FAIR-OAK ELEMENTARY STEM Action Plan

"A Garden of STEMS"

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1. Big Idea
   • To create a landscape for Fair-Oak Elementary School incorporating Pre-K through third grade students in the use of:
     o A greenhouse
     o Landscape design
     o Planting

2. Goals and Objectives
   • The students will
     o Identify natural resources on Earth
     o Identify the natural resources that help seeds/plants grow
     o Identify plants that provide for people
     o Determine what is needed to grow plants in a greenhouse
     o Express ideas by sketching a diagram of the landscape where plants are to be planted
     o Identify what is needed to water the peoples
     o Sketch a diagram of how the greenhouse should be arranged
     o Understand the planting process
     o Understand how to measure using standard units
     o Use inch/centimeters ruler
     o Use tools correctly and safely
     o Write about the process
     o Explain and demonstrate the role money placed in this project

3. Breakdown of STEM
   • Science
     o Planting seeds/Plant observations
   • Technology
     o Researching correct plants, soil, and greenhouse for our region
     o Taking pictures to record and analyze growth
   • Engineering
     o Designing landscape design
     o Creating a garden for each classroom
   • Math
     o Graphing water usage
     o Measuring plant growth

4. Assessments
   • Observations
   • Graphing
   • Journals
   • Diagrams of gardens rubric
   • Research process
   • Unit test
5. Timeline

- First 9 weeks: Preparing the greenhouse and researching for the proper seed plants, soil, and preparation for our region in South Carolina. Teacher training and parent inventory regarding volunteers and landscaping knowledge. Find business partnerships within the community including KOBA.
- Second 9 weeks: Gathering materials and designing a landscape.
- Third 9 weeks: Plant selections, germinating the seeds, and nurturing plant growth.
- Fourth 9 weeks: Creating landscaping designs for plants. Implementation of landscaping around school for beautification.

6. Resources

- Business partners
- KOBA/Clemson University Extension Agent
- Family and friends of Fair-Oak Elementary
- School library
- Various trade books and textbooks
- Various websites
- United Streaming
- Professional landscapers
- West Oak FFA

7. Materials

- Various building materials to prepare the greenhouse
- Potting soil
- Fertilizers
- Seeds
- Gardening tools
- Wood for framing gardens

8. The Learning Experience

- Students will learn the essentials of agriculture and how it effects our environment by designing a landscaping project for our school.