

ORANGE COUNTY
BOARD OF EDUCATION

AGENDA ITEM ABSTRACT

Meeting Date: January 17, 2012

AGENDA ITEM No. 12-01-(2)-09

ACTION ITEM: (Y/N) Y

SUBJECT: Engineering is Elementary (EIE) Program Draft Proposal

INFO. CONTACT: Dr. Denise Morton/Myron Wilson PHONE: 919 732-8126

ATTACHMENTS: 1. Proposed Budget
2. Proposed Timeline for Theme School Implementation
3. STEM Coordinator Position Description/Definition of Theme School

PURPOSE: To provide the Board of Education for their review and discussion a proposed plan to implement a theme school at Central Elementary which includes a timeline and budget for the Engineering is Elementary (EIE) program.

BACKGROUND: At their December 5, 2011 meeting, board members heard a presentation on the Engineering is Elementary program. Elizabeth Parry, the EIE consultant and trainer from North Carolina State University, provided background and an overview of the program.

At the end of the presentation, board members requested staff provide additional information for their consideration as they determine next steps in implementing the EIE program.

Principal Wilson of Central Elementary School has discussed and presented this concept to the school's leadership team and faculty. Follow-up sessions have been held with Elizabeth Parry of NC State with both school-level and district-level staff.

FINANCIAL IMPACT: \$187,841.94 (See detailed attachment)

RECOMMENDATION: The Superintendent recommends the Board of Education review, discuss, provide direction to staff and approve the proposed plan to implement the EIE program beginning with the 2012-2013 school year.

Draft Proposed EIE Budget

	Start Up Costs	Recurring Costs
Professional Development (@ \$600 per day; estimated total if maximum days utilized – consultant fees)	\$7,800.00	
<i>Initial Training (3-5 days depending on extent of content)</i>		
<ul style="list-style-type: none"> • Whole Staff • Content suggestions: <ul style="list-style-type: none"> ➤ Screaming the theme ➤ Why Engineering? ➤ Science, Engineering and Technology ➤ STEM Notebooks ➤ Creating and nurturing effective teams ➤ Project Based and Inquiry Learning ➤ Integration across curriculum ➤ Engineering is Elementary curriculum training ➤ Science Content 		
<i>Ongoing Training (5-8 days per year)</i>		
<ul style="list-style-type: none"> • Whole Staff/Grade Levels/PLCs • Provide ongoing support and deeper understanding through early release day workshops, meeting with grade levels during their planning time, afterschool training on mutually agreed upon schedule. 		
Materials		
Engineering is Elementary materials kits with teacher guides (estimated)	\$18,000.00	\$4,500.00
<ul style="list-style-type: none"> ➤ Recommend 2 full kits for each unit, 4 per grade level grades 2-5, (average cost \$350 each) plus consumables refill (Average \$150 each) and teacher guide (Average \$50 each) for additional teachers in grade level 		
General materials supply for K-1 small projects and grades 2-5 additional Projects (estimated)	\$4,000.00	\$4,000.00
STEM notebooks (1 per student@ \$3 each) estimated	\$1,200.00	\$1,200.00
Miscellaneous materials for Family STEM events, engineer's week, special projects (estimated)	\$1,000.00	\$1,000.00
Transportation Cost (for students not districted to Central)	\$20,000.00	\$20,000.00
Classroom Furniture (4 classes x \$5,000)	\$20,000.00	0
STEM Coordinator (12 month position/includes benefits)	\$68,000.00	\$68,000.00
STEM Theme Building Aesthetics	\$5,000.00	0
One Week of Certified Staff Salaries for Training Purposes	<u>\$42,841.94</u>	<hr style="width: 100%;"/>
GRAND TOTAL	\$187,841.94	\$98,700.00

Theme School
 “Engineering is Elementary” (EIE) Plan
 Proposed Timeline
 *Pending Board of Education Approval

January 17, 2012	Presentation to Board of Education on proposed theme school “Engineering is Elementary” plan
January 18, 2012	Post STEM Coordinator position on Human Resources website
February, 2012	Central Elementary selects team to visit already established EIE schools in North Carolina
	Develop information plan for parents
	Conduct parent meetings
	Develop theme school application process for registration
	Establish staff training dates for summer
	Conduct STEM Coordinator interviews
March, 2012	Open registration process for theme school
	Staff STEM Coordinator position
	Discuss staffing scenarios
	Continue parent information sessions
April, 2012	Close Theme school registration
	Purchase new materials for EIE plan
	Begin the “Scream the Theme” planning for building aesthetics
	Begin planning for EIE summer camp
May, 2012	Pursue business partnerships
August, 2012	Train all certified staff on EIE curriculum

STEM Coordinator Position Description

Work with teachers and staff to implement engineering design principles in every classroom. Support the implementation of STEM notebooks and effective teamwork implementation.

Provide support to teachers in lesson planning to ensure effective delivery of integrated STEM lessons addressing the North Carolina Standard Course of Study goals and objectives.

Aid in providing resources for engineering implementation, including obtaining and maintaining Engineering is Elementary curriculum books and kits as specified by grade level, general supply stores and electronic and printed supplemental materials for teachers to implement.

Serve as the instructional leader for integrated STEM using engineering. Provide on-site support and expertise for STEM integration for administration, teachers and students. Develop opportunities to co-teach with teachers in their classrooms to model effective integrated STEM instruction and collaboration.

Serve as a liaison between the staff and administration and the STEM Curriculum consultant, facilitating whole staff and grade level interactions as mutually agreed upon.

Lead efforts to “scream the theme” of engineering and integrated STEM throughout the building through displays of student work and projects, STEM themed posters and wall art and the engineering design process.

Engage parents in the school transformation through printed information, Family STEM events and community partnerships.

Theme School Definition

A Theme school is a public elementary or secondary school that provides unique or specialized curriculum. Traditionally, these schools are distinct from other public schools because they offer specialized academic focuses or themes. They are typically also open to students outside the normal school district boundaries but offer rigorous, yet competitive programs.

*All Central Elementary students districted to Central would continue to attend Central. However, the district wants to offer the opportunity for other interested students and families throughout the district to apply for a slot at Central if interested. Further information will be provided.