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# STEMCAP Curriculum Welcome



Reminder:

STEM Collaborative Action Plan Project Goal:

***“Develop a collaboration and a strategic action plan to increase the number and support the development of science, technology, engineering and math (STEM) students, graduates, teachers, professors and mentors within the California Innovation Corridor and the State of California, leveraging the resources and efforts not only of education and academia (K-20, public and private), but of industry and the informal science network”***





# Working Group Goals – Steering Committee Inputs



December 9<sup>th</sup> Working Group Kick-Off

- Goal Statement
- Key Components of strategy
- Criteria, principles for best practices, models
- Measures/outcomes to evaluate success



# Curriculum



## Goal Statement

*Create, fund, train and integrate relevant and inspiring STEM curriculum, activities, materials and courses into both formal and informal education, beginning at pre-school.*





# Strategy Elements: INSPIRE



- Each Student
- Each Teacher
- Each Community Through Collaboratives
- With Curriculum that is Global and Innovative
- Include Activities that are Relevant
- Show Possibility of Future Opportunities
- Show Relevant Role Models “Doing It”
- Increase Expectations and Access
- Show Early Success and Eliminate Exclusivity
- Connect Innovation and Application





# Strategy Elements: ENGAGE



- Students, Educators, Parents, Community and Industry as Partners
- Teachers and Counselors Through STEM Professional Development
- Align Public and Private Resources
- Cultural Relevancy and Role Models
- Non-Traditional Teachers (industry, retirees, volunteers)
- Regional Collaboratives
- Novice to Expert





# ENGAGE (cont.)



- Geographic Diversity – Urban to Rural
- Time and Resources Outside of Traditional School Day and Year
- New Measures of Success
- Public – Private Partnerships
- Enhance Academic Relevance of STEM Curriculum
- Career Technical Education Redefined
- Popular Media and Technology
- Informal STEM Opportunities



# Strategy Elements: EDUCATE



- Each Student
- Each Teacher
- Vary Delivery to Include More Visual, Auditory, and Kinesthetic Activities
- Provide Real Examples and Applications for Theoretical Concepts
- Increase Relevancy by Connecting 3 R's
- Expand STEM Activities p-20
- Fund Materials and Facilities





# EDUCATE (cont.)



- Redefine Academic Relevance
- Embrace Alternative Approaches
- Identify Best Practices and Scale Up
- Expand Student Exposure to STEM Career Options
- Expand Internships for Students and Teachers
- Educate for Growth STEM Industries and Skills





# Strategy Elements: EMPLOY



- Develop and Integrate Relevant Curriculum for Growth STEM Career Opportunities
- Identify Future Workforce Career Skills for Middle and High School Career Technical Education
- Gain Agreement that One Goal of Education is to Prepare for Future Jobs
- Link Education to California's Economic Vitality
- Link STEM Courses to Current Academic Standards





# EMPLOY (cont.)



- New Marketing to Attract Students
- Connect School and Family to STEM Employment
- Provide Access to Job Experts
- Increase Apprenticeships and Work Experience





# Working Group Notes



- Have we properly identified who?
- Do we have the conditions right?



# Best Practices Criteria



- Measured
- Evaluated
- Both Formal and Informal
- Portable
- Replicable
- Applicable to Diverse Audiences
- Inspiring
- Access or Delivery Mechanism
- Improve Cycle Defined





# Best Practices Criteria (cont.)



- Success Based
- Sustained
- Relevant to STEM
- Innovative
- Scalable
- Partnerships Include all Stakeholders
- Cross Segments
- Defined Focus Area
- Leadership Driven
- Cost Effective - Affordable





# Measure of Outcomes



- Include Traditional Tests
- College Entrance and Exit in STEM Majors
- Community College Tech Training Completion
- Job Employment, Applicants, Success
- Gap Analysis
- Success in Implementing Curriculum in MS and HS Cost
- Number of Students Served



# STEMCAP May 19<sup>th</sup> Forum



LAX Westin

8:00 a.m. – 9:30 a.m. Steering Committee/Spkr breakfast

9:30 a.m. – 3:30 p.m. Forum/Working Group session

## Confirmed Speakers:

- State Superintendent of Public Instruction – Jack O’Connell
- President CAL Poly SLO – Warren Baker
  - System Lead for Math and Science Teacher initiative

## Invited:

- Rick Stephens – Sr. VP, The Boeing Company

Working Group Session – Same three break-outs





# Final Comments and Inputs

