BEVERLY EDUCATION FOUNATION
GRANT AWARD

COMMITMENT LETTER

Project Title: Creating a Novel Engineering Library

As the party(ies) responsible for the execution and administration of the proposed project, the undersigned pledge to obtain all assents and provide a detailed accounting of all Beverly Education Foundation, Inc. funds expended as part of this grant. We further pledge to submit both a final accounting (with appropriate documentation) and a final project report within thirty (30) days of completing this grant. I/we recognize that this report is a condition of funding, renewal grant proposal submission and therefore my/our obligation as a grant recipient.

Date: 3/15/19

Principal and/or Department Head Signature/Technology Director *(if needed):*

Date: 3/15/19

Beverly Education Foundation: GRANT APPLICATION

Application Date: _____

Project Name: Creating a Novel Engineering Library _____

School Principal: _____

School: _____

Contact Person(s):_____

Telephone: _____

Email address: _____

Project Start Date:__Fall 2019_____

Project End Date:__June 2020_____
TARGET POPULATION:

Grade Level(s):__K-4_____

Students served by this program:____350_____

Faculty/Staff involved in this program:__20_____

Curriculum Area(s):__Literacy & Engineering _____

Please check one: (See General Information Part III)
Individual Grant __X__ Collaborative Grant

Total Funding Requested:__$600.00_____

Faculty Staff Involved

Name	Signature	Specific Role in Project

Administrator/ Position Supervisor *(signature required)*	Signature	Specific Role in Project

Please check and complete all that apply. I/We believe this project...

	is a new idea.
_____X	is a new idea for our school.

_____ replicates a successful idea done elsewhere
_____X_____is based upon research by: TuftsUniversity__http://www.novelengineering.org/

Beverly Education Foundation: GRANT BUDGET

Please list all costs associated with this grant proposal:

Supplies/materials: COST

Novel Engineering Titles

K:

Where the Wild Things Are by Maurice Sendak) - *STEM Challenge: Float Your Boat 7.59
Peter's Chair by Ezra Jack Keats $6.99 pb
The Tree House That Jack Built by Bonnie Vernerg $ 14.82
29.40 x 3= 88.20

Gr 1:
Violet the Pilot by Steve Breen $8.99
Going Places by Peter & Paul Reynolds $16.14
The Most Magnificent Thing by Ashley Spires $11.64
36.77x3 = 110.31

Gr 2:
Papa's Mechanical Fish by Candace Fleming $18.99
Munchal Munchal Munchal By Candace Fleming 14.39
Jamie O'Rourke and the Big Potato by Tomie de Paola - STEM Challenge: Potato Pulley 6.99
40.37x3 = 121.11

Gr 3:

*We're All Wonders by R.J. Palacio - STEM Challenge: Lever Launcher 12.68
21 elephants & still standing 15.54
Ada Twist, Scientist by Andrea Beaty -*STEM Challenge: Slimy Science 15.29
43.51x3 = 130.53

Gr 4:
The Man Who Walked Between Two Towers by Mordical Gerstein 7.98
The Raft by Jm LaMacha 6.99
*Iggy Peck, Architect by Andrea Beaty - STEM Challenge: Sticky Structures 16.16
31.13x 93.39

TOTAL: $543.54

Purchased Services (consultants, speakers)
_____n/a_____ _____
_____ _____
_____ _____
Equipment:

n/a	
Other Costs:	
(shipping)	$50

Are you applying for or receiving funding for this project elsewhere? If so, please list name of organization, amount requested and status of funding: confirmed or pending:

Funder	Amount Requested	Status

TOTAL REQUEST: **$600**

Please note all technology requests must be approved in advance of grant submission by:
Judy Miller, Technology Director, Beverly Public Schools

Bev Grant Proposal
2019

From:
Literacy Coach

TITLE: Creating a Novel Engineering Library

1. Project Overview:

Novel Engineering is a 21st Century innovative approach to integrating engineering & literacy. By using literature as the basis for engineering design challenges that help identify problems, design realistic solutions, and engage in the engineering design process while enforcing literacy skills. Novel Engineering provides a supportive, responsive environment that allows students to build on their ideas as they work on complex problems. Engineering has the advantage that it appeals to both genders, a variety of learning styles, and multiple intelligences as well as tieing into the new engineering standards in K-12 education for Massachusetts. I have researched some new titles that will support these skills and bring together literature with engineering. It is my goal to develop a grade level appropriate library of these texts so teachers have access to them when incorporating Novel Engineering into their classrooms. In addition, I will collaborate with grade level teams during their common planning time and grade level team meeting times to help support the implementation of Novel Engineering into their classrooms.

2. Project Description:

As stated above, Novel Engineering is an integrated approach to teaching engineering skills through the use of quality literature. Students are given the opportunity to engage in the engineering design process while reinforcing literacy skills. Incorporating engineering in the elementary school curriculum provides students with ways of connecting, applying, and reinforcing knowledge in math, science, and design. To bring what is essentially a new discipline to K-12 education means developing and supporting new tools for the classroom, additional curriculum, teacher training, and support resources.

Last school year, I collaborated with our STEM teacher and introduced our fourth grade students to Novel Engineering with one project and it was a huge success. It is my hope to introduce this process into all

grades. Teachers will able to share their Novel Engineering experiences with their colleagues during learning walks, grade level team meetings and faculty meetings. I believe that teachers will be very excited to find new ways to link high quality literature with the design and engineering process. One particular need however, is the need to expand our library of high quality literature to support this process. The goal of this project is to excite students about engineering, math, and science, through the use of literature while teaching them these disciplines in a hands-on and practical way, and improve the engineering confidence of the next generation. Engineering has the distinct advantage to provide teachers in the various grade levels with quality text that can support Novel Engineering in their classrooms. With the use of these texts teachers will be able to provide an interdisciplinary approach to engineering. Students will then be able to:

1. identify and formulate a problem,
2. design a solution
3. create and test a solution
4. optimize and re-design
5. communicate and disseminate the solution
6. use evidence from the text to support design decisions
7. enhance comprehension
8. utilize teamwork and collaboration
9. share out their findings and designs

The proposed Novel Engineering library resource is for grades K-4 teachers. The selected titles for each grade level reflect suggested titles from the Tufts Novel Engineering website as well as some additional new titles that are geared towards Novel Engineering. The implementation will consist of each grade level receiving a new text to implement each trimester for a total of three new titles for the year. Teachers will meet with the literacy coach during common planning and/or monthly grade level team meeting times to examine the literature and come up with lesson plans for the Novel Engineering activities throughout the school year. Each classroom will have an opportunity to take part in a Novel Engineering project based on the grade level text provided by the resource library once a trimester for a total of three times during the academic year.

As stated above, this grant proposal reflects an innovative approach to solving engineering problems through the use of quality literature. In addition, students as well as teachers will have an opportunity to collaborate

when identifying a problem and designing a solution with these selected texts.

The following are the plans for sharing and publicizing this proposed grant with others:

1. Literacy Coach will create a shared google folder with grade level lessons so teachers have access to it
2. Teachers will share and give feedback at faculty meetings each trimester about the Novel Engineering experience
3. Novel Engineering activities will be shared on Twitter
4. Photos of Novel Engineering activities will be displayed in the school as well as newsletters home to families
5. Students will have written responses about their experiences with Novel Engineering
6. Literature purchased with grant money will have a dedication page to thank "The Beverly Education Foundation"
7. Sharing with other schools in the district during Coaches Meetings

When evaluating this grant many factors can be used. Students journal writing samples and drawings can be collected for reflection of the Novel Engineering process. Also, a summative assessment of created engineering designs will be showcased and documented at each grade level. Teachers and students will utilize an Engineering Design Rubric for assessment .

In closing, this proposed grant to purchase literature for implementing Novel Engineering will provide and set the tone for curiosity and enthusiasm for all learners and promote self-confidence. In addition, students through the use of literature will be able to identify problems, find answers, and test the validity of their answers. These goals are true at the kindergarten level through college, and armed with these capabilities, the students can successfully attack problems of any discipline. Novel Engineering teaches to all of these life goals.