

2022 - 2023 Grants for Great Ideas Application

COMPLETE #73

<div style="text-align: center;">A Program of The Foundation for Seminole County Public Schools </div>

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IP ADDRESS



71.46.246.46

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I certify that I have read and understand the GFGI program guidelines

*

I certify that I am able to provide data that satisfies the above reporting requirements

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I certify that I will comply with the above expenditure reporting requirements

* School Name:

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* Teacher Submitting Grant Application:

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Please list any additional teacher associated with this grant project:

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Phone Number

■■■■

* SCPS Email Address:

■■■■@scps.k12.fl.us

* Select a Grant Category:

STEM

* Project Title:

Building Character in Our MakerSpace

* Total Amount Requested:

2500

*** Grade Level(s) Served, if Applicable**

Fourth Grade

Project Start Date:

2022-10-31

*** Number of Students Impacted:**

96

*** Program Summary:**

Several years ago, we implemented a MakerSpace in our media center with the help of a Foundation Grant and county tech funds. Our media center was transformed into an innovative place for students to problem solve, collaborate, persevere, and explain their thinking. An emphasis on the design process was used as the foundation for each center activity. The center activities included task cards that guided the process and encouraged creativity and imagination. This year, as the Tech Facilitator and Teacher of the Gifted at our school, I now teach MakerSpace as a special for our fourth grade students. To enhance the students' engineering skills, mathematical knowledge, and social/emotional skills, we would like the students to build a model of a Character Theme Park that includes specific character keys: Knowledge, Caring, Patriotism, Courage, and Respect. Each class will select a character key, create a blueprint of their "land" and design rides and concepts unique to their character key. Students will use geometric thinking to layout paths to complete their section of the Character Theme Park. An example of a Character Key ride might include a large globe where attendees would enter to learn about different countries...much like the large silver ball at Epcot. There could also be a roller coaster ride (designed and built by the students) in the land of courage. There are so many MakerSpace educational materials available that would allow the students to carry out this activity. Students could also program small Ozobot robots to travel around the Theme Park as attendees. This aligns with the CS2020 program for fourth grade students. To accomplish this Character Theme Park project, students would begin by brainstorming, designing, building, testing and evaluating their progress. They would need to collaborate and respect the thoughts of other students, all important to the social and emotional well being of our children. The building materials would be used for years to come as they are non-consumable. This STEM project would ultimately emphasize the engineering process, TEAM building, and increase character awareness.

*** Statement of Need:**

Research indicates that Makerspaces within schools provide powerful contexts and opportunities for students to collaborate, solve problems, and develop new skills. As the makerspace movement "draws upon the innately human desire to make things using our hands and our brains", school makerspaces can provide this necessary outlet for students, fueling engagement, creativity, and curiosity at the same time (Fleming, 2015, p.2) For example, a research study conducted by Small (2014) found that "students who participated in activities involving innovation were inquisitive, imaginative, and motivated. They wanted to solve real problems that could help people" (as cited in Moorefiled-Lang, 2015, p. 108). The Math iReady diagnostic indicates that only 31% of our fourth grade students are on grade level. This academic need may be addressed by involving our students in open-ended student-driven projects that make a connection to core academic curriculum and standards.

*** Project Goals:**

The students will use the design process and the MakerSpace instructional materials to collaborate and persevere to create a Character Theme Park, consisting of five character keys: Knowledge, Caring, Patriotism, Courage, and Respect.

The students will apply specific math standards to create the theme park, including number sense and geometric concepts.

The students will demonstrate their understanding of character education while building the theme park, as many of the character keys will naturally be reinforced.

*** Program Activities:**

Activity 1: Students will be introduced to the idea of designing a Character Theme Park, using a teacher made PowerPoint presentation. Students will discuss the meaning of the various character keys that will be included in the Theme Park. Each class will design the layout, blueprints of the rides and exhibits for each character key (land).

Activity 2: Students will apply the STEM process to carry out this part of the project. Students will then create and build the rides and exhibits, which will require redesigning as part of the engineering process.

Activity 3: Finally, ozobot robots will be programmed to move around the completed Character Theme Park, incorporating and applying the SCPS CS2020 Program.

*** Evaluation Plan:**

Part 1: The iReady Diagnostic indicates that only 31% of our fourth grade students are on grade level. For the purpose of this project the beginning and final score report will be compared to determine growth. Sixty percent of the students will demonstrate growth based on grade level expectations established by the district.

Part 2: Statistical data will be obtained using the teacher-made Design Process Assessment. Questions will act as indicators of students' knowledge about the design process. Students will be given pre- and post-tests. Sixty percent of the students will increase their design process knowledge by 10%.

*** Please attach your completed budget template here:**

20212022grantsforgreatideasbudgetform_1.xlsx

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I certify that my school's leadership approves of this project and that it follows all district and state education standards.

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I certify that I am able to satisfy all program requirements, and agree to all listed terms

2022-2023 Grants for Great Ideas Budget Form

Category	Item List:	Cost:
Classroom Materials: Vendor: Demco	Demco: Snap Circuits Arcade, Snap Circuits Light, Snap Circuit Motion, Snap Circuits 3D, Brackitz Wheels, Brackitz Pulleys, Brackitz Gears, KEVA Bots, KEVA Balls, Coding Critters, Botley the Coding Robot	\$1,100.00
Classroom Materials: Vendor: Amazon	Amazon: Play Brainy 101 Magnetic Cubes, Light Up Terrarium Kit, Snap Circuit Arcade, Bemiton Dinosaur Toys Race Car Track, Magic School Bus: Engineering Lab, Boley Musical Penguin Roller Coaster, Flower Garden Building Toys, Brighton 12 Pack LED Fairy Lights, Doahurry Princess Castle, 6 in 1 STEM Building Kit, Patriotic Party Supplies, Art Creativity Blow Mold Toy Boat, 5 Set Building Kit, STEM, Magnetic Building Blocks, Crystal Growing Kit, Plastic Butterflies, Independence Day Toys, Construction Race Track, STEM Talking Globe, Lincoln Logs, Wooden Ferris Wheel, Marble Run, Illuminated Globe, Solar system, Little Growers, STEM Construction Science Kit, Dinosaur STEM, Snap Circuit Battery Eliminator, Train Set, Gravity Maze	\$1,400.00
Computer Software:		
Computer Hardware:		
Other Equipment:		
Printing:		
Shipping:		

Total: \$2,500.00