High School STEM Educator Effectiveness Academy Materials for MDK12

Day 1 – School Team Session and Principals' Session		
Activity	**Purpose**	**Resources**
School Team Session	The purpose of the school team sessions was to allow participants to develop an understanding of how the STEM Standards of Practice were developed and how the Practices can be used in different content areas.	- School Team PowerPoint - Maryland State STEM Standards of Practice - STEM Standards of Practice Carousel Activity - STEM Standards of Practice Carousel Activity Signs - Vision, Mission, and Contact Information for the Office of STEM Initiatives
Principals' Session	The purpose of the principal's session was to allow participants to review the goals for STEM education in high school and receive an overview of the high school STEM Educator Effectiveness content sessions. Additionally, participants developed an understanding of how STEM education connects to Common Core and other content standards. Lastly, participants received strategies on how to implement STEM education in their school.	- Principals' Session PowerPoint - 3 Day High School STEM Overview - Attributes of a STEM Centric Learning Environment - STEM Education Frequently Asked Questions

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Blue – Identifies hyperlinks to websites

Day 1 – STEM Content Session: STEM Standards of Practice, Frameworks, and Instructional Guides

STEM participants engaged in activities that allowed them to take a deep dive into the STEM Standards of Practice and the STEM Standards of Practice Framework Instructional Guide for grades 9-12. Participants analyzed the Framework Instructional Guide structure and content. Additionally, they developed an understanding of how to use the STEM Standards of Practice in any content area.

Activity	Purpose	Resources
Opening PowerPoint	The purpose of the opening PowerPoint was to give participants and overview of STEM education in high school.	Introduction to STEM Education in High School PowerPoint
Day 1 PowerPoint	The day 1 PowerPoint provides an overview and directions for activities participants engaged in during day 1 of the Academies.	High School STEM Day 1 PowerPoint
Ice Breaker	The purpose of the ice breaker activity was to allow participants to review the STEM Standards of Practice proficiencies and to become acquainted with team members.	- Maryland State STEM Standards of Practice - Ice Breaker Activity Signs - Ice Breaker Activity Pictures
Scavenger Hunt	The purpose of the scavenger hunt activity was to allow participants to become familiar with the content and format of the High School STEM Standards of Practice Framework Instructional Guide.	- Maryland State STEM Standards of Practice Framework Instructional Guide Grades 9-12 - Scavenger Hunt Activity - Scavenger Hunt Activity Answer Sheet
Developmental Progression of Essential Skills and Knowledge	The purpose of the developmental progression of essential skills and knowledge activity was to allow participants to analyze the vertical alignment of knowledge and skills for STEM Standard of Practice 3. Participants developed an understanding of how a foundation of STEM education is developed in elementary school and is continuously built upon throughout middle and high school.	Developmental Progression of Essential Skills and Knowledge
What Does STEM Look Like in Your Content	The purpose for the *What Does STEM Look Like in Your Content Area?* activity was to allow participants to	- What Does STEM Look Like in Your Content Area?

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Area?	describe how the STEM Standards of Practice "look" in their classrooms. Participants described what a teacher in specific disciplines could do to encourage the development of the essential skills and knowledge and what students could do to demonstrate mastery of the essential skills and knowledge for an assigned STEM Standard of Practice. Additionally, participants provided input on the Framework by completing Framework Feedback Forms.	- Framework Feedback Form

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Day 2 – STEM Centric Units and Lessons

STEM participants engaged in activities that allowed them to develop an understanding of how to create STEM centric lessons for any discipline. A STEM centric lesson is one that incorporates the STEM Standards of Practice and reflects the definition of STEM education. Participants analyzed transdisciplinary STEM centric lesson seeds using the STEM centric unit and lesson checklist. Additionally, they were provided resources to develop STEM centric lessons for their content area.

Activity	Purpose	Resources
Day 2 PowerPoint	The day 2 PowerPoint provides an overview and directions for activities participants engaged in during day 2 of the Academies.	High School STEM Day 2 PowerPoint
Find Someone Who…	The purpose of the *Find Someone Who…* activity was to allow participants to review concepts presented during day 1 of the Academy.	Find Someone Who…. Activity and Answer Key
Dayton Regional STEM Center: What is STEM Education?	The purpose for showing the *What is STEM Education* video was to provide participants an introduction to conducting STEM centric units in a classroom.	*http://www.daytonregionalstemcenter.org/stem-tools/rubric/*
STEM Unit Components BINGO	The purpose of the STEM BINGO activity was to allow participants to review components of a STEM Unit.	- STEM Unit Components - Universal Design for Learning Guidelines - STEM BINGO Cards
5E Beach Ball	The purpose of the 5E beach ball activity was to review the 5E model for integrated STEM instruction and to share examples of activities for each 5E component.	- 5E Model for Integrated STEM Instruction
Developing STEM Centric Units and Lessons	Participants engaged in a series of activities designed to allow them to develop an understanding of how to develop STEM centric units and lessons in any content area. Participants developed STEM centric lesson seeds for their discipline using resources on the curriculum management system.	- Creating a STEM Centric Lesson Guide - STEM Centric Unit and Lesson Checklist - STEM Unit Template - STEM and Universal Design for Learning - Integrated Biology, Government, and Foundations of Technology Lesson Seeds

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Day 3 – STEM Centric Learning Environment

STEM participants engaged in activities that allowed them to analyze the attributes of a STEM centric learning environment. They reviewed the pedagogy and curriculum associated with STEM education and analyzed the roles of teachers and students engaged in STEM centric activities. Participants also developed a professional development plan to share STEM information with their schools.

Activity	Purpose	Resources
Day 3 PowerPoint	The day 3 PowerPoint provides an overview and directions for activities participants engaged in during day 3 of the Academies.	High School STEM Day 3 PowerPoint
STEM Centric Lesson Seed Review	The purpose of the STEM centric lesson seed review was to reinforce concepts presented during days 1 and 2 of the Academy and to allow participants to receive feedback on their lesson seeds.	STEM Centric Lesson Seed Analysis
STEM Centric Lessons: Benefits / Challenges / Overcoming Challenges	The purpose of the benefits/challenges/overcoming challenges activity was to allow participants to analyze the benefits of implementing STEM centric lessons and identify strategies for overcoming challenges of implementation.	Benefits / Challenges / Overcoming Challenges PowerPoint
Attributes of a STEM Centric Learning Environment	The purpose of the attributes of a STEM centric learning environment activity was to highlight key components of a STEM centric learning environment in high school.	Attributes of a STEM Centric Learning Environment
Project-Based Learning	Participants were provided an introduction to project-based learning as defined by the Buck Institute for Education.	http://www.bie.org/videos/video/project_based_learning_explained
STEM Centric Squares	The purpose of the STEM centric squares activity was to review and reinforce concepts presented during days 1, 2, and 3 of the Academy.	STEM Centric Squares Game
STEM Professional Development Plan, Exit Ticket, and Frequently Asked Questions	Participants were provided the opportunity to begin to develop a professional development plan to share STEM Educator Effectiveness Academy information with their schools. Participants were also given the opportunity to provide suggestions for additional STEM professional development trainings.	- STEM Professional Development Plan - STEM Exit Ticket - STEM Education Frequently Asked Questions

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