Foundation For Allen Schools Grant Application

Let's get to know you!

First Name	John
Last Name	Ricken
Preferred name/name that you go by:	John
Email Address	john.ricken@allenisd.org
Best phone number to reach you at:	14693196481
Campus	Allen High School
Grade(s)	10;11
I have co-applicants:	Yes
Please provide your work-related Facebook contact information.	Not Answered
Please provide your work-related Twitter contact information.	@AhsRicken

Additional Co-Applicants Set Number 1

First Name	Albert
Last Name	Najera
Email	albert.najera@allenisd.org
Campus	Allen High School
Grade:	10;11

Additional Co-Applicants Set Number 2

First Name	Reagan
Last Name	Vinson
Email	reagan.vinson@allenisd.org
Campus	Allen High School
Grade:	10;11

Additional Co-Applicants Set Number 3

First Name	Jessica
Last Name	Jones
Email	jessica.jones@allenisd.org
Campus	Allen High School
Grade:	10;11

Additional Co-Applicants Set Number 4

First Name	Tara
Last Name	Allgood
Email	tara.allgood@allenisd.org
Campus	Allen High School
Grade:	10;11;12

Project Information

Name of Grant	Playing to Understand Motion and Energy in IPC
Please select the MAIN curriculum area your grant addresses.	Science / STEAM
Does your grant have a technology component?	No
Does your grant have a need or requirement that will change, alter, or require any maintenance to Allen ISD Properties?	No
Will other campuses be involved/impacted?	No
Will other grades be involved/impacted?	No
How many students will be involved in this grant?	275
Are there any additional funds available for this grant?	No

Project Information Continued

What is the problem, need or opportunity that this grant will address? Describe the impact of this project on your students.	The best way to teach physics to kids is also the best way to teach physics to adults. You present them with a real-world set of objects they are interested in and which demonstrate the different principles of physics. And joyful learning automatically follows from this. Students in IPC need more hands-on / real life application of the concepts being taught. By engaging students with play, we are looking to capture their attention and lead them to inquiry about the concepts being taught. Understanding physics is actually a two fold educational process. In addition to developing an accurate conceptual background, students need to apply concepts to solve problems. It is important for children to learn the concepts before they can even understand why they are solving mathematical problems. The focus of the student is operational, trying to find the mathematical definition that will solve the problem. If a child learns the major concepts first, each problem a child encounters will have a point to start solving the problem. That student becomes an expert problem solver. Toys can help a child start their problem solving adventure. Toys are created to entertain. The entertainment factor is there because toys usually do something that is "odd." A child will tend to play with a toy longer, if they are trying to figure out what is going on. Even after they figure out the physics behind it, it still will maintain the entertainment value because the child then feels like they really understand the toy. The abstraction of physics is not important for the early stages of development which kids undergo. But what is important is to get exposure to it, and it is this exposure which can plant that all important seed for future curiosity and academic pursuit in the sciences.

How will the project or program be implemented? Describe activities and tasks. Who is the target population and in what ways will they benefit?	We will be able to utilize the materials purchased to progress through simple motion (describing and calculating position, displacement, speed and acceleration) to forces being applied at different points in an objects motion to acceleration due to gravity and/or friction. Finally, Momentum and Energy will be compared from car to car as students examine the physical attributes of each car as well as the resulting changes in their potential and kinetic energies. Integrated Physics and Chemistry is designed for students who need a bridge between biology and chemistry, the class focuses on real world application of physical sciences. Students will be able to apply hands-on learning hands-on learning in many career fields such as forensic science, pyrotechnics or automotive engineering to name a few. This is an on-level science course with a 4.0 GPA scale value.
Provide a brief summary for use on the Foundation's website and social media.	Intentional Play Curriculum (IPC): Motion and Energy "Play gives children a chance to practice what they are learning"... Fred Rogers Play based learning to engage students in learning about motion and energy will help boost data collection and critical thinking amongst students.
Which Allen ISD goals/TEKS does this project support? Please provide 2 examples.	Allen ISD Science Department -Allen ISD cultivates innovation in education that empowers every learner to realize his or her full potential. -We are Curious -We Like Science -Science is Anytime and Anywhere. -We Learn with Others IPC TEKS (4) Science concepts. The student knows concepts of force and motion evident in everyday life. The student is expected to: (A) describe and calculate an object's motion in terms of position, displacement, speed, and acceleration; (B) measure and graph distance and speed as a function of time; (C) investigate how an object's motion changes only when a net force is applied, including activities and equipment such as toy cars, vehicle restraints, sports activities, and classroom objects; (D) describe and calculate the relationship between force, mass, and acceleration using equipment such as dynamic carts, moving toys, vehicles, and falling objects; (E) explain the concept of conservation of momentum using action and reaction forces
What specific measurements will be used to evaluate the effectiveness of the project?	Test Data and Lab Report Quality from 2021-2022 will be compared to test data from 2022-2023. IPC uses AWARE data to track student learning over time, this allows for focus on which concepts are the most difficult for students to grasp
What teaching methods will be used to implement this project?	Learning will be inquiry based. Students will be provided with a goal to be learned with each activity and students will have to manipulate variables in order to reach the goal. Students will then have to explain the steps followed to attain their goal, describe the final procedures and using their new experiential knowledge describe how they may change the way they approach a similar problem in the future.
What is the project timeline and the date of implementation?	This project will kick off the Physics portion of IPC at the start of the second semester. It will be used for a minimum of 13 class days progressing from simple motion all the way through conservation of energy and momentum.

Explain how this idea or project enhances/supports Allen ISD curriculum or existing systems.	This idea directly addresses a number of the state TEKS for IPC including 4.(D) describe and calculate the relationship between force, mass, and acceleration using equipment such as dynamic carts, moving toys, vehicles, and falling objects.

Project Budget

Total Grant Budget Requested:	316.75

Project Budget Set Number 1

Item Type	General Supplies
List item to be purchased under item category:	MATEL Hot Wheels- New Track - 4x24" Straight Track Pieces W/Connectors - 8 Feet Total
Unit Cost	9.99
Quantity	15
Total cost of items in this category:	149.85

Project Budget Set Number 2

Item Type	General Supplies
List item to be purchased under item category:	Hot Wheels 5-Pack Bundle of 15 Toy Cars, 3 Themed Packs of 5 1:64 Scale Vehicles, Gift for Collectors & Kids 3 Years Old & Up
Unit Cost	16.99
Quantity	3
Total cost of items in this category:	50.97

Project Budget Set Number 3

Item Type	General Supplies
List item to be purchased under item category:	36 Pack Pull Back Car Set of Toy Cars Party Favor for Boys Mini Toy Cars Set for Kids Toddlers Birthday Play Plastic Vehicle Set (Random Color)
Unit Cost	19.99
Quantity	1
Total cost of items in this category:	19.99

Project Budget Set Number 4

Item Type	General Supplies
List item to be purchased under item category:	Monster Trucks Inertia Car Toys - Friction Powered Car Toys for Toddlers Kids Birthday Christmas Party Supplies Gift for Boys and Girls (4 Color) Brand: ANAOER
Unit Cost	15.99

Quantity	6
Total cost of items in this category:	95.94

NGB

First Name	Last Name	Email	NGB	Record	Letter
Nicole	Jordan	nicole.jordan@allenisd.org	RN225692	Name: Rec228081, Status: Submitted	Click on the 'Edit' button to replace this with your letter.

NGB Custom Questions and Answers

Rec228081

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, teacher's name or mascot **	Approve
Please provide comments/feedback for the applicant:	IPC is usually taken by our lower level science students, so I feel that providing a hands on approach for these students will give them a conceptual understanding to Physics that will provide a solid foundation.

Almost done!

Not Available