

Connected Math 8

Lesson Plan Master

Mr. Chamberlain

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Date	Lesson	Objectives	Procedure	Homework
Thu- Fri	9/7 Welcome	- <i>Communicate Policies, Procedures, Expectations/</i> - <i>Biographical Number Line Project - Interview</i>	Review Grading Policy/Notebook Organization 1) Work in pairs Biographical Number Project 2) Day-1 Diagnostic Quiz; Learn to set up "Test Cubicles"	Rough Draft of Biographical Number Line
Mon- Tue	9/11 Class Procedures for working in groups & testing	- <i>Grade 8 Pre-test Part 1</i> - <i>Continue work on Number Line project</i>	POD - Fraction Bar Math (22 min) Work on Number Line Project (22 min) Take Pre-test (22 min) Ticket Out - Fraction Add/Sub/Mult	Improve Rough Draft of Number Line
Wed- Thu	9/13 FW 1.1 - Making Cubic Boxes	<i>Introduce concepts of surface area and volume as related to flat patterns or "nets"</i>	Distribute FW Book Read pg 5 together Do Inv 1.1 (35 min) Work on Bio Number Line & discuss project rubric (35 min)	- Final Bio Number Line - Draw all 11 flat patterns for unit cubes (FW 1.1)

Fri- Mon	9/15	FW 1.2 - Making Rectangular Boxes FW 1.4 - Testing Flat Patterns	<i>Recognize & design flat patterns or "nets" to make rectangular boxes</i>	Collect Bio Number Line Projects POD 50 Cents; discuss problem solving strategies using lists (10 min) HW Review Draw 11 cube flat patterns in notes (15 min) Read & do Inv 1.2 Work on FW 1.4 Graphic Organizer (35 min) Ticket Out draw box on iso paper	Complete Graphic Organizer for Lab FW 1.4
Tue- Wed	9/19	FW 1.5 Volume & Surface Area of Various Large Cubes GEPA & PACE	<i>Lab FW 1.5 Further investigate the relationship between volume and surface area using large size cubes</i> <i>Introduce PACE problem solving method & GEPA rubric and ref sheets</i>	Complete FW 1.4 Graphic Organizer Explore and understand various methods to determine the dimensions, surface area, and volume of cubes of various sizes. Make predictions for larger cubes based on your findings with smaller cubes.	Complete F&W Study Guide for Quiz 1
Thu- Fri	9/21	Quiz FW Inv 1	<i>Quiz on FW Unit 1</i> <i>Early Finishers - ODE to a Cube (literacy connection)</i>	Quiz Early finishers will work on "ODE to a CUBE" or "ODE to a PRISM" or "ODE to a POYHEDRON"	Complete ODE for Homework

Mon- Tue	9/25	Lab FW 2.1 Packaging Blocks	<i>Develop strategies for finding surface area of rectangular boxes; relate surface area to volume. Develop concept of volume by filling with unit cubes.</i>	FW Lab 2.1 - Find all the arrangements possible for 24 cubic blocks. Discover a relationship between the surface area and the dimensions of boxes with the same volume. Ticket Out; Draw a 1x1x36 generic sketch - What is the surface area?	1) Complete Lab 2.1 (pdf copy available on mathchamber website) 2) FW : pg 19 #1-5; Draw diagrams for #4 and #5 on iso dot paper
Wed- Thu	9/27	Lab FW 2.2 Saving Trees	<i>Find a general pattern for which rectangular arrangement of a given number of cubes will have the least surface area (i.e. the "most efficient" box)</i>	FW Lab 2.2 - Investigate the relationship between the varying dimensions of boxes that have the same volume. Make a conjecture about the rectangular arrangement of cubes that requires the least amount of packaging material (the least surface area).	1) Complete Lab 2.2 (pdf copy on web) 2) Filling & Wrapping Textbook: pg 20-22 #6,7,8,13
Fri- Tue	9/29	Lab FW 3.1 Filling Rectangular Boxes	<i>Develop concept of volume by filling with unit cubes.</i>	Understand volume as a measure of filling a given container or prism. Further investigate the relationship between volume of a box and surface area.	1) Complete Lab 3.1 (pdf copy on web) 2) Filling & Wrapping Textbook: pg 30-31 #5-8

Wed- Thu	10/4	QUIZ	<i>QUIZ on Investigations 2.1,2.2, and 3.1</i>	Fostering Algebraic Thinking Activity "Toothpick Squares"	Complete "Defining Math" Worksheet - Have Fun Be Creative
				"Defining Math" - Can you define math to an alien? Define the words math, addition, subtraction, multiplication, division and fraction.	
Fri- Mon	10/6	Lab FW 3.3A	<i>As pre-work for further work with volume, review concepts of area and perimeter and their relationship</i>	3 Activities 1) Lab 3.3A - Understand how to calculate the area and perimeter of various shapes. Recognize certain complex shapes as composites (combinations) of simple shapes. 2) Grade 8 Pre-test Part II 3) Fraction Game on web	1) Complete Lab 3.3A (pdf copy on web) 2) Complete Grade 8 Pre-Test Part III - SHOW WORK!
Tue- Wed	10/10	Lab FW 3.3 Filling "Fancy" Boxes	<i>Discovery: the same strategy used to find the volume of a rectangular prism applies to any prism</i>	Complete "group consensus" labsheet for FW 3.3A. Start Lab FW 3.3 - Understand the connection between the area of the base of a prism, and the resulting total volume.	1) Continue work on FW Lab 3.3 (pdf copy on web). You should complete the table for at least two of the prisms.

Thu- Fri	10/12	Lab FW 3.3 Filling "Fancy" Boxes (cont.)	<i>Review for Quiz 3</i>	Complete "group consensus" labsheet for FW 3.3 Quiz 3 Study Guide/ Worksheet "Space Blocks" Web Manipulative	Complete Quiz 3 Study Guide Complete Take Home Quiz (worth 10 out of 50 points on Quiz 3)
Mon- Tue	10/16	Quiz Lab FW 4.1A Tangram Prisms	<i>Quiz on Investigations 3.3A and 3.3</i>	Quiz Lab FW 4.1A - finding the volume of fancy prisms with composite shape bases Tangram Web Activity	Complete Lab 4.1 A - Finding the volume of composite shape "TANGRAM" prisms (lead-in to cylinder investigation)
Wed- Thu	10/18	Lab FW 4.1 Filling Containers	<i>Discovery: the same strategy used to find the volume of a prism applies to cylinders</i>	Understand volume as a measure of filling a given container or prism. Further investigate the relationship between various shapes of containers, especially regarding volume and surface area. "How High" Web Activity	Complete Lab 4.1 FW pg 41 #1-2

Fri- Mon	10/20	Lab 5.1A Using Formulas	<i>Students should SHOW as many STEPS as possible when following the mathematical Order of Operations (PEMDAS)</i>	Find the plomp of a vorple and a norple adds some humor to the otherwise bland topic of performing mathematical operations in a disciplined manner	Complete Corple Norple Lab
Tue- Wed	10/24	Lab FW 5.1 Cones & Spheres Lab FW 5.2 Cones Spheres and Cylinders	<i>Explore ways to determine the volume of cones and spheres</i>	This hand-on experiment will give students experiences in which they may discover for themselves the reasonableness of the formula for finding volume. POD (wc) Lab FW 5.1 OEQ (lab grps)	Complete Labs 5.1 & 5.2 HW Add'l Practice Worksheet
Thu- Fri	10/26	Detail Review of Homework and Labs 5.1 & 5.2	<i>Preparation for Upcoming Unit Test</i>		Redo Add'l Practice Worksheet
Mon- Tue	10/30	Notebook Quiz	<i>Notebook Quiz and more review for FW Unit Test</i>		Study for Test

Wed- Thu	11/1	FW Unit Test	<i>FW Unit Test</i>		No HW!!
Fri- Mon	11/3	Flips Turns and Slides Field Trip	<i>Learn about flips turns and slides on the tennis courts; Marching Band moves</i>	Distribute KHM Text books Collect FW Textbooks	KHM Additional Practice Packet #1-6
Wed- Mon	11/8	Lab KHM 1.1A Using the MIRA	<i>Learn how to use a MIRA™ device to draw reflections and perpendicular lines</i>	POD (wc) Lesson: Groupwork using Mira reflecting tool	Mira Worksheets
Tue- Wed	11/14	Investigation 1 Symmetry & Tessellations	<i>Identify the basic design elements used to form tessellations</i>	POD (wc) Lesson: Begin practice with identifying symmetries using Miras and intuition	Complete Investigation 1 Lab Packet
Thu- Fri	11/16	Investigation 2 Symmetry Transformations	<i>Understand and describe the movements involved in constructing symmetric designs. Write rules for finding images under reflections, rotations and translations.</i>	POD (wc) Lesson: Practice with Reflections and Rotations Transformation	Investigation 2 Lab Packet - Selected Problems
Mon- Tue	11/20	So you think you can dance?	<i>Transformations Dance Contest</i>		No HW

Wed- Mon	11/22	RCCP - Win Win Situations	<i>GAME - WIN AS MUCH AS YOU CAN</i>	Teamwork means that everyone can win!	No HW! Happy T'giving!
Tue- Wed	11/28	Investigation 2 Symmetry Transformations (cont.)	<i>Understand and describe the movements involved in constructing symmetric designs. Write rules for finding images under reflections, rotations and translations.</i>	POD (wc) Review Packet 1 Lesson: Continue practice with transformations using Investigation 2 packet	Transformation HW Activities #1-3
Thu- Fri	11/30	Review Symmetry and Transformations	<i>Understand and describe the movements involved in constructing symmetric designs. Write rules for finding images under reflections, rotations and translations.</i> <i>KHM Quiz 2</i>	POD (wc) Review Packets 1 & 2 Take Quiz	Flip It! Slide It! Turn It! Worksheet
Mon- Tue	12/4	Transforming Coordinates	<i>Quiz on Symmetry and Transformations</i>	POD (wc) Find Patterns AntSet: More than one way to get from here to there Lesson: Use worksheets for transformations in the coordinate plane Ticket Out	Literacy in Math Graphs to Stories 1) Dunkin Donuts 2) Subway Ride
Wed- Thu	12/6	Pre-Algebra	<i>GEPA style Pre-Algebra Problem Set</i>		Pre-Algebra Problem Set A

Fri- Tue	12/8	Investigation 4 - Symmetry and Algebra	<i>Explore combinations of transformations of an equilateral triangle and a square</i>	POD (wc) AntSet: Rube Goldberg MouseTrap Lesson: Work with triangles to complete the combinations table QUIA Activities	Lab 4.1 Transforming Triangles Lab 4.2 Transforming Squares
Wed- Thu	12/13	Begin Review for Unit Test	<i>Review Transforming Labs Begin Add'l Practice Worksheet</i>		Add'l Practice Worksheet for KHM Unit Test
Fri- Mon	12/15	KHM Unit Test Review	<i>Unit Test Review Unit Test Study Guide</i>		Study for Test
Tue- Wed	12/19	KHM Unit Test	<i>KHM Unit Test</i>		No HW
Thu- Fri	12/21	Review Test	Review Test		Winter Break! No HW

Tue- Wed	1/2	Clever Counting Investigation #1 "Counting Possibilities"	<i>To analyze counting problems involving choices; to use counting trees; to see a connection between some counting situations and multiplication</i>	POD (wc) AS - Play "GUESS WHO" children's board game Activity: Computer Quia Quiz #1 Lab 1.1 Ticket Out; Shirts Pants Shoes 4,2,2	1) Lab 1.1 2) pg 9-11 # 1-5
Thu- Fri	1/4	Clever Counting Lab 2.1 "Opening Locks"	<i>To construct organized list of possible outcomes; to discover patterns that help in counting; to recognize similar problems that can be solved with known methods</i>	POD (wc) AS - leverage Determine Digits POD to discuss "intuition" in finding patterns Review HW Lesson: Read Inv 2 with class and do problems 2.1 & 2.2 Activity: Computer CC Millionaire #2 Ticket Out; PushButton Lock w/ 6 Letters; 3 char combo?	1) Complete Lab 2.1
Mon- Tue	1/8	Clever Counting Lab 2.2 "Tour Combinations"	<i>Cross-curricular US Geography Lesson; Design your own tour package</i>	POD (wc) AS - leverage Billiard Pyramid POD to discuss appropriate times to add or multiply Review HW Lesson: 2.2 and/or 2.3 with class and After Review; GEPA Prep Part A	1) Complete Lab 2.2 2) pg 11-12 #6- 8,11-13 and 20-23 #2-3,8-11
Wed- Thu	1/10	Review Labs 1&2	<i>Review Labs 1&2</i>		1) GEPA Prep A 2) Study for Quiz

Fri- Tue	1/12	Quiz	<i>Quiz Clever Counting Investigations 1&2</i>	After Quiz; AS for networks is the 7 Bridge of Konigsburg (Unsolvable) Problem	
Wed- Thu	1/17	Intro to Networks	<i>Planning Trips - Use map routes to visualize various network problems</i>	POD - Planning a vacation Lesson - Plan a trip from Northern NJ to the Jersey Shore then to Virginia while visiting friends along the way	Lab CC3.2 Trip Routes
Fri- Mon	1/19	Clever Counting Investig. #3 "Networks"	<i>Lab 3.4 "7 Bridges of Konigsburg"</i>	POD (wc) AS - leverage Skiers POD to discuss proper problem setup; "P" in PACE; Picture the problem Review HW Lesson: 3.1 and/or 3.2 with class and do problem sets 3.1 & 3.2 Activity: Computer CC Millionaire #3 Ticket Out; Lottery; 3-node network with 2 edges taken away; 4,2,2 becomes 3,1,2? How many paths?	pg 32-34 #1-6,10