|  |  |
|---|---|
| Grant Number | 966 |
| Project Title | Engineering the Design Process |
| Please select the **MAIN** curriculum area your grant addresses. | Gifted & Talented |
| Does your grant have a technology component? (Will you have technology equipment, software, etc. in your budget?) | ◉ No  ○ Yes |

## Primary Contact Information

|  |  |
|---|---|
| First Name | Pamela |
| Email | Pamela.Moore@allenisd.org |
| Confirm Email | Pamela.Moore@allenisd.org |
| Last Name | Moore |
| Phone Number | 467-469-1400 |
| Campus | Chandler Elementary |
| Main Subject | Science - Elementary |
| Grade(s) | Please select all applicable. |
| I have co-applicants. | ☐ |

## Social Media

Please provide your work-related social media contact information.

|  |  |
|---|---|
| Facebook | n/a |
| Twitter | @AIMChandler |
| Other (please specify) | Pamela.Moore@allenisd.org |
| Grant Number | 966 |

## Campus/Student Information

|  |  |
|---|---|
| Your campus: | Chandler Elementary |
| Will other campus' be involved/impacted by this grant? | ◉ No  ○ Yes |
| Your grade(s): |  |
| Will other grades be involved/impacted? | ◉ No  ○ Yes |

## Project Purpose

What is the problem, need or opportunity that this grant will address? Describe the impact of this project on your students. (500 words or less.)

Our AIM curriculum is Problem Based Learning so we have the Teacher's guides and suggested activities. Our curriculum is from William And Mary College for GT learners. We are supplied most things but in order to move the students from concrete to abstract thinking; However, AIM teachers are supplementing the supplies to allow the need for students to design and engineer their products to show learning. I will use the materials listed to promote hands- on Innovation. Also to promote scientific thinking for STEAM creations, and for the design thinking model and implementation for real world experiences, in order to solve the given PBL.

## Project Description

How will the project or program be implemented? Describe activities and tasks.

Who is the target population and in what ways will they benefit? (500 words or less.)

The Target population is 1st-6th Science/ Math/ Innovation mostly, but it is cross-curricular. With this grant,the students will be given ample supplies to Plan a Blueprint, Design, build, test, and tweak, and rebuild for presenting a solution to their given PBL for their grade level GT curriculum. All grade levels learn the concept of Systems through the following topics:

1. After learning about basic circuits/ electricity, the third graders will build a cardboard "Greek Hotel" and light the rooms by adding their own circuits, using batteries and lightbulbs.

2. 6th graders learn about the body system (cells and disease, focusing on TB) and present to the "school board" how to prevent TB from spreading in middle school.a

3. Fourth graders design and present passion projects.

4. Fifth is trying to solve the problem of fish dying in an aquatic ecosystem.

5. First and second are archaeologist and find artifacts to show the timeline of innovation and survival in Ancient history.

All students are taught design thinking and planning and create in maker space throughout the year.

## Project Summary

Provide a brief summary for use on the Foundation's website and social media. (2-3 brief sentences)

Design Thinking supplies will create opportunities for students to be producers of content and products and will

Facilitate to students the idea of entrepreneurship through innovation. This is Problem Based Learning.

Students are using 21 Century Skills to improve Learning in all walks of life

## Allen ISD Goals/ TEKS

Which Allen ISD goals/TEKS does this project support? Provide only two or three examples.

English LA: I.A.2 Generates ideas and gathers information relevant to the topic and purpose , keeping records

Math VI.A and VI.B- Determines types of data, selects and analyzes given information

Science I.C.1 Collaborates on joint projects; 1B1- Designs and conducts scientific investigations in which hypotheses are formulated and tested

CRoss-Disciplinary Standards: 1.A1 Engages in Scholarly inquiry and Dialogue

1.A.2 Accepts constructive criticism and revise personal views when valid evidence

Transforms the traditional classroom into an innovative learning experience that meets the needs of the individual learner in all types of problem solving situations.

## Measurement

What specific measurements will be used to evaluate the effectiveness of the project? (500 words or less)

My Focus is for students to work through challenges to become better problem solvers. To measure this, they will be completing the Design process. Do they plan? Do they design? Do they collaborate with team members? Do they work independently to research when needed? Is the PBL- Problem Based Learning project completed in given time? Asking the students to present their findings and what he/ she learned. Final presentation, and the end result project will show. I also will use rubrics of what the expectation and then grade them according to the rubric.

Can students communicate and prove their theories and solutions to an audience of peers and adults?

## Teaching Methods

What teaching methods will be used to implement this project? (500 words or less.)

First the design process is taught.
Next, What is Maker Space and how can it be used to solve a problem? Explain to class by defining and giving expectations.
This is an ongoing station, year after year, with different learning tasks, engineering challenges.
Every challenge will be reviewed in advance, students will be taught how to collect and record data for their challenges and how to present. The Lego website has great lessons: https://education.lego.com/en-us/lessons?pagesize=12 They can be taught and integrated throughout the district AIM curriculum/ PBL.

Problem Based Learning (PBL) transform the traditional classroom into an innovative learning environment.
Timelines, time management, rubrics, and expectations are taught. Students have one on one conferences with teacher, and mid project checks to discuss and "show" their learning.

## Timeline

### What is the project timeline and the date of implementation?

We begin AIM the second week of school each school year and it ends last day if applicable.
The items bought with the grant money will stay in the classroom and be used year after year. The consumables are what I will provide with classroom budget.

## Curriculum/System Support

### Explain how this idea or project enhances/supports Allen ISD curriculum or existing systems.

The learning experiences mentioned in this proposal will help the student reach a higher level of problem solving than can be reached with the regular curriculum. The AIM classroom allows for an extension of creativity and innovation but I do need support with the funding of STEM supplies. This deepens the understanding of curriculum taught at a higher level
promotes depth and complexity
Fosters collaboration
relates classroom learning to the real world
provides opportunities for experimentation, failure, improvement and discovery as part of the scientific process in practice.

## Budget Details ** All awarded funds will be available by September of the next school year.

| Budget Item | Item Type | Unit Cost | Quantity | Total Cost |
|---|---|---|---|---|
| LEGO Education WeDo 2.0 Core Set 45300 | Instructional Supplies or Resources | 197.95 | 5 | 989.75 |

BUDGET TOTAL  989.75

Are there any additional funds available for this grant? Campus or District Funds? PTA funds? Let us know if you have or will be seeking funds from other sources to help with this project.

Additional funds?  ◉ No

         ○ Yes

## Principal Approval Required

### Please provide the Name and Email of your PRINCIPAL. (Not your name)

| First Name | Last Name | Email Address (Completed) |
|---|---|---|
| Cindy | Blair | Cynthia.Blair@allenisd.org |

## Applicant Signature

By entering my name below I signify that I understand that if I move within the District and have written the grant myself, I may take the grant with me to my school (as long as it is appropriate for my classes). If I have written the grant as part of a team, I will leave the grant behind with the team. If I leave AISD, I will leave the grant with the school for which I wrote the grant. As a condition of this grant, I will complete an evaluation form provided by the Foundation.

Signature  Pamela Moore

Date  12/20/2018

I certify that this would be a good use of funds for our school and this grant supports the district goals and/or our campus improvement plans. **Do NOT include any identifiers, such as: campus name, your name, teachers name or mascot **

No actions possible.

## Comments

This would be an excellent grant. Thank you,

Cindy Blair

## State Change History

| State Change | Pamela.Moore@allenisd.org
12/19/2018 12:57:52
Submitted |
| State Change | ******
12/19/2018 13:05:11
Accepted |

## Grant Status

| Grant Awarded | ○ Yes
○ No |
| Award Amount | 990 |