



**WACO ISD EDUCATION FOUNDATION  
COVER SHEET – PART II  
Application for Grant:  
2025-2026 Funding Cycle**

**Assigned Grant Proposal #:** \_\_\_\_\_

**Project Title:** \_\_\_\_\_

**Grade Level(s):** \_\_\_\_\_ **# of Students DIRECTLY involved:** \_\_\_\_\_

**Subject Area(s):** \_\_\_\_\_

**Amount Requested: \$** \_\_\_\_\_

**Grant Focus Area(s):** In order to be considered, Waco Education Foundation Innovation Grant proposals must fall under one or more of the E4 focus areas: early childhood development, enhanced programming for advanced students, extended education for staff, and emphasis on student performance. NOTE: In addition to meeting one of the E4 focus areas above, grant readers are especially interested in creative and innovative grant requests that target fine arts, STEM, literacy, or enrichment.

**(check all that apply)**

Early Childhood Development

Enhanced Programming for Advanced Students

Fine Arts

Literacy

Extended Education for Staff

Emphasis on Student Performance

STEM

Enrichment

## Grant Proposal #54

### STEM in the Gym: Integrating STEM Concepts into Physical Education

#### Project Description:

The “STEM in the Gym” project aims to foster an engaging, interdisciplinary learning environment where students can explore Science, Technology, Engineering, and Math (STEM) concepts through physical fitness activities. By integrating hands-on STEM lessons into physical education (PE) classes, students will develop a deeper understanding of STEM topics, such as biomechanics, physics of motion, human anatomy, and data analysis, all while engaging in fun and active learning. This program will provide innovative teaching tools, hands-on learning experiences, and professional development for teachers to encourage STEM literacy and improve overall student engagement and health outcomes.



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#### 1. Rationale:

The STEM in the Gym program seeks to bridge the gap between physical education and STEM education. Through interactive, activity-based lessons and specialized equipment, students will connect physical fitness with fundamental STEM concepts, making abstract scientific principles more tangible and accessible. This project will engage students from PK- 5<sup>th</sup> Grade and foster critical thinking, collaboration, and problem-solving skills that align with both state educational standards and physical fitness objectives.

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#### 2. Goals:

1. **Incorporate STEM Learning into PE Curriculum:**
  - o Integrate basic STEM concepts into daily gym activities (e.g., measuring heart rate, tracking physical performance, understanding force and motion).
  - o Develop a curriculum that uses physical exercises to teach concepts such as kinetic energy, speed, acceleration, and muscle function.
2. **Enhance Student Engagement and STEM Literacy:**

- o Offer hands-on experiments and data collection exercises that combine physical movement with scientific inquiry.
  - o Promote the use of technology (e.g., fitness trackers, heart rate monitors, apps) to analyze and understand personal health metrics and physical performance.
3. **Improve Teacher Training and Professional Development:**
- o Provide professional development opportunities for PE teachers to learn how to integrate STEM concepts into their teaching practice.
  - o Offer ongoing training on the use of technology tools and effective methods for creating an engaging, interdisciplinary STEM-focused PE curriculum.
4. **Increase Physical Activity and Health Awareness:**
- o Foster a culture of health and fitness among students by connecting physical activity with academic learning.
  - o Encourage students to apply scientific principles to improve personal health and well-being through exercise.

Here are some relevant TEKS that can be related to STEM in the gym:

### **Physical Education TEKS (Grades K-12):**

- **Builds teamwork - TEKS K.6B:** Demonstrate the ability to play within boundaries during games and activities. K.5B: Know and apply safety practices associated with physical activity such as not pushing in line and drinking water during activity. 4.7D: Demonstrate effective communication, consideration and respect for the feelings of others during physical activities such as encourage others, allow others equal turns, and invite others to participate.
- **Improves hand-eye coordination - TEKS 4.1K:** Demonstrate key elements in manipulative skills such as turning and spinning around.
- **Improves flexibility - TEKS 4.3D:** Improve flexibility in shoulders, trunk, and legs. 4.4C: Identify methods for measuring cardiovascular endurance, muscular strength and endurance, and flexibility.
- **Develops fast reflexes - TEKS 4.2B:** Identify ways movement concepts such as time, space, effort, and relationships can be used to refine movement skills.
- **Increases agility and balance - TEKS 4.1A:** Demonstrate changes in speed during straight, curved, and zig zag pathways in dynamic situations. 4.1E: Perform sequences that include traveling, showing good body control combined with stationary balances on various body parts.
- **Improves strength training - TEKS K.3D:** Lift and support his/her own weight in selected activities that develop muscular strength and endurance of the arms, shoulders, abdomen, back, and legs such as hanging, hopping, and jumping.
- **Promotes weight loss - TEKS 4.4E:** Describe the relationship between food intake and physical activity such as calories consumed and calories expended. 4.4F: Explain the link between physical activity/inactivity and health such as reduce stress and burn calories.
- **Promote anaerobic exercise - TEKS K.3B:** Participate in moderate to vigorous physical activities on a daily basis that cause increased heart rate, breathing rate, and perspiration.

- **Stress reliever** - TEKS 4.4G: Explain the relationship between physical activity and stress relief and demonstrate stress relief activities such as brisk walking, gentle stretching, and muscle tension and release.
- **Physical Fitness:** TEKS include learning about physical fitness and how to improve strength, flexibility, and endurance. This can involve data collection, measurement, and applying scientific methods.
- **Movement Patterns and Skills:** Students learn to demonstrate various physical movements, and teachers can integrate STEM concepts such as angles (geometry) or force (physics) when teaching jumping, throwing, or other movements.
- **Health-Related Fitness:** The study of the body, muscle groups, cardiovascular health, etc., aligns with biology and science standards.
- **Technology in PE:** Students can use devices like pedometers, heart rate monitors, or even fitness apps to collect and analyze data, promoting STEM-based learning.

#### Science TEKS:

- **Physical Science:** Concepts such as force, motion, and energy can be explored through gym activities. For example, when studying how muscles generate force, students can experiment with exercises to measure force and work.
- **Biology:** Learning about the human body, muscular systems, and how exercise affects health fits under biology and health science standards.

#### Math TEKS:

- **Math:** Measurements and calculations like distance, time, speed, and acceleration can be integrated into gym activities, supporting both math and STEM integration.
- **Measurement and Data: Statistics:** Analyzing fitness data through mean, median, mode, and range would fall under math standards for data analysis

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### 3. Plan of Operation:

The Physical Education teacher will begin working on ordering equipment and materials for Stem in The Gym during the summer. District maintenance personnel will be contacted to schedule and arrange for preparation of location of the delivery. Plan to install by early Fall. Stem in The Gym will become a part of the campus Parent Involvement activities such as math

and science night when game activities are included. It will also become a part of campus Field Day activities.

#### **Activities / Strategies:**

1. Reinforce skills through peer learning
2. Incorporate Stem in The Gym into Parent Involvement activities
3. Promotes social behaviors
4. Apply skills taught throughout; allow diverse student populations to re-engage and experience
5. success without relying on skills
6. Encourage lifelong physical activity

#### **Timeline/Calendar:**

7. July – September - Submit purchase order for all budgeted items.
  8. August – October – Contact Maintenance and Facilities departments to plan and schedule site preparations, construction assistance where needed, etc. Contact school partner volunteers if needed for assistance in setup.
  9. October - November – Plan and implement lessons to teach Stem in The Gym rules of play and safety.
  10. December - May - Students will engage in Stem in The Gym during P.E. classes, recess, Field Day, and other Parent Involvement outdoor game-oriented activities.
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## **4. Communication & Dissemination:**

Community members and stakeholders will be invited to a groundbreaking event as we begin our Stem in The Gym preparation and setup, as well as a type of “opening day” event for our first day of use. We would like to be highlighted in a district Foundation Focus interview which is featured on the Waco Education Foundation website and aired on WISD-TV. Photos will be sent to The Education Foundation for their use as well. In addition, parents and community members will be invited to our Parent Involvement activities such as a Parent Night that includes outdoor game activities and our end of year Field Day.

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## **5. Evaluation:**

1. **Curriculum Development:**

- o Collaborate with STEM educators, PE teachers, and local science professionals to create a curriculum that integrates STEM concepts into physical education lessons.
  - o Develop lesson plans that incorporate fitness routines, data collection, and analysis (e.g., tracking running speeds, measuring heart rate before and after exercise, calculating the force needed to lift different weights).
2. **Technology Integration:**
- o Introduce fitness tracking devices (e.g., pedometers, smartwatches) that allow students to collect and analyze data on their physical performance.
  - o Provide access to educational apps or online platforms that allow students to explore STEM concepts through interactive physical activity-based challenges.
3. **Teacher Training:**
- o Organize workshops and professional development sessions for PE teachers to enhance their understanding of STEM principles and how to effectively teach these concepts through physical education.
  - o Provide resources such as lesson plans, videos, and guides to help teachers seamlessly integrate STEM activities into their gym classes.
4. **Assessment and Evaluation:**
- o Measure student progress through both academic (STEM understanding) and physical fitness assessments (e.g., improvements in speed, strength, and endurance).
  - o Conduct pre- and post-program surveys to assess student interest in STEM and physical education, as well as any changes in their attitudes toward physical fitness and science.



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## 6. Long-term Implications:

1. **Increased STEM Interest:** Students will demonstrate an increased interest in STEM subjects, as evidenced by engagement in activities and positive feedback during surveys and evaluations.
2. **Improved Physical Health and Fitness:** Students will experience improvements in physical fitness as they apply STEM concepts to enhance their performance, such as

better understanding of energy use during exercise or how to optimize their workout for health benefits.

3. **Enhanced Teacher Capabilities:** Teachers will gain confidence and expertise in integrating STEM into physical education, with resources and strategies to keep students engaged.
4. **Long-Term Impact:** The program will set the stage for future interdisciplinary learning, encouraging students to see the connection between STEM fields and everyday activities, potentially inspiring future careers in STEM or health sciences.



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## 7. Key Personnel:

### Personnel Responsibilities

#### Principal

- Budgeting issues
- Misc. administration responsibilities related to campus construction

#### P.E. Teacher

- Submit purchase orders for equipment and materials

- Contact district maintenance department and coordinate preparation of area for the Stem in The Gym
  - Coordinate installation and setup of the Stem in The Gym
  - teach student body the rules and how to play the game
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## 8. Budget Overview:

Long-Term Supplies / Equipment (items that will last beyond the grant year)						
1	Stem in Gym Deluxe Kit	Y	\$5,199.00			\$ 5,199.00
1	Stem in Gym Machine Kit	Y	\$469.00			\$ 469.00
1	Shipping	Y	\$793.52			\$ 793.52
						\$ -
						\$ -
						\$ -
total Long-Term Supplies			\$ 6,461.52		\$ -	\$ 6,461.52



## Conclusion:



The “STEM in the Gym” program offers a dynamic and engaging approach to teaching STEM through physical education. By blending fitness with scientific exploration, we aim to create a vibrant learning environment where students are motivated to understand the world around them and develop skills that are crucial for success in both the academic and physical realms. With support from this grant, we can empower students and teachers to make STEM learning a fun and active part of their everyday lives.

# Waco Education Foundation

## Grant Budget Form

Assigned Proposal #	54
Project Title:	Stem In The Gym
Number of Students Served by Grant:	425

Qty	Budget Item	Verify Vendor (Y or N)	\$ Requested from the WISD Foundation	Other Secured Source	\$ from Other Source (if applicable)	Total Amount
<b>Consumable Supplies</b>						
						\$ -
						\$ -
						\$ -
						\$ -
						\$ -
						\$ -
total Consumable Supplies			\$ -		\$ -	\$ -
<b>Technology</b>						
						\$ -
						\$ -
total Technology			\$ -		\$ -	\$ -
<b>Long-Term Supplies / Equipment</b> (items that will last beyond the grant year)						
1	Stem In Gym Deluxe Kit	Y	\$5,199.00			\$ 5,199.00
1	Stem In Gym Machine Kit	Y	\$469.00			\$ 469.00
1	Shipping	Y	\$ 793.52			\$ 793.52
						\$ -
						\$ -
						\$ -
total Long-Term Supplies			\$ 6,461.52		\$ -	\$ 6,461.52
<b>Contracted Services</b>						
						\$ -

						\$ -
total Contracted Services			\$ -		\$ -	\$ -
<b>Personnel</b>						
						\$ -
						\$ -
total Personnel			\$ -		\$ -	\$ -
<b>Travel / Other</b>						
						\$ -
						\$ -
						\$ -
						\$ -
total Other			\$ -		\$ -	\$ -
<b>Totals</b>		<b>Total Requested from the WISD Foundation</b>		<b>Foundation Cost Per Student</b>	<b>Total from Other Sources</b>	<b>Total Cost of Project</b>
		\$ 6,461.52		15.20357647	\$ -	\$ 6,461.52