



# **Math Pathways: Parent Information**

# BUSD Middle School Pathways



	<b>Grade 6</b>	<b>Grade 7</b>	<b>Grade 8</b>	<b>Grade 9</b>
<b>Standard</b>	Math 6	Math 7	Math 8	Algebra
<b>Accelerated</b>	Math 6	Math 7.5 Pre-Algebra	Math 8.5 Algebra	Geometry
<b>Advanced</b>	Math 7.5	Math 8.5	Geometry	Adv Algebra II

# Standard Pathway

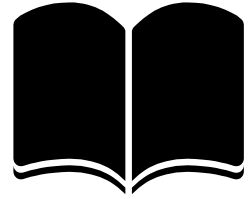
**Math 6**

**Math 7**

**Math 8**

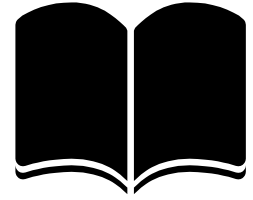
- Content of each grade level taught in depth
- Standards of Mathematical Practice embedded in all classes
- Focus on Number Sense in 6th grade to establish a strong foundation of algebraic reasoning
- SBA aligns with the appropriate grade level
- Student can move to accelerated pathway at end of 6th (7.5, 8.5)

# Math 6 Content



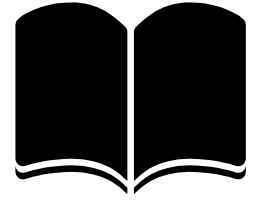
- Ratios
- Operations with fractions and decimals
- Algebraic expressions, equations and inequalities
- Quantitative relationships
- Area, surface area, and volume
- Statistics

# Math 7 Content



- Order of operations and absolute value
- Expressions, equations and inequalities
- Ratios and proportions
- Percents including increase, decrease and simple interest
- Geometry: angles, triangles, quadrilaterals and scale drawings
- Area and perimeter of circles
- Surface area and volume of prisms, pyramids, cylinders
- Probability and statistics

# Math 8 Content



- Equations- simple and multi-step
- Transformations
- Angles and triangles
- Graphing and writing linear equations
- Systems of linear equations
- Functions
- Square roots, cube roots and the Pythagorean Theorem
- Volume and similar solids
- Data analysis and display
- Exponents and scientific notation

# Accelerated Pathway

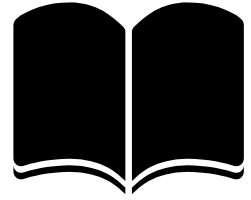
**Math 6**

**Math 7.5**

**Math 8.5**

- Completion of standard 6th grade content then condenses three years of curriculum into 7.5 and 8.5
- Rigorous pacing- exposed to all standards but less application
- Student characteristics- motivated, independent, great attendance
- SBA at their current grade level, not at their math placement level

# Math 6 Content



- Ratios
- Operations with fractions and decimals
- Algebraic expressions, equations and inequalities
- Quantitative relationships
- Area, surface area, and volume
- Statistics

\*\*\*Content remains the same\*\*\*



# Math 7.5 Content



- Order of operations and absolute value
- Expressions, equations, and inequalities
- Ratios and proportions
- Percent increase and decrease, simple interest
- Geometry: angles, triangles, quadrilaterals, and scale factor
- Area and perimeter of circles
- Surface Area and volume of prisms, pyramids, cylinders
- Probability and statistics

## Added Content

- Geometric transformations:
- Similar figures with perimeter, area, volume and surface area to include cones and spheres
- Polygonal angle relationships
- Parallel and perpendicular lines and transversals
- Graphing and writing linear equations
- Pythagorean theorem and square/cube roots
- Exponents: positive, negative, and fractional
- Scientific notation

# Math 8.5 Content



- Solving simple and multi-step equations
- Graphing and writing linear equations
- Systems of linear equations
- Linear functions
- Real numbers and the Pythagorean Theorem
- Data analysis and display

## Added Content

- Solving linear inequalities
- Exponential equations and functions
- Polynomial equations and factoring
- Graphing quadratic functions
- Solving quadratic equations
- Square root functions
- Rational equations and functions

# Advanced Pathway

**Math 7.5**

**Math 8.5**

**Geometry**

- Students take four years of math content in three years
- Multi-grade classes in 7.5 and 8.5
- Expect homework on weekends
- Student characteristics: ability to work independently, self-motivation, great attendance, and the ability to keep up with a very fast-paced course
- SBA at their current grade level, not their math placement level

# Important to Note

Math 6 Content is skipped for students enrolled in the Advanced Math Pathway

## Content Skipped

- Ratios
- Operations with fractions and decimals
- Algebraic expressions, equations and inequalities
- Quantitative relationships
- Area, surface area, and volume
- Statistics

# Math 7.5 Content



- Order of operations and absolute value
- Expressions, equations, and inequalities
- Ratios and proportions
- Percent increase and decrease, simple interest
- Geometry: angles, triangles, quadrilaterals, and scale factor
- Area and perimeter of circles
- Surface Area and volume of prisms, pyramids, cylinders
- Probability and statistics

## Added Content

- Geometric transformations:
- Similar figures with perimeter, area, volume and surface area to include cones and spheres
- Polygonal angle relationships
- Parallel and perpendicular lines and transversals
- Graphing and writing linear equations
- Pythagorean theorem and square/cube roots
- Exponents: positive, negative, and fractional
- Scientific notation

# Math 8.5 Content

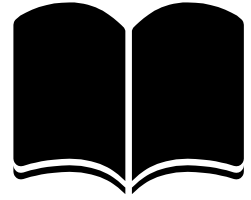


- Solving simple and multi-step equations
- Graphing and writing linear equations
- Systems of linear equations
- Linear functions
- Real numbers and the Pythagorean Theorem
- Data analysis and display

## Added Content

- Solving linear inequalities
- Exponential equations and functions
- Polynomial equations and factoring
- Graphing quadratic functions
- Solving quadratic equations
- Square root functions
- Rational equations and functions

# Geometry



- Inductive and deductive reasoning
- Properties and proofs of parallel and perpendicular lines
- Relationships with triangles
- Properties of polygons
- Area and surface area of various polygons and circles
- Surface area and volume of prisms, pyramids, cones, cylinders, and spheres

# Things to Consider



- Whole child
- Extra-curricular activities
- Perseverance
- Ability to embrace and grow from failure
- Desire of the student
- Work ethic of the student
- If placement is appropriate, a tutor should not be needed