

Grant Proposal

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Grant For: Buchholz High School Geometry Honors students

Name of Program: Buchholz Math Program

Cost: \$1768.71

Summary of needs and goals:

We are asking for \$1768.71 to fund a field trip for our Geometry Honors students to provide them with an opportunity to explore through a real-world experience how the areas of polygons are calculated and used in professions. This grant will allow for us to transport our students to and from a Publix baking facility in Jacksonville, FL. As well as participating in a Publix baking class where students will bake cakes of different shaped regular polygons.

Statement of Problem

Many students today attend math class for fifty minutes a day, five days a week, and that is it. To them, math does not exist outside of the math classroom. It is important that students understand that mathematics plays an integral part in their everyday lives. By bringing the real-world into the classroom and the math class into the real-world students are better able to connect the mathematical concepts with real-life events and applications. With experiences like this, students are more prepared to succeed at mathematical tasks both in school and later in life, once they finish their schooling.

This program will serve two sections of Geometry Honors students at Buchholz High School, totaling 43 students.

Goals & Vision

The goals of this program are to help students to make connections between, the mathematics they are learning in class and the real world, and through this it will provide students the opportunities to explore a possible career avenue. Students will be able to calculate the area of cakes that they have made at the Publix bakery in Jacksonville using the formulas they learned in class. Students will turn in a sheet with the sketches of cakes they have made and shows the work that they calculated the areas of the cakes. Ideally, the field trip will take place after teaching section 11.4 (Area of Polygons) and before they start their end of unit project.

Our vision is that the students gain a more profound passion for mathematics when they see and use their understanding of the concepts in a hands-on environment.

Typically students are told what the formula is, they do not explore where it comes from, and they just plug and chug in the formulas. There is only procedural and no conceptual learning. Through this project we hope to change this all too common type of learning environment. Students are learning the standards through common core inquiry. Our lessons are investigative and tie in the concepts to real world examples whenever possible. Then with the field trip to the Publix Bakery, the students will be able to put their learning into practice and gain life skills in the process. After this the students will be doing an end of unit project that is based on what they

learned about cakes at the bakery. They will then present this project in front of their peers, parents, and administrators.

The unit project encompasses very important life skills. They learn problem solving through creating a rubric by which to judge a set of cakes that could potentially be a homecoming cake and by having to find the area of each of the 7 cake proposals they are given and figure out the number of people they feed. Students will improve their communication skill as they work together in teams and come to a consensus on their winning cake. Students learn to allocate work equally and present a professional quality product for their presentation.

Plan of Action

By visiting the Publix Bakery in Jacksonville and taking a class on cake baking, the students will be able to both gain life skills, by learning what goes into and how to bake a recipe, and apply the skills they have learned in class lessons when they have to fill out the worksheet at the end of the field trip.

In order to complete our goals we will need a bus to travel from Buchholz to the Publix bakery in Jacksonville and back, a bus driver to drive the bus, the class fee for the Publix bakery in which Publix will supply the needed baking materials, and chaperones for the trip.

Students arrive at school and will be in the geometry classes by the time the bell rings, 8:30, at 8:45 we will be boarding busses preparing to leave. By 11:00 we will be in Jacksonville at the Publix facility. By 11:30 we will be starting the class and it will last for 60 min. We will then get our eat lunch at a Publix facility in their food court. After 45 minute lunch we will then re-board the busses and head back to Buchholz and arrive there by 3:15.

Monday (I)	Tuesday (I)	Wednesday (I)	Thursday (I)	Friday (B)
11-1 Area of Parallelograms	11-2 Area of Triangles	11-3 Area of Rhombi and Kites	11-4 Area of Regular Polygons	11-4 Area of Regular Polygons
Students are manipulating paper cut outs of the individual shapes to apply what they previously learned in order to develop new formulas.				
Monday (I)	Tuesday (I)	Wednesday	Thursday	Friday
Field Trip	Project Wrap Up	Presentation	Review	Test
	Catch-Up Day			

Staff and Facilities

Ms. McNeill and Ms. Zuefle are the teachers in charge of the project. One of the chaperones on the trip will be one of Buchholz's Vice Principles. We will be utilizing Publix's facility in

Jacksonville and will need school bus transportation there and back. These things are necessary to the success of tying in real world jobs with the math we use in class. There is no extra training necessary to the success of the program.

Evaluation

The Evaluation will consist of an end of unit project in which they are judging cakes based on a rubric they create, from the help of their trip to the Publix bakery, and one of the components of the rubric being the areas of the cakes. They will then have to choose a winner based on the rubric and present it to a body of their peers, parents, and administrators.

Concept & Category	Highest Level of Performance 3 points	Middle Level of Performance 2 points	Lowest Level of Performance 1 point
Mathematical Computation of Area	Groups successfully compute the areas of all 7 given cakes	Groups successfully compute the areas of 5 - 6 of the cakes	Groups successfully compute the areas of 1 – 4 of the cakes
Group work	Groups create a rubric that includes at least 4 criteria and applies the rubric appropriately to determine their winning cake	Groups create a rubric that includes at least 3 criteria and applies the rubric appropriately to determine their winning cake	Groups create a rubric that includes at least 2 criteria and applies the rubric appropriately to determine their winning cake
Presentation	Groups clearly and accurately present their work and findings, explain all of their work.	Groups clearly and accurately present their work and finding, with minimal explanation.	Groups clearly and accurately present their work and finding, with no explanation.

Budget

Ms. Zuefle will be handling the budget for the field trip. Everything else included in the unit is already supplied by the school. What we do need is:

	hourly fee	number of hours	total cost
Bus Driver	\$11.53	7	\$80.71
	mileage fee	number of miles	total cost
Bus	\$0.55	160	\$88
	Cost per person	number of students	total cost
Publix Bakery	\$40	40	\$1600
Grand Total	\$1768.71	Per Student	\$44.21

The fees for the bus driver hourly wage and the fee per mile were found on the Alachua County Schools website. In field trip guidelines

UFTeach Project Based Instruction

Grant Proposal - Checklist

The Introduction/Proposal Summary:

- Describes the applicant and/or district
- Describes the purpose and goals of the program/project
- Presents justification for the project or approach based on what is currently known about the problem to be solved or project to be accomplished
- Is short and to the point, interesting and free of "educational jargon"

The Rationale/Potential Impact and Needs Statement:

- Directly relates to the District's, State or National goals and standards
- Is reasonable and focused for success – i.e. - doesn't try to solve all the world's ills
- Is supported by evidence that it can work (a preliminary study or similar example completed project)
- Focuses on the needs of the students/staff/community for broadest impact, not solely for the good of the person/team applying
- Makes a compelling argument for funding

The Description of the Project, Objectives and Activities:

- Describes all resources – including school-based personnel and/or experts from the community at large who will share responsibility and/or support for the project.
- Is reasonable and can be completed within the time lines given

Appendices:

- CV (Curriculum Vitae) – Include one for each member of the application team.
- Other supporting materials: i.e. images of specialized equipment or structures to be built, annotated web resources, etc.