

K-12 Science Program

Final Update and Recommendations

BOE MEETING – June 15, 2009

Dr. Stephen Young
Director of Curriculum and Instruction

Mr. Vincent Galasso
BBHS Science Coordinator



K-5 Science Program

- Reviewed K-5 Curriculum Content and Updated Maps
- Meetings were held with the 4th Grade team for Curriculum Revisions and Content Alignment
- Implemented Inquiry-Based FOSS Kits to supplement the existing Science 21 Investigations
- Delta Education On-Site Consultant Training for grade K,1,3
- Science Committee met with consultant (i.e.EduChange) to discuss and identify the K-5 program best practices and shortcomings



K-5 Science Program

- Grade-Level Meetings were held to discuss additional time allocated for science instruction
- One Elementary Science Teacher attended NSTA Conference with MS and HS Colleagues
- Additional Equipment and Supplies were ordered and received including 12 portable compound microscopes, 2 field scopes, 6 plant experiment growth chambers, etc.
- Science Extravaganza for 5th Grade students provided by the BBHS AP Science Students
- NSTA Membership and Science and Children Journal



Recommendations

- ❑ Continue to Implement Inquiry Activities at Each Grade Level
- ❑ Institute an Elementary Science Expo for Students in Grades 3-5 (in collaboration with the PTA)
- ❑ Increase time allocated to K-4 Science Instruction through HRE Reconfiguration and Scheduling Modifications
- ❑ Offer 15 Hours Professional Development Workshops in the Fall (for Either In-Service Credit or Stipends)
- ❑ Hire a full time K-4 Science Content Specialist for Inquiry Science Instruction to Supplement Classroom Component and for Staff Development



6-8 Science Program

- ❑ Investigated, Designed, and Will Implement the New 8th Grade Physical Science Course
- ❑ Purchased Investigative Labs and Equipment for New Course
- ❑ Reviewed and Purchased New Textbook for the Physical Science Course
- ❑ Increased Teacher Professional Development Opportunities (e.g. Cambridge Physics)
- ❑ One MS Science Teacher Attended the NSTA Conference
- ❑ NSTA Membership and Science Scope Journal



Real World Applications

Projects-Based Learning

- ❑ Climate Change Study in 8th Grade Earth Science
- ❑ NSF Grant Participation – Beacon Institute for Rivers and Estuaries and Clarkson University
- ❑ Integration of Technology and Science Using Student–Built Sensors



Recommendations

- ❑ Monitor, Assess and Further Develop Project-Based Learning in the Middle School
- ❑ Strengthen the Assessment Process to Include Higher-Order Thinking and Problem-Solving Skills
- ❑ Continue and Expand the Focus on Writing
- ❑ Look for Opportunities for Interdisciplinary Projects and Activities



9-12 Science Program

- ❑ Reviewed Science Research Program Structure
- ❑ Created New Course Offering for Freshman Interested in Pursuing Science Research (Introduction to Science Research)
- ❑ Explored Additional Course Offerings Including AP Chemistry and AP Environmental Science
- ❑ AP Psychology Now Offered in Science Department
- ❑ Reviewed and Purchased new AP Psychology Text
- ❑ Implemented Additional Problem-Solving Lessons



9-12 Science Program

- ❑ Purchased Additional Presentation Equipment (Elmo Document Cameras) for Classroom Instruction
- ❑ Expanded use of Internet Activities and Simulations
- ❑ Utilized Probes / Sensors and Software for Data Acquisition and Analysis
- ❑ Two Teachers Attended the NSTA Conference
- ❑ NSTA Professional Science Teacher Journal
- ❑ Selection of Science Department Coordinator



Recommendations

- ❑ Increase Elective Choice Through Mini / Micro Courses (Quarter or Semester Approach)
- ❑ Student Interest Determined Through Course Survey (Fall 2009)
- ❑ Increase Technology Instruction in Laboratory Activities
- ❑ Incorporate Additional Decision-Making and Problem-Solving Activities
- ❑ Continue and Expand the Focus on Writing
- ❑ Incorporate Character Education and Lifestyle Decision-Making Elements into Science Classes



Science Links to Proposed District Strategic Plan

- ❑ Critical Thinking and Problem Solving in all Science Courses
- ❑ Application of Knowledge to Real World Situations
- ❑ Technology Embedded in Core Academic Knowledge
- ❑ Development of Professional Learning Communities
- ❑ Fostering 21st Century Teaching and Learning Skills
- ❑ Character Education and Lifestyle Decision-Making Elements
- ❑ Interdisciplinary Content and Team Teaching

Are there any questions at
this time?

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