

Rubik's Cube
You Can Do the Cube



Math Unit
Duration: 13 Weeks

Learner Objectives

Students will

- Use problem solving and critical thinking skills to decipher directions and work through algorithms
- Analyze characteristics and properties of two- and three-dimensional geometric shapes
- Specify locations and describe spatial relationships in solid objects
- Apply transformations and use symmetry to analyze mathematical situations
- Improve their visualization, spatial reasoning, geometric modeling skills resulting in an increased ability to solve problems
- Communicate and work cooperatively with others to reach common goals
- Solve the Rubik's Cube

Show-Me Standards

Knowledge Standards

<i>In Mathematics, students in Missouri public schools will acquire a solid foundation which includes knowledge of</i>	
Math 2	geometric and spatial sense involving measurement (including length, area, volume), trigonometry, and similarity and transformations of shapes
Math 4	patterns and relationships within and among functions and algebraic, geometric and trigonometric concepts
Math 5	mathematical systems (including real numbers, whole numbers, integers, fractions), geometry, and number theory (including primes, factors, multiples)
Math 6	discrete mathematics (such as graph theory, counting techniques, matrices)
FA 1	process and techniques for the production, exhibition or performance of one or more of the visual or performed arts

Performance Goals

Goal 1.6	discover and evaluate patterns and relationships in information, ideas and structures
Goal 2.5	perform or produce works in the fine and practical arts
Goal 3.1	identify problems and define their scope and elements
Goal 3.2	develop and apply strategies based on ways others have prevented or solved problems
Goal 3.3	develop and apply strategies based on one's own experience in preventing or solving problems
Goal 3.4	evaluate the processes used in recognizing and solving problems

Goal 3.5	reason inductively from a set of specific facts and deductively from general premises
Goal 3.6	examine problems and proposed solutions from multiple perspectives
Goal 3.7	evaluate the extent to which a strategy addresses the problem
Goal 4.1	explain reasoning and identify information used to support decisions
Goal 4.5	develop, monitor and revise plans of action to meet deadlines and accomplish goals
Goal 4.6	identify tasks that require a coordinated effort and work with others to complete those tasks