**Foundation For Allen Schools Grant Application 2021**

**Scholarship Fund Amount: $0**

**Let's get to know you!**

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| Please provide your work-related Twitter contact information. | |
| Please provide your work-related Facebook contact information. | |
| I have co-applicants: | No |
| Best phone number to reach you at: | +14698770793 |
| Campus | Norton Elementary School |
| Grade(s) | 1;2;3;Kindergarten;5;4;6 |

**Additional Co-Applicants**

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| Campus | Norton Elementary School |

**Project Information**

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| Are there any additional funds available for this grant? | No |
| Will other grades be involved/impacted? | No |
| Will other campuses be involved/impacted? | No |
| Does your grant have a technology component? | No |
| Please select the MAIN curriculum area your grant addresses. | Science / STEAM |
| How many students will be involved in this | |

| grant? | 100 |
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| Name of Grant | Sphero Space STEM |

## Project Information Continued

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| Provide a brief summary for use on the Foundation's website and social media. | Norton Elementary is preparing the next generation of aerospace engineers as they use Mini Spheros to learn how to create, code, problem solve and strengthen their STEM fundamentals. Using the Spheros, Norton students are maximizing this hands on experience to deepen their knowledge engineering in our solar system and beyond. |
| How will the project or program be implemented? Describe activities and tasks. Who is the target population and in what ways will they benefit? | Since I have already launched this program on a small scale, expanding it will be fairly easy. Sphero Edu has a wonderful teacher dashboard where I can monitor each students progress through the training modules. The Sphero Edu app is a free download (already approved and downloaded onto all of our school ipads), and recently I discovered that the app can be downloaded onto our new student chromebooks. I am asking for 43 mini Spheros to be used with the free app, 20 to remain in the AIM classroom for the younger grades to utilize and 23 to be "loaned" out for enrichment opportunities for 4th, 5th and 6th grade. I will train the teachers or manage and assign modules for the classes. It interfaces beautifully with google classroom so set up is super easy. Sphero Edu has already a massive library of coding challenges built in so it will be super easy for other teachers to manage it. For a few years STEM was super popular but the last year it has really taken a back seat due to Covid. We need to remember that an important component of our job is to inspire the next generation of employees and aerospace engineering could be a huge opportunity for many of them. I want to bring STEM back in a big way next year, not just for my AIM students but for ALL students in grades 4th, 5th and 6th grade. |
| | With the launch of the new branch of the military (Space Force) and the efforts of the 2024 Artemis program to put the next man and first woman on the Moon, we are at the perfect |

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| What is the problem, need or opportunity that this grant will address? Describe the impact of this project on your students. | time to expose our students to careers in aerospace engineering. While the elementary teks do cover space, it does not effectively illustrate the cutting edge developments happening on a daily basis with Nasa and Spacex. While there are many rich resources related to space exploration that I want to tap into, I have narrowed it specifically to Sphero Edu. I have been testing out the use of spheros in the classroom (funded by my own money) and am thrilled with how effectively I can provide students with hands-on simulations that demand that they apply their math and science knowledge into coding and problem solving, just like the astronauts and the Mars rovers. Sphero Edu has a massive library of challenges that provide students with programming challenges that practice and deepen students problem solving and engineering skills. My students are engaged more than ever because suddenly something that seemed so massive and unreachable (controlling a rover on a planet light years away) can be experienced here in the hallways of Norton Elementary. With the small collection of Spheros that I have, students have been able to anticipate and/or react to unexpected challenges (such as a student walking down the hall and picking up their sphero or miscalculations in angles for turning). Students now understand the extraordinary and thrilling challenges facing our space programs in the new year future; and they want to be a part of it. |
| Which Allen ISD goals/TEKS does this project support? Please provide 2 examples. | 6.11C Earth and space. The focus of this strand is on introducing Earth's processes. Students should develop an understanding of Earth as part of our solar system. The topics include organization of our solar system, the role of gravity, and space exploration. 5.8 CEarth, Sun and Moon Patterns Overview. By developing a deeper understanding of what causes day and night and the apparent movement of the Sun, students learn about patterns and cycles in the natural world and what causes them. 4.C C) collect and analyze data to identify sequences and predict patterns of change in shadows, tides, seasons, and the observable appearance of the Moon over time. (Tides and Seasons) The |

| | rover on Mars will be collecting information that can be compared to the Earth. |
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| Explain how this idea or project enhances/supports Allen ISD curriculum or existing systems. | Learning should be fun and challenging at the same time. It should be customized and relevant to future experiences. While students love to learn to code, it usually has a high drop off rate because it is coding... a computer... With spheros, the students are learning challenging coding skills that make the mini robot move, and speak and change color. It is exciting for them to see their learning actually move and complete tasks. Without realizing it they are applying all kinds of math and science skills to the Mini Sphero challenges. |
| What is the project timeline and the date of implementation? | As soon as the funds become available I will be able to purchase the mini Spheros and get the teacher training set up. If I know that I am getting the funds for next year I can schedule the training for the end of May so that the teachers can build the Mini Speros into their plans for next year. It would take less than 2 weeks from getting funds to launch the project school wide. |
| What teaching methods will be used to implement this project? | Sphero Edu has an excellent student and teacher userface. I have already created the "how to log in" videos for my small class and will be using the same videos in the school wide launch. |
| What specific measurements will be used to evaluate the effectiveness of the project? | The AIM students will be given specific challenges assigned to them on a 9 week grading period. Their mastery will be determined by how successful they are in completing their challenges and in competing against each other on specific challenges. For the school wide program the success of it will be measured on a participation level. How many classes sign up to "borrow them?", How often do they use them?, How many challenges do they complete as a grade level? |

**Project Budget**

| Total Grant Budget Requested: | 2149.57 |
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**Almost done!**

**Project Budget Set Number 1**

| Question | Answer |
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| Item Type | Instructional Supplies or Resources |
| List item to be purchased under item category: | Mini Spheros |
| Unit Cost | 49.99 |
| Quantity | 43 |
| Total cost of items in this category: | 2149.57 |