

## General Information

Grant Number	136
Project Title	Concrete to Abstract: Learning Math with Manipulatives
Please select the <b>MAIN</b> curriculum area your grant addresses.	Math
Does your grant have a technology component? (Will you have technology equipment, software, etc. in your budget?)	<input checked="" type="radio"/> No <input type="radio"/> Yes
<b>Primary Contact Information</b>	
First Name	Tamara
Email	tamara_huffman@allenisd.org
Last Name	Huffman
Phone Number	972-727-0370
Campus	Green Elementary
Main Subject	Math - Elementary
Grade(s)	3
I have co-applicants.	<input checked="" type="checkbox"/>

## Grant Co-Applicants

Additional Grant Applicants			
First Name	Last Name	Campus	Grade
Susan	Frick	Green Elementary	3
Kathleen	Holloway	Green Elementary	3
Tami	Fee	Green Elementary	3
Christine	Love	Green Elementary	3
Cindy	Trantham	Green Elementary	3
Lisa	Meyer	Green Elementary	3

## Describe details of the project

Grant Number	136
<b>Campus/Student Information</b>	
Your campus:	Green Elementary
Will other campus' be involved/impacted by this grant?	<input checked="" type="radio"/> No <input type="radio"/> Yes
Your grade(s):	3
Will other grades be involved/impacted?	<input checked="" type="radio"/> No <input type="radio"/> Yes
<b>Project Purpose</b>	
What is the problem, need, or opportunity that this grant will address? Explain <b>what students will know and be able to do</b> as a result of this project and/or how a problem will be addresses and/or how a situation improved because of the grant. (500 words or less.)	

The grant, Concrete to Abstract: Learning Math with Manipulatives, will address the rigor for third grades new math TEKS pertaining to fractions and elapsed time by giving the students hands on experiences using manipulatives with meaningful lessons. Research states that the use of manipulatives in teaching mathematics has a long tradition and solid research history.

Manipulatives not only allow students to construct their own cognitive models for abstract mathematical ideas and processes, they also provide a common language with which to communicate these models to the teacher and other students. In addition to the ability of manipulatives to aid directly in the cognitive process, manipulatives have the additional advantage of engaging students and increasing both interest in and enjoyment of mathematics. Students who are presented with the opportunity to use manipulatives report that they are more interested in mathematics. Long-term interest in mathematics translates to increased mathematical ability (Sutton & Krueger, 2002).

#### 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 manipulatives will be kept in the math teachers rooms for access during instruction and independent work. In keeping the manipulatives in the math teachers homeroom, all students will be able to benefit from the manipulatives. In addition, the third grade teachers will coordinate with the SSI teachers so the students can use the materials during intervention and our school's Champion Club, after school tutoring and mentoring.

#### Allen ISD Goals/ TEKS

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

One of the Allen ISD goals that this project will address is to transform the traditional classroom into an innovative learning experience that meets the needs of the individual learner: The students will be able to construct their own meaning and understanding about the topic. Also, this project supports the new math TEKS 3.3 A-H ;3.7A,C and Process Skills 3.1C, which is to select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.

#### Measurement

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

The specific measurements that will be used to evaluate the effectiveness of using manipulatives with fractions and elapsed time will be constructed in the math classroom. The forms of evaluation will be teacher observations, CFA's, 12 Week Benchmark, and STAAR Simulation Test. Furthermore, through our campus' PLC time, as third grade teachers we will evaluate the students progress in understanding the concepts on fractions and elapsed time.

#### Teaching Methods

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

The method that will be used to implement this project will be based on a math workshop model. During this model, the students will have the opportunity to gain the knowledge through a mini-lesson, small group instruction with the teacher, math games, and then finally independent practice. Also, the students that need additional practice will be able to use the manipulatives in SSI, third grade intervention, or our Champion Club, after school tutoring and mentoring.

#### Timeline

What is the project timeline and the date of implementation?

Once the project is funded the manipulatives will be ordered and stored in the math teachers classroom for easy access for the students and SSI teachers.

#### Curriculum/System Support

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

This project supports the Allen ISD curriculum by believing when students are given a new concept to learn first they need to use concrete materials to solve problems and look for patterns and generalizations. As students need to record their work, they do so first by sketching pictures (representations) of the manipulative models and then finally move to using abstract (and more formal) mathematical notations for their work giving the students hands on experience to understand a new topic(Moore, 2013.) Also, all these manipulatives are recommended in the book Hands on Standards: Fractions, which is cited in our curriculum document.

#### Budget details

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

Budget Item	Item Type	Unit Cost	Quantity	Total Cost
Fraction Tower Equivalency Cubes Classroom Basic Kit	Instructional Supplies or Resources	149.75	2	299.5
Foam Magnetic Circles	Instructional Supplies or Resources	29.95	2	59.9
Foam Magnetic Fraction Strips	Instructional Supplies or Resources	19.95	2	39.9
Cuisenaire Rods Introductory Set	Instructional Supplies or Resources	9.25	12	111.0
Fraction Number Lines	Instructional Supplies or Resources	15.95	4	63.8
Time Interval Kits	Instructional Supplies or Resources	12.95	4	51.8
<b>BUDGET TOTAL</b>				<b>625.9</b>
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? <input checked="" type="radio"/> <b>No</b> <input type="radio"/> <b>Yes</b>				

### Signature page and principal contact

Principal Approval Required		
Please provide the Name and Email of your Principal		
First Name	Last Name	Email Address (Completed)
Kelly	Campman	kelly_campman@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	Tamara Huffman	
Date	03/24/2015	

### Principal's approval form

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 team grant is aligned with our initiatives for engaging and hands-on math instruction

### History and final disposition of application

State Change History	
State Change	***** 03/26/2015 21:02:32 Submitted
State Change	***** 03/27/2015 15:58:04 Accepted
Grant Status	

Grant Awarded	<input checked="" type="radio"/>	Yes
Award Amount	626	No