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Action Plan: For each teacher that attended the conference, our goal is to implement one PBL per unit this year. Next year, we will expand this idea to all teachers in our schools using our experiences.

Big Idea: When given a real life situation, students should be able to problem solve, argue their point, design and construct models, defend their solutions as well as refine their product.

Goals and Objectives:

1. For each teacher that attended the conference, our goal is to implement one PBL per unit this year. 2013-2014
2. Next year, we will expand this idea to all teachers in our schools using our experiences. 2014 – 2015
3. Next year, we would like our middle school Stemology expert to offer a graduate level course on STEM concepts and integration for elementary school teachers. 2014 - 2015

Timeline:

Current school year 2013 – 2014

Fall – develop PBL for units of study for teachers who attended the STEM conference.

Next school year 2014 – 2015

Fall – explain the progression of the STEM initiative to ALL teachers at the elementary level.

- All teachers will begin developing PBL units per units of study
- The graduate level course will be offered for those teachers wishing to learn more about STEM concepts and integration.

Assessments (classroom):

- Rubrics
- Teacher observations
- Students journals

Assessments (teacher):

- Student products
- PBL plans to district science coach

Resources:
- Tryengineering.org
- ITEEA.org
- Swe.org
- Business partners
- STEM center of Spartanburg

Classroom Preparation:
- Science labs for all upper elementary teachers
- Planning sessions

Examples

Third Grade:

- Waterproof That Roof! (lesson adapted from tryengineering.org)
  - Recently in our area we have had a high volume of rainfall. Consequently, many homes have experienced water damage to their roofs due to poor choice of building materials or the age of the home. If you were to repair a damaged roof using the least amount of money on materials yet making it water resistant what materials would you choose to use? Look at the material options keeping in mind your budget. Discuss with your team the pros and cons of your choice. Decide on a material. Sketch your design. Gather materials and construct your model. Test and revise your design if needed.
- “House” That Crayfish?
  - Pollution has overtaken Laswon’s Fork Creek home to hundreds of crayfish. However, the population is quickly decreasing due to human contamination. The crayfish are now considered “endangered.” Their habitat will not sustain life. Therefore, we must rescue the crayfish and create an alternative habitat that mirrors their natural habitat and meets all of their needs.

Fourth Grade:

- Granny Down (lesson adapted from tryengineering.org “Two Button Buzzer Circuit”)
  - Your grandmother has fallen and she can’t get up. She can’t afford Life Alert. You must create a two button buzzer that will allow your grandmother to buzz you when she has fallen and for you to buzz her when you receive it.
- “House” That Fiddler Crab?
  - Pollution has overtaken Myrtle Beach home to thousands of fiddler crabs. However, the population is quickly decreasing due to human contamination. The fiddler crabs are now considered “endangered.” Their habitat will not sustain life. Therefore, we must rescue the fiddler crabs and create an alternative habitat that mirrors their natural habitat and meets all of their needs.