

Jeanie Ritchie Grants - Funded by MPAEF

Jeanie Ritchie Grant Application 2019-2020	
Project Title:	Bringing Learning to Life with Ongoing Engineering Workshops
Lead Teacher/ Project Director Name:	Laura Zielinski
Email Address:	lzielinski@mpcsd.org
Best Phone Number:	650-854-4433 x4101
Names of Other Teacher Participants (include school if project will span multiple campuses):	Lela Ward
Principal's Name:	Mrs. Kristen Gracia
Director of Technology Name: (if applicable)	

Before this application is submitted, it is necessary for the principal to review it.

Has the review been completed? Yes No

Date of Review: 10/3/19

I have reviewed this proposal and am aware that it is being proposed for implementation and will be supported through the Technology Department.

Director of Technology Signature/Date: _____

Please Note: The Jeanie Ritchie grant process is anonymous. Your application will be considered according to an ID number only. Please do not include the name of your school in the body of your application. This title page will not be made available to the committee until the grants are awarded.

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<p>Note: This year, \$15k has been added to the JRG for grants on global awareness, global leadership or world culture. Please check box if your grant is in this category.</p>	<p>Type of Grant (check all that apply)</p> <p><input type="checkbox"/> Global awareness, global leadership, or world culture focus</p> <p><input type="checkbox"/> New</p> <p><input type="checkbox"/> Repeat (____ # years)</p> <p><input type="checkbox"/> Technology Support Approved</p>
<p>Grades Involved 1st Grade</p>	<p>Number of Students Involved 22</p>
<p>Total Funding Requested \$318.75</p>	<p>Date(s) when will the project be conducted: Over multiple years</p>
<p>Project Description (Use this form or attach a separate sheet)</p>	
<p>1. Goals: What are the goals of the project? What are you trying to teach?</p> <p>The goals of this project are to enhance engineering, science, and design thinking so that it is accessible to all children. First graders are natural engineers and need chances throughout the day to create and model their thinking to connect their understanding of concepts presented to them in daily instruction. My hope is to utilize these kits to integrate into my curriculum, allow movement for students, which research shows is so important for young learners, strengthen students’ motor skills, provide opportunities for flexible learning, and ingenuity for myself as a teacher to allow my students to make real-life, “in-the-moment” connections to their daily instruction. In addition to the multiple connections to our grade-level curriculum these kits offer, they also allow students to step into design thinking by inspiring them to strengthen and develop critical thinking skills as they work to answer questions, solve problems, consider various entry points for a solution, make meaningful, real-life connections to concepts presented to them throughout the grade-level curriculum, and developmentally appropriate open-ended approaches to early engineering concepts. In my research, they have been thoughtfully prepared and are developmentally appropriate for my class, and I have also had conversations with my teammates about making rotations with them to further enhance all Oak Knoll first graders’ learning experiences with the successful pilot of these kits in my classroom.</p>	
<p>2. Core Activities: Describe what students will <u>do</u> as they participate in the project. How will the project accomplish its goals?</p> <p>Students will utilize the engineering kits (plastic containers each filled with a different type of engineering manipulative such as LEGO bricks, pattern blocks, Dixie cups, popsicle sticks with</p>	

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velcro, linker cubes, toothpicks, foam balls, etc.) to build and create their own version of a real-life structure with their selected engineering manipulative from an included set of task cards. Students may create such structures as the Golden Gate Bridge, the Empire State Building, a house, a pyramid, etc. The engineering kits encourage students to explore engineering tasks that are open-ended and in their own way. These kits can also be utilized to allow students to creatively problem-solve questions posed from classroom read alouds such as exploring alternate ways for the Pigeon to get to school after reading The Pigeon Has Go To School! or designing a new “container” for the crayon after sharing in a reading of The Day the Crayons Came Home. Most recently students have been learning about shadows and light concepts in science. These engineering bins would allow for great organic learning experiences right in the classroom for students and teachers alike, as they work to build objects or structures that will create a shadow, make a change to it in someway to change the shape of the shadow it creates, and even a further change to allow light to pass or travel through the structure to the other side. There are also so many opportunities to link other fun themes such as a sturdier gate for pumpkins to rest on, a fence to keep in the “creepy carrots,” a new “device” to help with spring cleaning, and even a structure to help connect groups from one side of a river to the other with the great accessibility the kits offer by being in the classroom.

3. **Innovation:** To what standards and/or aspects of the curriculum is the project linked? In what ways does it go above and beyond what is normally required?

The activities utilizing the engineering kits allow students to develop a deeper understanding of various math, literacy, and even science common core concepts such as measurement, 2D and 3D shapes, volume and capacity, angles and lines, descriptive and how-to writing, labeling, balance and weight distribution, composing and decomposing materials, and properties of objects. In addition to these skills, students will be working to develop and strengthen their critical thinking skills such as analyzing multiple entry ways and possible solutions to a problem, asking questions, strategizing, working under time and property constraints, and creating, testing, and improving models and designs while working to collaborate and effectively communicate with their classroom peers to achieve a common goal.

4. **Success Evaluation:**

- a. If this is a new grant, how will you know that the program has been successful?

The success of this program will be visible by the ability of students: (i) to complete tasks in a way that shows an understanding and appreciation of basic science and engineering principles while also encouraging their own creativity and innovation while seeing the activity through to completion; and (ii) articulate their thinking and reasoning behind their design process

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effectively through speaking, writing and/or pictures. Evidence of success will also be seen with students being able to make more connections in their daily learning, communicating more effectively with their peers, and applying their newly fortified critical thinking skills to other areas of their lives both in and out of school.

- b. If this is a repeat grant request, attach last year's completed evaluation form.
PLEASE NOTE: REPEAT APPLICATIONS WILL NOT BE CONSIDERED WITHOUT AN EVALUATION.
- c. If this is your 3rd year of funding, what steps are you taking to obtain funding from other sources? Funding from Jeanie Ritchie ends at year four.

5. **Detailed Budget:** Include all expenses, e.g., sales tax, shipping, etc. If any materials can be re-used in future years, please indicate this in the information provided.

Vendor: Hand2mind (Hand2mind.com)
24 filled engineering Bins: \$259.90
Tax: \$25.66
Shipping/handling: \$31.19
Grand Total: \$318.75

Please email questions, comments and your final application to: jeanieritchiegrants@mpaef.org.

Thank you for submitting a Jeanie Ritchie Grant Application!