates are extremely useful in biology and chemistry because they allow students to conduct chemical reactions using a small amount of reagents, thus allowing us to conserve resources. Stopwatches would also be very useful in all of our science courses. Many laboratory investigations are time sensitive. Performing experiments over consistent time intervals are essential to avoiding confounding variables in one's results. Although most students have stopwatches on their cell phones, we really try to discourage cell phone use in class and especially during labs, because the distracting nature of cell phones can cause safety concerns and/or loss of learning and relationship building between classmates. In chemistry last year, we implemented a new unit where students measured the chemical health of different local sources of water, both on and off campus. Water quality test strips not only help students to gather data about the initial quality of the water, but also allow students to measure the efficacy of different toxin-removal techniques that they can test. This unit was the most engaging and effective way I have taught students about chemical reactions and stoichiometry and I would love to continue it and further develop it this school year.

***How does this program or project fill a need, build on an existing program, or provide a unique opportunity not currently available through regular school classroom activities or district funding?***

## HOW WILL THE STUDENTS BENEFIT BY THIS PROJECT? (WHAT DO YOU HOPE TO ACHIEVE?)

Through the purchase of these lab supplies, students will have increased opportunities for hands-on learning. Rather than looking at data from outside sources, students will be able to collect and analyze their own data, which builds a much more tangible foundation for developing their science ideas. Using lab equipment and designing investigation is a natural fit for teamwork, and will foster students' collaboration and communication skills. Being able to identify a problem and then have the physical tools to design and plan an investigation to develop a solution to the problem will empower students to actively take charge of situations, think critically, and problem solve in their futures. Students also have fun designing and conducting investigations and relish the opportunities to pursue personal interests or societal needs in the classroom. Joyful learning is powerful, and this lab equipment can facilitate a more joyful learning experience!

## HAS HIGHLINE SCHOOLS FOUNDATION FUNDED A SIMILAR EXCEL OR IMPACT GRANT FOR YOU IN THE PAST?

No

**HOW WILL YOU MEASURE THIS PROJECTS SUCCESS? (WE ARE LOOKING FOR 2 - 4 SMART GOALS FOR EACH PROJECT.)**

The success of this project will be measured by achievement of these 3 goals:

1. An improvement of at least one performance level on NGSS HS PS1-2 and NGSS HS PS1-7 by 80% of chemistry students from January to March of 2020.
2. An improvement of at least one performance level on NGSS HS ETS1-2 and NGSS HS ETS1-3 by 80% of chemistry students from January to May of 2020.
3. At least 90% of students can articulate how chemistry connects to their lives and why their learning in chemistry is important between January to May of 2020.

***Please note: We are looking for measurable evaluation criteria that can be shared with the funders of these grants to encourage future support.***

**WHERE AND WHEN WILL THIS PROJECT TAKE PLACE?**

The project will take place in all science classrooms (especially chemistry) at Tyee High School over the remainder of the 2019-2020 school year and beyond.

***Please include start and completion dates***

**IS THERE ANY REASON THIS GRANT WILL NOT BE COMPLETED BY THE END OF THE SCHOOL YEAR?**

No

**WILL THIS PROJECT BE SUSTAINABLE AFTER BEING FUNDED BY HIGHLINE SCHOOLS FOUNDATION OR WILL YOU NEED TO APPLY FOR FUNDING TO KEEP IT GOING?**

Other Funding will be needed to continue

**BRIEF SYNOPSIS**

Due to the nature of many experimental techniques, some equipment, such as the pipettes and the water quality test strips, can only be used once or a few times before they are no longer reliable measuring tools. The thermometers and test tubes can last for many years, but occasionally will need to be replaced if they are broken. The stopwatches can last for several years as well, although they may eventually need battery replacements.

***This is the paragraph that we will show on our website if your grant is funded. Only 3-4 sentences please.***

**Excel Grants are designed to align with Highline Public Schools' strategic plan. Please tell us how your program aligns with the districts strategic plan and describe the alignment below.**

**ALIGNMENT (PLEASE CHOOSE AS MANY AS APPLY)**

High School Graduation, School Culture, Growth & Mastery

**ALIGNMENT**

School Culture: through the opportunities for teamwork and problem-design challenges that pair so well with laboratory investigations, students will have opportunities to collaborate, refine their communication skills, investigate their own questions, to be creative, and to build relationships with their peers and connection to the content. This student-centered learning experience fosters more regular attendance, a positive learning community, and implements student voice and choice into the learning of science.

Growth and Mastery: this project will support students' performance on several NGSS standards, including but not limited to HS PS1-2; HS PS1-7; HS ETS1-2; and HS ETS1-3.

High School Graduation: The increased hands-on learning opportunities offered from this grant will improve student attendance and learning of chemistry content, helping them to earn the science credits needed for high school graduation.

**IF AWARDED FUNDING, HOW WILL YOU PROMOTE THE RECEIPT OF THIS GRANT?**

I will promote receipt of this grant at our staff meeting, to a letter to parents, and in announcements to students as we make use of the equipment purchased through the EXCEL Grant.

**BUDGET**

**Budget**

**We changed the way that funds are awarded in 2018-19. If you haven't done so yet, please read through the page for answers to common questions and information on changes to the grant process.**

**MY APPLICATION INCLUDES TECHNOLOGY**

Yes

**MY APPLICATION INCLUDES TRANSPORTATION**

No

**Remember to include any technology and/or transportation costs in the "Total Amount Requested" box below.**

**Also, include tax, shipping and any other costs associated with your project. The Foundation will not calculate these additional costs for you. IOnce awards are made, we are not able to provide additional funds if you forget to include these costs**

**TOTAL AMOUNT REQUESTED**

615.68

**Maximum \$2,500 for Excel Grants and \$10,000 for Impact Grants. Please include any technology and/or transportation costs in your total.**

**DETAILED BUDGET - YOU MAY EITHER TYPE IN YOUR BUDGET HERE OR UPLOAD AN EXCEL SPREADSHEET UNDER BUDGET SUPPLEMENTAL. IF YOU UPLOAD THE BUDGET SUPPLEMENTAL, PLEASE JUST PUT "SEE ATTACHED" IN THIS BOX.**

See attached

***Please explain how the funds will be used. Please include anticipated categories of expenditures and amounts for the complete project and if you have a preferred supplier. You may upload a copy of an invoice or purchase order if you feel that this will complement your request - but it is not necessary. Remember to include shipping and/or sales tax in your request. The Foundation will not research this for you.***

**The name of the attachment should be the same as your grant title, so it can be matched with your grant application**

**BUDGET SUPPLEMENTAL**

**IF THE COST OF THE PRODUCT/SERVICE EXCEEDS YOUR GRANT AWARD, DO YOU HAVE ACCESS TO OTHER FUNDS?**

I will apply for additional funding via Donors Choose.

***If you know that the amount of your program will exceed the amount of the grant you are requesting, please use this box to tell us where the additional funds will come from. If an Excel Grant will completely cover your costs, you may leave this box blank.***

**IF WE ARE UNABLE TO FUND THE ENTIRE GRANT, COULD YOU ACCEPT PARTIAL FUNDING TO COMPLETE SOME OF THE WORK THIS YEAR?**

Yes

**NAME:**

Alison Thomas

**EMAIL:**

alison.thomas@highlineschools.org

**ADDRESS**