Mathematics Placement Information Meeting

Buckeye Union School District
Framework suggests standard pathway:

- **STANDARD**: 6 → 7 → 8
- **ACCELERATED**: 6 → 7.5 → 8.5
- **ADVANCED**: 7.5 → 8.5 → GEOMETRY
<table>
<thead>
<tr>
<th>Enrollment Type</th>
<th>6th grade</th>
<th>7th grade</th>
<th>8th grade</th>
<th>9th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard</strong></td>
<td>Math 6</td>
<td>Math 7</td>
<td>Math 8</td>
<td>Algebra I</td>
</tr>
<tr>
<td><strong>Accelerated</strong></td>
<td>Math 6</td>
<td>Math 7.5</td>
<td>Math 8.5</td>
<td>Geometry</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>(Algebra I+)</td>
<td></td>
</tr>
<tr>
<td><strong>Advanced</strong></td>
<td>Math 7.5</td>
<td>Math 8.5</td>
<td>Geometry</td>
<td>Adv. Alg. II*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Algebra I+)</td>
<td></td>
<td>SBA in 11th Grade</td>
</tr>
</tbody>
</table>

* In order to enroll in biology, a student must be enrolled in geometry or higher in math.
Standard Pathway

- 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
- SBAC 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

ACCELERATED

- 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
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

- 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

- 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

- 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
Math 6 content that is skipped:

- Ratios
- Operations with fractions and decimals
- Algebraic expressions, equations and inequalities
- Quantitative relationships
- Area, surface area, and volume
- Statistics
- Powers and exponents
- Prime Factorization
- GCF/LCM
- Complex fractions
Sample Problem:

Tim makes 80 gallons of paint by mixing 48 gallons of gray paint with 32 gallons of white paint.

What part of every gallon is gray paint?

The model represents 1 gallon of mixed paint.

Select the bars to show how much of the gallon is gray paint.
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

- 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
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- 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

- Solving Linear Inequalities
- Exponential Equations and Functions
- Polynomial Equations and Factoring
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- Solving Quadratic Equations
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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
Points to Consider

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

**MATHEMATICS is not about numbers, equations, computations, or algorithms: it is about UNDERSTANDING.**

William Paul Thurston