

Exploring the New NYS Math Curriculum (Including Ways to Integrate the Graphing Calculator)

Week 1		<u>Essential Questions:</u> How can teachers use the new strands to help organize their district's curriculum? Why do we have to teach these specific topics?		<u>Outcome:</u> Participants will be able to find the new curriculum on the NYS Education website
Objective	Assignment	Assessment	NYS Standards	Seat Time
Participants will introduce themselves.	Add a post to the <i>Introductions</i> thread. Be sure to include: <ul style="list-style-type: none"> • What grade you teach • Where you work • What you like to do in your spare time 	The postings in the discussion will be assessed as follows: <ul style="list-style-type: none"> • Complete - Response answers all the questions • Incomplete - No response or all questions not answered 	N/A	15 min.
Participants read the syllabus, roadmap, and course policies and agree to adhere to them.	<ul style="list-style-type: none"> • Go to the <i>Syllabus, Roadmap, and Policies</i> thread. • Click on the links to read all 3 documents. • Post a message in the <i>I Have Read It</i> thread stating that you have read all 3 documents and agree to all of the terms of the course. 	The postings in the discussion will be assessed as follows: <ul style="list-style-type: none"> • Complete - Response included • Incomplete - No response 	N/A	15 min.
Participants will be able to identify the five content strands and the five process strands in the new curriculum.	<ul style="list-style-type: none"> • Go to the NYSED mathematics homepage on the VLS: http://eservices.nysed.gov/vls/subjectAreaHome.do?standardAreaID=6&contentID=10 • Follow the link in the TOOLKIT column to the core curriculum. • Read through the introduction which explains the different strands. • Choose one of the strands and post your comments about it in the <i>Strands</i> thread. Do not post about a strand that someone else has already used. 	The postings in the discussion will be assessed as follows: <ul style="list-style-type: none"> • Awesome - Response well done • Satisfactory - Response not fully developed • Incomplete - Missing response 	Mathematics, Science, and Technology - Standard 3 Students will: <ul style="list-style-type: none"> • understand the concepts of and become proficient with the skills of mathematics; • communicate and reason mathematically; • become problem solvers by using appropriate tools and strategies; 	75 min.

<p>Participants will be able to distinguish the difference between the following terms used in the new curriculum: <i>investigate, explore, discover, conjecture, reasoning, argument, justify, explain, proof, and apply</i></p>	<ul style="list-style-type: none"> Go to the NYSED mathematics homepage on the VLS: http://eservices.nysed.gov/vls/subjectAreaHome.do?standardAreaID=6&contentID=10 Follow the link in the TOOLKIT column to the Grade 9 - Grade 12 curriculums. Click on the HTML version of the Core Curriculum. Go to the Table of Contents. Click on any of the high school curriculums (Integrated Algebra, Geometry, or Algebra 2 and Trigonometry). Read through the beginning section which explains the meanings of the terms: <i>investigate, explore, discover, conjecture, reasoning, argument, justify, explain, proof, and apply</i>. Your assignment is to add a post in the Reasoning Processes thread that briefly describes 3 activities that you do in your class and explain which stage of the reasoning process your students are using. 	<p>The postings in the discussion will be assessed as follows:</p> <ul style="list-style-type: none"> Awesome - Response well done including 3 activities Satisfactory - Response not fully developed, but still includes 3 activities Incomplete - Missing response or less than 3 activities explained 	<p>Mathematics, Science, and Technology - Standard 3 Communication Strand Students will:</p> <ul style="list-style-type: none"> organize and consolidate their mathematical thinking through communication; communicate their mathematical thinking coherently and clearly to peers, teachers, and others; analyze and evaluate the mathematical thinking and strategies of others; use the language of mathematics to express mathematical ideas precisely. 	<p>60 min.</p>
<p>Week 2</p> <p><u>Essential Questions:</u> In looking through the new Math curriculum for your grade, if you could concentrate on one topic for the first 3 months of school, what would it be? Explain why you would choose this topic. How can teachers use the new strands to help organize their district's curriculum? Why do we have to teach these specific topics?</p>		<p><u>Outcome:</u> Participants will be able to find a copy of the new curriculum on the NYS Education Website. Participants will be able to compare the new curriculum to the curriculum they already are teaching.</p>		
Objective	Assignment	Assessment	NYS Standards	Seat Time
<p>Participants will identify topics that have been moved in the new curriculum and how this will affect their teaching.</p>	<ul style="list-style-type: none"> Go to the NYSED mathematics homepage on the VLS: http://eservices.nysed.gov/vls/subjectAreaHome.do?standardAreaID=6&contentID=10 Follow the link in the TOOLKIT column to Grade 9 - Grade 12. Scroll down and open the one of the Crosswalks documents (Integrated Algebra, Geometry, or Algebra 2 and Trigonometry) Comment in the Crosswalks thread about what you feel are the 3 most significant changes to the curriculum. Read other students posts and respond to at least one post in the thread. 	<p>The postings in the discussion will be assessed as follows:</p> <ul style="list-style-type: none"> Awesome - Response well done including 3 changes and comment to another student Good - Response not fully developed, but still includes 3 changes and comment to another student Satisfactory - Response includes less than 3 changes or no comment to another student Incomplete - Missing response or less than 3 changes explained and no comment to another student 	<p>Mathematics, Science, and Technology - Standard 3 Students will:</p> <ul style="list-style-type: none"> understand the concepts of and become proficient with the skills of mathematics; communicate and reason mathematically; become problem solvers by using appropriate tools and strategies; 	<p>90 min.</p>

Week 3

Essential Questions:

Does technology (specifically calculators) help or harm student learning? Why do we have to teach these specific topics?

Outcome:

Participants will be able to compare the new curriculum to the curriculum they already are teaching. Participants will explore mathematical language.

Objective	Assignment	Assessment	NYS Standards	Seat Time
<p>Participants will identify five unclear objectives.</p>	<ul style="list-style-type: none"> Go to the NYSED mathematics homepage on the VLS: http://eservices.nysed.gov/vls/subjectAreaHome.do?standardAreaID=6&contentID=10 Follow the link in the TOOLKIT column to the Grade 9 - Grade 12 curriculums. Click on the HTML version of the Core Curriculum. Go to the Table of Contents. Click on any of the high school curriculums (Integrated Algebra, Geometry, or Algebra 2 and Trigonometry). Read through the curriculum paying special attention to performance indicators that appear confusing. Post two objectives that could use some clarification in the <i>Confusing Performance Indicators</i> thread. 	<p>The postings in the discussion will be assessed as follows:</p> <ul style="list-style-type: none"> Awesome - Response well done including 2 unclear objectives Satisfactory - Response includes less than 2 objectives Incomplete - Missing response 	<p>Mathematics, Science, and Technology - Standard 3 Connections Strand Students will:</p> <ul style="list-style-type: none"> recognize and use connections among mathematical ideas; understand how mathematical ideas interconnect and build on one another to produce a coherent whole; recognize and apply mathematics in contexts outside of mathematics. 	<p>45 min.</p>
<p>Participants will use the sample tasks to guide them in explaining the unclear objectives.</p>	<ul style="list-style-type: none"> Read the posts in the <i>Confusing Performance Indicators</i> thread. Choose one student to respond to, trying to choose a student that has not received a response yet. Go to the NYSED mathematics homepage on the VLS: http://eservices.nysed.gov/vls/subjectAreaHome.do?standardAreaID=6&contentID=10 Follow the link in the TOOLKIT column to the Grade 9 - Grade 12 curriculums. Click the link for Sample Tasks. Look up the students confusing performance indicator to see what sample task is aligned with that performance indicator. Go back to the <i>Confusing Performance Indicators</i> thread and make a post explaining the sample tasks. 	<p>The postings in the discussion will be assessed as follows:</p> <ul style="list-style-type: none"> Awesome - Response clearly explains the two unclear objectives Satisfactory - Response unclear or clear on only one objective Incomplete - Missing response or unclear on both objectives 	<p>Mathematics, Science, and Technology - Standard 3 Problem Solving Strand Students will:</p> <ul style="list-style-type: none"> build new mathematical knowledge through problem solving; solve problems that arise in mathematics and in other contexts; apply and adapt a variety of appropriate strategies to solve problems; monitor and reflect on the process of mathematical problem solving. 	<p>45 min.</p>

<p>Participants will be able to identify which mathematical terms should be used at each grade level.</p>	<ul style="list-style-type: none"> Go to the NYSED mathematics homepage on the VLS: http://eservices.nysed.gov/vls/subjectAreaHome.do?standardAreaID=6&contentID=10 Follow the link in the TOOLKIT column to Grade 9 - Grade 12 Click on the Glossary for Teachers and Suggested Lists of Mathematical Language by Grade Level Choose at least 10 words that are appropriate for your grade level and are within a similar topic. Use these words to make a crossword puzzle at www.puzzlemaker.com Save the puzzle in Microsoft Word: Post a message in the <i>Crossword Puzzle</i> thread with a link to your Word 	<p>The postings in the discussion will be assessed as follows:</p> <ul style="list-style-type: none"> Awesome - Crossword puzzle includes more than 10 words with complete definitions Satisfactory - Crossword puzzle includes more than 10 words with unclear definitions Incomplete - Missing puzzle or less than 10 words in puzzle 	<p>Mathematics, Science, and Technology - Standard 3 Communication Strand Students will:</p> <ul style="list-style-type: none"> organize and consolidate their mathematical thinking through communication; communicate their mathematical thinking coherently and clearly to peers, teachers, and others; analyze and evaluate the mathematical thinking and strategies of others; use the language of mathematics to express mathematical ideas precisely. 	<p>75 min.</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-size: 2em; font-weight: bold; margin-right: 20px;">Week 4</div> <div style="text-align: center;"> <p><u>Essential Questions:</u> Does technology (specifically calculators) help or harm student learning?</p> </div> <div style="text-align: center;"> <p><u>Outcome:</u> Participant will integrate the calculator into their curriculum.</p> </div> </div>				
Objective	Assignment	Assessment	NYS Standards	Seat Time
<p>Participants will identify 5 specific performance indicators in which the graphing calculator could be used.</p>	<ul style="list-style-type: none"> Go to the NYSED mathematics homepage on the VLS: http://eservices.nysed.gov/vls/subjectAreaHome.do?standardAreaID=6&contentID=10 Follow the link in the TOOLKIT column to the Grade 9 - Grade 12 curriculums. Click on the HTML version of the Core Curriculum. Go to the Table of Contents. Click on any of the high school curriculums (Integrated Algebra, Geometry, or Algebra 2 and Trigonometry). Read through the performance indicators and choose 5 that you think could be enhanced by the use of the graphing calculator. Post your comments including the 5 performance indicators in the <i>Getting Started with the Graphing Calculator</i> thread. 	<p>The postings in the discussion will be assessed as follows:</p> <ul style="list-style-type: none"> Awesome - Response well done and includes 5 performance indicators Satisfactory - Response not fully developed or includes less than 5 performance indicators Incomplete - Missing response or less than 4 performance indicators 	<p>Mathematics, Science, and Technology - Standard 7 Strategy 2: Solving interdisciplinary problems involves a variety of skills and strategies, including effective work habits; gathering and processing information; generating and analyzing ideas; realizing ideas; making connections among the common themes of mathematics, science, and technology; and presenting results.</p>	<p>75 min.</p>

<p>Participants will compare how the lesson could be taught with the graphing calculator and without the graphing calculator.</p>	<ul style="list-style-type: none"> Choose one of your performance indicators from the <i>Getting Started with the Graphing Calculator</i> thread. Post a message in the <i>Expanding on the Graphing Calculator</i> thread describing how the lesson would change if using the graphing calculator. Respond to another students posting. 	<p>The postings in the discussion will be assessed as follows:</p> <ul style="list-style-type: none"> Awesome - Response well done including comment to another student Good - Response not fully developed, but still includes a comment to another student Satisfactory - Response not fully developed, no comment to another student Incomplete - Missing response and no comment to another student 	<p>Mathematics, Science, and Technology - Standard 3 Communication Strand Students will:</p> <ul style="list-style-type: none"> organize and consolidate their mathematical thinking through communication; communicate their mathematical thinking coherently and clearly to peers, teachers, and others; analyze and evaluate the mathematical thinking and strategies of others; use the language of mathematics to express mathematical ideas precisely. 	<p>90 min.</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-size: 2em; font-weight: bold; margin-right: 20px;">Week 5</div> <div style="text-align: center;"> <p><u>Essential Questions:</u> Does technology (specifically calculators) help or harm student learning?</p> </div> <div style="text-align: right; margin-right: 20px;"> <p><u>Outcome:</u> Participants will become familiar with the TI website and resources that can be found there. Participants will be able to integrate the TI-83/84 calculator into their lessons.</p> </div> </div>				
Objective	Assignment	Assessment	NYS Standards	Seat Time
<p>Participants will be able to find a lesson on the TI website.</p>	<ul style="list-style-type: none"> Go to http://education.ti.com Hit the link for classroom activities. Go to the either the activities exchange or the explorations books. Search for a lesson that they would like to try. Go to the <i>Visiting the TI Website</i> thread and post a link to the lesson so that it can be shared among the class. 	<p>The postings in the discussion will be assessed as follows:</p> <ul style="list-style-type: none"> Complete - Response includes link to lesson Incomplete - No response or link not included 	<p>Mathematics, Science, and Technology - Standard 3 Connections Strand Students will:</p> <ul style="list-style-type: none"> recognize and use connections among mathematical ideas; understand how mathematical ideas interconnect and build on one another to produce a coherent whole; recognize and apply mathematics in contexts outside of mathematics. 	<p>75 min.</p>

<p>Participants will be able to place that lesson in the proper strand.</p>	<ul style="list-style-type: none"> Post a message in the <i>My TI Lesson and the New Curriculum</i> thread that lists the performance indicators used in your lesson from the <i>Visiting the TI Website</i> thread. 	<p>The postings in the discussion will be assessed as follows:</p> <ul style="list-style-type: none"> Complete - Performance indicator given Incomplete - No response or doesn't include the performance indicator 	<p>Mathematics, Science, and Technology - Standard 3 Communication Strand Students will:</p> <ul style="list-style-type: none"> organize and consolidate their mathematical thinking through communication; communicate their mathematical thinking coherently and clearly to peers, teachers, and others; analyze and evaluate the mathematical thinking and strategies of others; use the language of mathematics to express mathematical ideas precisely. 	<p>60 min.</p>
<p>Week 6</p> <p><u>Essential Questions:</u> Does technology (specifically calculators) help or harm student learning?</p>			<p><u>Outcome:</u> Participants will become familiar with the TI website and resources that can be found there. Participants will be able to integrate the TI-83/84 calculator into their lessons</p>	
Objective	Assignment	Assessment	NYS Standards	Seat Time
<p>Participants will be able to find a lesson on the TI website.</p>	<ul style="list-style-type: none"> Go to http://education.ti.com Hit the link for classroom activities. Go to the either the activities exchange or the explorations books, whichever one you did not use for the first lesson. Search for a lesson that they would like to try. Go to the <i>Part 2: Visiting the TI Website</i> thread and post a link to the lesson so that it can be shared among the class. 	<p>The postings in the discussion will be assessed as follows:</p> <ul style="list-style-type: none"> Complete - Response includes link to lesson Incomplete - No response or link not included 	<p>Mathematics, Science, and Technology - Standard 3 Connections Strand Students will:</p> <ul style="list-style-type: none"> recognize and use connections among mathematical ideas; understand how mathematical ideas interconnect and build on one another to produce a coherent whole; recognize and apply mathematics in contexts outside of mathematics. 	<p>75 min.</p>

<p>Participants will be able to teach a lesson from the TI website to their class.</p>	<ul style="list-style-type: none"> • Choose either a lesson you found or a lesson from one of your classmates. • Teach the lesson to your class. • Reflect on how well it worked. 	<p>The postings in the discussion will be assessed as follows:</p> <ul style="list-style-type: none"> • Awesome - Response well done • Satisfactory - Response not fully developed • Incomplete - Missing response 	<p>Mathematics, Science, and Technology - Standard 3 Communication Strand Students will:</p> <ul style="list-style-type: none"> • organize and consolidate their mathematical thinking through communication; • communicate their mathematical thinking coherently and clearly to peers, teachers, and others; • analyze and evaluate the mathematical thinking and strategies of others; • use the language of mathematics to express mathematical ideas precisely. 	<p>90 min.</p>
<i>Course Evaluation</i>				15 min.