STEM Action Plan

Spearman Elementary

**Goals and Objectives**

Students will attend a weekly STEM class and use engineering practices to solve problems that link curriculum standards with real-world problems. Additionally, in partnership with the STEM teachers, each classroom teacher will complete one STEM unit by the end of the year.

**Learning Experiences**

- Engineering: Fused Fabrication and Chroma Plus
- Math: Money Math and Money Maze
- Science: Plant Growth and Water Cycle
- Technology: Internet Use Skills

**Challenges**: Engaging all students with robust, engaging, and meaningful learning opportunities.
**STEM Action Plan**

**Spearman Elementary**

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**Goals and Objectives**

- Students will attend a weekly STEM class and use engineering practices to solve problems that link curriculum standards with real-world problems. Additionally, in partnership with the STEM teacher, each team in fourth grade will complete one STEM unit by the end of the year.

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**Learning Experiences**

Chairperson: Miss Erie

Members: mothers, fathers, teachers, and students.

Projects:
- Solar System - Mrs. Gentry, Mrs. Brown, Mrs. Johnson
- Earth Science - Mrs. Green, Mrs. Davis, Mrs. Williams
- Engineering - Mr. Smith, Mr. Lee, Mr. Johnson

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**Prezi**
Big Ideas

To help students better see how to connect problem-solving into every curricular area.
Goals and Objectives

Students will attend a weekly STEM class and use engineering practices to solve problems that link curriculum standards with real-world problems. Additionally, in partnership with the STEM teacher, each homeroom teacher will complete one STEM unit by the end of the year.
Timeline

*STEM teacher will begin meeting with classes during the first week of school and continue throughout the year.
* The homeroom teachers will complete a standards-based STEM lesson by the end of the year (these will be lessons completed outside the weekly STEM sessions with the STEM teacher.)
Assessments

Students will show they incorporated the engineering process within STEM lessons by proving they used these four steps:

1. State Problem
2. Look for Ideas
3. Develop solutions
4. Share solutions through an engineering journal or rubric/checklist, project completion
Resources

STEM resources will be supplied by school and district such as:
Makey Makey
Lego Kits
Drones
Coding devices
Building Materials
Tools
Consumable Materials
Learning Experiences

Kindergarten: Mouse Paint
First Grade: Pinball Designer and Three Little Pigs
Second Grade: A Chair for Mom, Rolling Things, Silboat Challenge
Third Grade: A Hat for Ivn, Circuit City
Fourth Grade: Light Your way, Music Makers, Storm Proof Homes
Fifth: Jet Toy

All Grades: Experiences in problem solving with robotics, coding, and building with technology.
Example

Three Little Pigs:

The teacher will read several versions of the Three Little Pigs. The teacher will then ask the students what could have helped the other two pigs keep their house from blowing down. The students will then design a solution to the problem that the pigs faced with their house blowing down. Students build their design using the given materials. Students will test their design by holding it in front of the "big bad wolf" (hairdryer) and timing to see that it withstands the blowing force for up to one minute. Students will be given the opportunity to redesign and test again.
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**Learning Experiences**

Chairperson: Miss Kiley

Funding:
- 2 sets of Lego EDU
- 3 sets of Snap Circuits

Events:
- Cub Scout STEM Night
- School-wide STEM Day
- Robotics Challenge
- Math Card Challenge
- Science Fair
- Tech Week
- Girl Scouts STEM Night

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**Implementation**

- Professional Development for Teachers
- Parent Workshops
- Community Partnerships

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**Resources**

- LEGO EDU
- Snap Circuits
- Math Manipulatives
- Science Kits
- Robotics Kits

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**Evaluation**

- Student Engagement
- Teacher Feedback
- Parent Feedback
- Community Response

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