WALHALLA HIGH SCHOOL STEM Action Plan

By: Cheryl Murphy, Kacie Taylor, Marc Vaccaro

1. Big Idea
   - Turning Razorbacks into STEM Scholars

2. Goals:
   - Getting more “buy-in” from faculty with STEM lessons.
   - Promote more cross-curricular planning.
   - Teach the design process in a larger number of courses.
   - Host a Razorback STEM Challenge. Have this Challenge become an annual event and have the categories for this Challenge based off of the Career Clusters of the Platinum Seal Diploma earned by students in Oconee County who complete a Career Cluster of their choice.
   - Implement a STEM club at our school, sponsored by the teachers present at this institute and others who may be interested.

3. Timeline:
   - Over the next few days, we plan to discuss these goals and ideas with our administration to let them have some say in how we proceed.
   - During the first week of school, we would like to make a presentation to our faculty to let them know what we plan on implementing throughout the year. At the end of this presentation, we plan to ask for others who would like to participate with their students.
   - In the first of September, we are going to make the announcement to the student body presenting the Razorback STEM Challenge and the divisions of possible entry according to the teachers who have decided to participate and their specialties.
   - We will host the Challenge in April of 2011, judged by local and university specialists and professionals. The winners of each division will be given a gift certificate/gift card prize.
   - We hope to make this an annual Challenge that will involve more of the school as it grows.
   - The STEM club will be opened to students on our first club day. We will be advertising in our classes about the meaning of the club and what will be done during that time period. The way we will be handling this club will be determined by the interest of the students and their ability to meet.

4. Assessments:
   - The teachers who decide to participate will, hopefully, assign a project or major assessment grade for the students who enter in the Challenge. Some teachers will make this a requirement for their students, and those teachers will determine the best way to enter the grade for their classes.
• We will be using a rubric, which is to be developed within the first few weeks of school, to assess the students. This rubric will be given to all teachers participating who would like to offer a grade for student entry.

5. Resources:

• We will need many human resources from universities and local businesses when providing students with mentors, if needed, and judges for the actual Challenge.
• We will need monetary support from certain businesses in the community for prizes to award winners in each category of the Challenge.
• Materials will be negotiated by each teacher and the parents of the students involved in the challenge... we will not make it impossible for students to participate but not all materials for each project will be provided.

6. Learning Experiences:

• The teachers involved will be teaching the design process within their own curriculum.
• The curriculum involved is still being developed and redeveloped to determine the best way to implement various STEM standards with our students.

7. Example:

• The design process will be taught according to the Project Lead the Way curriculum.
• One example is similar to the hot air balloon project presented during the meetings at Borg Warner. The project is still in the process of development. However, the idea is to have students construct their own hot air balloons using the gas laws taught in higher level chemistry classes. We would also like for them to incorporate the use of trigonometry to determine the heights the balloons reach when they are flown outside.