

WELCOME (WEEK ONE)				
OUTCOME ESSENTIAL UNDERSTANDINGS	ASSESSMENT	ACTIVITY	NYS STANDARDS	TIME
Participants will become familiar with one another & learn to use the on-line format.	Post to under Introductions thread.	Define your personal profile using a fictional character, a car and an animal. Tell background information (grade level, # yrs taught, etc...)	N/A	15 Minutes
Participants will learn to use the tool, Elluminate, for office hours.	Log in to Elluminate during office hours.	Have a brief discussion with the instructor by speaking or writing any questions about the course or policies.	N/A	15 Minutes

BACKWARDS DESIGN (WEEK TWO)				
OUTCOME ESSENTIAL UNDERSTANDINGS	ASSESSMENT	ACTIVITY	NYS STANDARDS	TIME
Participants will understand the backwards design approach as defined by Ralph Wiggins.	Record individual responses based on group discussions in thread Backwards Design.	Read on-line articles about Backwards Design. Discuss main ideas of backwards design with group members. Discuss how it can help improve instruction in the classroom & help meet the standards.	N/A	1 Hour (research) & 30 Minutes (discussion)
Participants will demonstrate understanding of how to apply backwards design to a content unit in Science.	Post essential understandings under the I Don't Do Apples Thread.	Individually, apply backwards design to one unit by listing essential understandings of that unit (using standards, district curriculum & knowledge of students).	N/A	1 Hour

INQUIRY (WEEK 3)				
OUTCOME ESSENTIAL UNDERSTANDINGS	ASSESSMENT	ACTIVITY	NYS STANDARDS	TIME

Participants will demonstrate understanding of inquiry-based scientific method.	Participate in discussion with group members based on article.	Read article based on inquiry & the scientific method. Engage in a group discussion about putting this into practice.	MST Standard 4 Science <u>Scientific Inquiry</u> Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.	1 & ½ Hours (research) & 30 Minutes (discussion)
Participants will demonstrate understanding of how to apply student inquiry within their content unit.	Post parameters of student inquiry under the thread, Inquiry In My Unit.	Based on EU's & knowledge of inquiry, decide on how inquiry will be used in the unit. Anticipate examples of student inquiries within these parameters. What support from the teacher will students need in order to complete their inquiry? What materials are needed?	MST Standard 4 Science <u>Scientific Inquiry</u> Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.	1 Hour

DIGGING DEEPER (WEEK 4)				
OUTCOME ESSENTIAL UNDERSTANDINGS	ASSESSMENT	ACTIVITY	NYS STANDARDS	TIME

<p>Participants will demonstrate understanding of the resources/materials available relating to their content unit & EU's.</p>	<p>Post resources (websites, literature, media, etc...) under thread, Digging Deeper.</p>	<p>Dig deeper into the content area by researching available resources for enhancing teacher understanding &/or student learning of the unit's EU's.</p>	<p>MST Standard 4: Science <u>Physical Setting</u> Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science. &/OR <u>The Living Environment</u> Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science. English Language Arts <u>Standard 1</u> Students will read, write, listen, and speak for information and understanding. <u>Standard 3</u> Students will read, write, listen & speak for critical analysis & evaluation.</p>	<p>1 & ½ Hours</p>
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<p>CULMINATING ASSESSMENT (WEEK 4)</p>				
<p>OUTCOME ESSENTIAL UNDERSTANDINGS</p>	<p>ASSESSMENT</p>	<p>ACTIVITY</p>	<p>NYS STANDARDS</p>	<p>TIME</p>

<p>Participants will demonstrate understanding of how to base a culminating activity on essential understandings of the unit & with authentic use of inquiry.</p>	<p>Post description of the culminating activity under the thread, Culminating Assessment.</p>	<p>After viewing several examples & reading about authentic assessments, participants will create culminating assessments based on EU's & use of students' inquiry. They will design a culminating task that is authentic & a mode for presenting this task to the students (i.e. Power Point, media, literature, challenge cards, etc...).</p>	<p>MST Standard 4 Science <u>Scientific Inquiry</u> Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions. Career Development & Occupational Studies <u>S1: Career Development</u> Students will be knowledgeable about the world of work, explore career options, and relate personal skills, aptitudes, and abilities to future decisions. <u>S2: Integrated Learning</u> Students will demonstrate how academic knowledge & skills are applied in the workplace & other settings.</p>	<p>1 Hour & 15 Minutes</p>
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<p>Participants will demonstrate understanding of the integral role that mathematics plays in designing scientific experiments, gathering scientific evidence & reporting results.</p>	<p>Post description of use of mathematics under Mathematic Connection.</p>	<p>After viewing several examples illustrating mathematics' integral role in scientific inquiry, participants will examine how they will use mathematics in this unit:</p> <ul style="list-style-type: none"> ▪ Experimental design ▪ Gathering results ▪ Reporting Results ▪ What skills are needed? ▪ What tools are needed? 	<p>MST Standard 3 Math <u>Mathematical Reasoning</u> Students use mathematical reasoning to analyze mathematical situations, make conjectures, gather evidence & construct an argument. <u>Number Sense</u> Students use number sense & numeration to develop an understanding of multiple uses of numbers in the real world, use of numbers to communicate mathematically, and use of numbers in the development of mathematical ideas. <u>Mathematical Modeling or Multiple Representation</u> Students use mathematical modeling or multiple representation to provide a means of presenting, interpreting, communicating, and connecting mathematical information and relationships. <u>Measurement</u> Students use measurement in both metric and English measure to provide a major link between the abstractions of mathematics and the real world in order to describe and compare objects and data.</p>	<p>1 Hour</p>
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<p>DESIGNING INSTRUCTION & ACTIVITIES (WEEK 5)</p>				
<p>OUTCOME ESSENTIAL UNDERSTANDINGS</p>	<p>ASSESSMENT</p>	<p>ACTIVITY</p>	<p>NYS STANDARDS</p>	<p>TIME</p>

<p>Students will demonstrate understanding of how to design instruction & activities based on EU's & using student inquiry.</p>	<p>Post instruction/activity plans under the thread, Designing Instruction.</p>	<p>Design instruction based on EU's & using student inquiry.</p> <ul style="list-style-type: none"> ▪ How to teach students to form meaningful questions. ▪ How to teach students about the "variables" & "constants". ▪ How to teach students to form hypotheses. ▪ Design a record sheet that students can use in their science journals or on a copied form. ▪ Decide on how students will graph data & share it with the scientific community in the classroom. ▪ Create guidelines to help children write valid conclusions based on data. 	<p>MST Standards <u>Standard 3: Mathematics</u></p> <ul style="list-style-type: none"> ▪ Mathematical Reasoning ▪ Number Sense ▪ Mathematical Modeling or Multiple Representation ▪ Measurement <p><u>Standard 4: Science</u></p> <ul style="list-style-type: none"> ▪ Scientific Inquiry ▪ Physical Setting ▪ Living Environment <p>Career Development & Occupational Studies <u>S1: Career Development</u> <u>S2: Integrated Learning</u></p> <p>English Language Arts <u>Standard 1</u> <u>Standard 3</u> <u>Standard 4:</u></p>	<p>2 Hours</p>
<p>Students will demonstrate the ability to integrate resources/materials into their unit to enhance EU's.</p>	<p>Post a plan for activities to incorporate resource for enhancing students' EU's under the thread Resources.</p>	<p>Design instruction for enhancing student understanding through use of resources/materials.</p> <ul style="list-style-type: none"> ▪ What will you use as a "hook" for the unit? ▪ What research will students conduct & how? ▪ What vocabulary will the students be learning? ▪ How will you design instruction using these resources? ▪ How do these resources enhance EU's? 	<p>MST Standards <u>Standard 3: Mathematics</u></p> <ul style="list-style-type: none"> ▪ Mathematical Reasoning ▪ Number Sense ▪ Mathematical Modeling or Multiple Representation ▪ Measurement <p><u>Standard 4: Science</u></p> <ul style="list-style-type: none"> ▪ Scientific Inquiry ▪ Physical Setting ▪ Living Environment <p>Career Development & Occupational Studies <u>S1: Career Development</u> <u>S2: Integrated Learning</u></p> <p>English Language Arts <u>Standard 1</u> <u>Standard 3</u> <u>Standard 4:</u></p>	<p>1 Hour</p>

PUTTING IT ALL TOGETHER (WEEK 6)				
OUTCOME	ASSESSMENT	ACTIVITY	NYS STANDARDS	TIME
Students will demonstrate understanding of how to start with backwards design (EU's) & apply principles of student inquiry to their content unit in Science.	Post completed unit under the thread, Putting It All Together.	Put previous assignments together by completing an outline of the unit. This will include: <ul style="list-style-type: none"> ▪ Unit title, theme/focus, grade level & length ▪ Overview ▪ NYS Standards ▪ EU's ▪ Resources/Materials ▪ Culminating Assessment ▪ The Hook ▪ Designing Instruction ▪ Artifacts 	MST Standards <u>Standard 3: Mathematics</u> <ul style="list-style-type: none"> ▪ Mathematical Reasoning ▪ Number Sense ▪ Mathematical Modeling or Multiple Representation ▪ Measurement <u>Standard 4: Science</u> <ul style="list-style-type: none"> ▪ Scientific Inquiry ▪ Physical Setting ▪ Living Environment Career Development & Occupational Studies <u>S1: Career Development</u> <u>S2: Integrated Learning</u> English Language Arts <u>S1: Information & Understanding</u> <u>S3: Critical Analysis & Evaluation</u> <u>S4: Social Interaction</u>	2 Hours
Participants will complete a course evaluation.				15 Minutes