

Math Problem Solving – CTY Summer Programs

		WHAT	HOW
Day 1	a.m.	Introductions, class rules, pre-assessment	Assessment tool, name tags, rule discussion, fire drill, Write a Haiku about math
	p.m.	Pattern recognition – Place Value Game	<u>Whodunit Math Puzzles</u> by Bill Wise – 76 Roll the die to determine where to place each number to make the largest sum
	HW		Heart Puzzle Pattern Worksheet
Day 2	a.m.	Pattern recognition – Place Value Game with a Twist	Create a list of strategies to win the game, exchange strategies with others and point out the loop holes
	p.m.	Pattern recognition – Different ways to write numbers, Guess our Number, Introduce the Handshake Game, Palindromes	<u>Whodunit</u> – 54 Present 3 ways to write numbers, Make chart for Handshake Game Define Palindromes and make chart
	HW		Square Division, Logic Problem, Writing numbers from words, Write 3 patterns from the Palindrome chart
Day 3	a.m.	Pattern recognition – Continue Palindromes	Student Produced Word Problems presented, Finish filling in Palindrome chart, Solve Puzzles, Mensa questions, 3D puzzlers
	p.m.	Pattern recognition – Work on Handshake Chart and come up with an equation	Look for Patterns, Write 9 per group and present to class <u>Whodunit</u> – 32 www.mathplayground.com – word problems and math Olympics
	HW		<u>40 Math Mysteries</u> by Martin Lee – <i>Digging Dog</i> Making a cube puzzle
Day 4	a.m.	Pattern recognition – Arithmetic Patterns	Solve Puzzles, Mensa Questions, 3D puzzlers Show me the \$ activity (doubling vs. linear)

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	p.m.	Pattern recognition – Arithmetic Patterns	<u>Whodunit</u> – 39 Introduce prime numbers Fill in prime number chart Goldbach’s conjecture
	HW		Levy’s conjecture and Waring’s conjecture
Day 5	a.m.	Pattern recognition – Arithmetic Patterns	Warm up with Calling Code – Square and Triangle numbers with Skittles Pascal’s Triangle Roman Numerals <u>The History of Counting</u> by Denise Schmandt-Besserat
	p.m.	Pattern recognition – Arithmetic Patterns	<u>Whodunit</u> – 65 Binary numbers – Math playground in computer lab
	HW		Weekend so no homework
Day 6	a.m.	Making Lists	How many ways to ___ activity. Anno’s Multiplying Jar
	p.m.	Making Lists	<u>Whodunit</u> - 16 Factorial introduction, Tree Diagram, Counting Principle
	HW		Camping Trip Cross Number Puzzle
Day 7	a.m.	Experimental Probability	Warm up with Bridges of Konigsburg Probability workstations- flipping coins <i>Sir Cumference and the First Round Table</i>
	p.m.	Probability Applications	<u>Whodunit</u> – 5 Probability with Dice Make a Spiral Pattern
	HW		Probability worksheet
Day 8	a.m.	Probability	Probability with Spinners Probability with Random Drawing – Make a bag that has a larger probability for ___.
	p.m.	Guess and Check	Function Machine Magic Squares www.mathplayground.com - Math Games
	HW		<u>40 Math Mysteries</u> – <i>View from Above, Ticklish Tip Problem</i>

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Day 9	a.m.	Guess and Check	Magic Squares Algebra Puzzles on mathplayground.com
	p.m.	Guess and Check	<u>Whodunit</u> – 12 Graph Theory Handout to help understand Bridges problem Treasure Hunt
	HW		Sudoku or mathplayground Algebra Puzzles
Day 10	a.m.	Modeling/ Using Tables	Worksheets from Prob Solving book
	p.m.	Modeling/Using Tables	<u>Whodunit</u> – 21 Using manipulatives and clues to determine ordering Make your own ordering puzzle
	HW		None (weekend)
Day 11	a.m.	Using Tables/Elimination	Finish Ordering Puzzle Test on Classmates Logic Puzzles
	p.m.	Using Tables/Elimination	<u>Whodunit</u> – 35 Logic Puzzles
	HW		<u>40 Math Mysteries</u> - 37
Day 12	a.m.	Venn Diagrams	Life size activity, put to paper Two circle/Three circle comparison
	p.m.	Venn Diagrams	<u>Whodunit</u> – 47 Ice Cream Cones Choose your own categories
	HW		Venn Diagram Handouts <u>40 Math Mysteries</u> - 40
Day 13	a.m.	Venn Diagrams/Logic	Finish personal Venn Diagrams and compare Post-assessment
	p.m.	Venn Diagrams	<u>Whodunit</u> – 25 Venn Diagram Handouts – fill in values given clues Read <i>Math Curse</i>
	HW		Two logic puzzles
Day 14	a.m.	Algebra	www.mathplayground.com – Algebra Puzzles Algebra Handouts
	p.m.	Algebra	<u>Whodunit</u> Type up Ordering Puzzle in computer lab Algebra puzzles and worksheets

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	HW		Algebra worksheets
Day 15	a.m.	Using the strategies	Brain teasers and tough challenges
	p.m.		Prepare for parents and enjoy the open house!!