



**2012-13 Educational Grant Application**  
**Deadline: Wednesday, March 7, 2012, by 4pm**

Name of Grant: Spinning Science

Name of person(s) submitted by: Shannon Adcock & Carrie Sledge

Campus/Department: Green PE and AIM Grade Level(s): 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup>

Total Dollar Amount Requested: \$452

Number of students who would be involved/impacted by grant: 350 annually

Name of principal or immediate supervisor who will approve submission: Mrs. Kelly Campman

**Project Summary/Purpose:** Be specific. What is the **student need** which the project will address? The purpose should describe **what students will know and be able to do** as a result of this project. Please explain how a problem will be addressed or a situation improved because of the grant.

Spinning Science will be a joint project between PE and AIM classes in 4<sup>th</sup>-6<sup>th</sup> grade. Physics concepts such as motion, friction, gravity, and the exchange of potential and kinetic energy are difficult to explain in a classroom. By integrating yo-yos and spinning tops in both the PE classroom and AIM classroom, students will be able to see and create these concepts to better understand them. As 70% of students learn kinesthetically, this will be a valuable way to teach difficult concepts.

Spinning Science will provide valuable cross-curricular lessons in a fun and exciting manner. Spinning Science supplements Allen ISD's strong PE and AIM curricula in a non-traditional way that includes all students and offers success on many levels both physically and academically. The upper grade AIM students are responsible for running stations on Green's Science Day. Upper grade AIM students will become experts with the yo-yos and spinning tops to be able to conduct two to three stations at Green's all-school Science Day concerning physics. This provides the older AIM students a leadership opportunity.

**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?

The program will be taught in 4-6 grade PE classes and AIM classes. Yo-yo and top basics and the science concepts that each spin and trick demonstrates will be learned. All 4<sup>th</sup> through 6<sup>th</sup> graders will benefit through a greater understanding of science terminology and seeing that terminology in the world around them – not just in a textbook.

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Which Allen ISD goals/TEKS does this project support? Limit to top two or three examples.

Spinning Science covers science TEKS in grades 4-6 related to physics such as:

- Gyroscopic stability (Newton's Laws of Motion)
- Distribution of mass
- Rotational inertia through spinning energy
- Planes of spin – vertical, horizontal, diagonal
- Friction – force which causes change
- Air resistance
- Levers and their effect on energy production
- Gravity
- Potential and kinetic energy

And, PE TEKS for grades 4-6 related to:

- Hand-eye coordination
- Catching skills
- The value of practice and tenacity
- Fine motor development
- Bilateral proficiency
- Sequencing
- Visual tracking

What specific measurements will be used to evaluate the effectiveness of the project?

AISD utilizes FitnessGram to gauge fitness levels for all third through twelfth graders. The Spinning Science Grant provides students a variety of opportunities to pursue personal fitness and improve Green's scores in all FitnessGram tests specifically in the areas of muscular strength and endurance and flexibility.

Texas' STAAR is used for grades three and up as a measure of student learning progress. Spinning Science will lead to a greater understanding of science concepts and hopefully improve STAAR results.

Feedback from teachers and students will be used to improve the lessons for each following year.

What teaching methods will be used to implement this project?

A variety of teaching methods will be employed. As PE classes are large and have a variety of skill and ability levels, the Spinning Science Unit is a great opportunity for students to shine in different and possibly non-traditional roles in PE. AIM students will be the school-wide experts as they lead classes through physics-based Science Day stations using yo-yos and spinning tops.

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Timeline for project (Funds will be available after September 1, 2012):

The week before Science Day in PE will be devoted to the science of spin utilizing yo-yos and spinning tops. AIM students will work with the yo-yos and tops for four weeks prior to Science Day to become familiar with the equipment and terminology as they will be instructors for the entire school on Science Day. Spinning Science will compose two to three stations on Science Day.

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

By integrating a unit in both PE and AIM, students will be afforded a chance to view science in a varied and engaging manner. Spinning Science brings connections to a variety of learners offering a kinetic, visual and hands-on experience. Spinning Science will teach and reinforce:

- Improved bilaterality – being able to use both the dominant hand and the non-dominant hand well is beneficial to students in other sports, those who play musical instruments and computer/technology usage
- Improved reflexes, focus, dexterity and hand-eye coordination
- Science terminology explained outside of a textbook creates a connection to the world. If a student can understand a yo-yo spinning demonstrates gyroscopic stability, they will make a connection to the world around her and see gyroscopic stability in other places.

Include any additional comments or information (attach additional pages if necessary):

This unit is easily replicated by other elementary schools and will be repeated annually. Complete lesson plans will be shared with any school that asks as well as the grant application.

**Grant Budget:** specific product numbers, vendor addresses, etc **are not required** on this budget page. The name of the product or the type of training or estimated cost of transportation is sufficient. **\*Please round numbers to the nearest dollar amount.**

<b>Instructional Supplies</b>	<b>Vendor / Supplier</b>	<b>Cost per Item</b>	<b>Total</b>
60 ball bearing yo-yos	Spintastics.com	\$6.	360.
Pack of 100 strings	Spintastics.com	\$12.	12.
20 Tops w/ pull spinners	Spintastics.com	\$4.	80.
Shipping is included			
<b>TOTAL AMOUNT REQUESTED</b>			<b>\$452</b>

Are there any additional funds available for this grant? Campus or district funds? PTA funds? If you have or will be seeking funds from any other sources to help with this project, please explain.

No, our PTA is experiencing low funding this academic year and we expect many programs to be scaled down or cut.