



GATE Mathematics Enrichment Programs for 4th and 5th Grade Students

Fun Math Club GATE mathematics enrichment programs consist of a series of one-hour class meetings. Each meeting presents an engaging activity that enriches students' mathematics experience and teaches and exercises basic math skills. The topics in each program focus on a particular strands from the *Mathematics Content Standards for California Public Schools*. All activities in the program develop skills in the Mathematical Reasoning strand. As the target student for this class is GATE, some activities will teach and exercise standards above students' grade level.

Class starts with a short lecture about the day's topic followed by time for students to work on problem worksheets and projects. During the hour of class, there may be several points at which a dialogue is held to review progress and discuss solutions to the problems. Students may be given short homework questions to explore outside of the class. The answers to the homework are discussed at the beginning of the next class.

Class size is limited to from ten to twenty students. Two grade levels may be combined in a single program. The number of classes in standard programs is shown below, but it is possible to customize programs of shorter or longer durations. School or sponsor must provide classroom facility.

Programs Offered

Currently Fun Math Club offers three different programs. The programs are designed for a series of ten weekly classes but the duration may be changed meet a site's schedule constraints.

Note: Specific program topics are subject to change based on program duration and student progress in the classroom.

Numbers, Data, and Chance

Topics presented focus on Number Sense and Statistics, Data Analysis, and Probability strands of the *Mathematics Content Standards for California Public Schools*. All activities in the program develop skills in the Mathematical Reasoning strand.

1. Magic Number Squares: solve a two-dimensional number pattern puzzle
2. Prime Time: explore prime numbers
3. Magic of 9: learn about divisibility properties and make a magic trick
4. Magic Sums: learn how to use the commutative and associative properties of addition
5. Bars and Pies: graph data about the class
6. The Human Histogram: learn about frequency and histograms
7. Numb Numbers: explore some entertaining statistics
8. Roller Derby Dice: find a strategy for a dice game by using a histogram
9. Native American Dice: design a game modeled after a Native American dice game
10. Deal or No Deal: learn about averages and expected value





Numbers and Shapes

Topics presented focus on the Number Sense and Measurement and Geometry strands of the *Mathematics Content Standards for California Public Schools*. All activities in the program develop skills in the Mathematical Reasoning strand.

1. Tetromino Puzzles: solve tetromino puzzles and learn about area
2. Pentominoes and Area: explore areas of irregular shapes using pentominoes
3. Cubes: discover many ways one can fold a cube
4. Cubes Squared: solve some cube number puzzles
5. Cubes Cubed: learn how to draw cubes and solve polycube puzzles
6. Cubes to the Fourth: explore symmetries of the cube
7. Triangulum: explore a world where the triangle is the most common polygon
8. Polyhedrons: learn about polyhedrons and number patterns
9. Pizza Combinations: explore combinations and Pascal's triangle
10. The Art of Sol Lewitt: explore the geometric art of Sol Lewitt

Logic and Problem Solving

Topics presented focus on the Mathematical Reasoning strand of the *Mathematics Content Standards for California Public Schools*. All activities exercise skills from other strands as needed.

1. Cake Cutting and Frog Jumping: learn about sequences and recursive formulas
2. Dominoes and Seashells: discover Fibonacci numbers and their relation to seashells
3. Numbers and Polygons: learn about triangular, square, and other number patterns
4. Latin Squares: learn about the origins of Sudoku and create art designs.
5. The Census Taker: solve some puzzles using deductive reasoning
6. Venn Diagrams: solve problems using Venn diagrams in a group activity
7. Silly Syllogisms: learn about deductive logic
8. True or False, Valid or Invalid: solve logic problems and learn about logical inference
9. Lady and the Tiger: solve a series of classic logic problems
10. The Monty Hall Dilemma: solve a logic problem where intuition is wrong

For more information contact:



Yul Inn
Fun Math Club
Web: <http://www.FunMathClub.com>
Email: Yul.Inn@FunMathClub.com
Phone: 408 718-9177

