

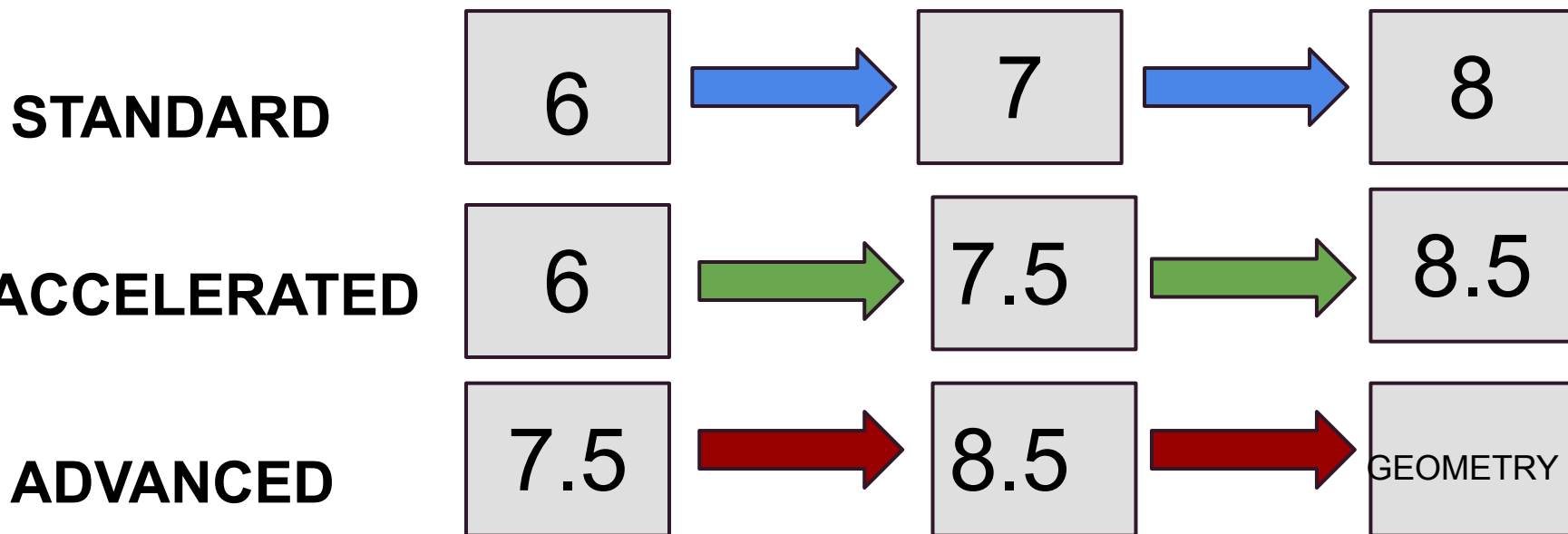
# Mathematics Placement Information Meeting

Buckeye Union School District



# MIDDLE SCHOOL PATHWAYS

Framework suggests standard pathway:



	6th grade	7th grade	8th grade	9th grade
<b>Standard</b>	Math 6	Math 7	Math 8	Algebra I
<b>Accelerated</b>	Math 6	Math 7.5	Math 8.5 (Algebra I+)	<b>Geometry</b> ★ In order to enroll in biology, a student must be enrolled in geometry or higher in math.
<b>Advanced</b>	Math 7.5	Math 8.5 (Algebra I+)	Geometry	<b>Adv. Alg. II*</b> <b>SBA in 11th Grade</b>

# Standard Pathway

## STANDARD



- 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

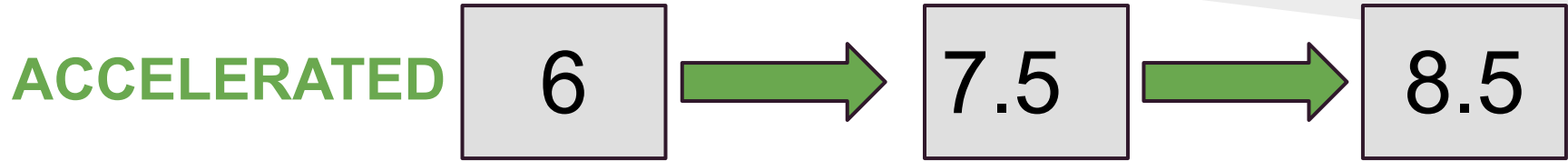
# Math 7 Content

- 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



- 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

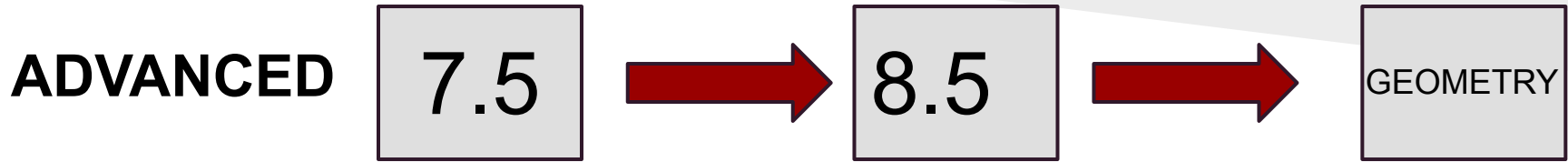
- **Geometric Transformations:**
- **Similar Figures with Perimeter, Area, Volume and Surface Area to include cones and spheres**
- **Polygonal Angle Relationships**
- **Parallel and Perpendicular lines and Transversals**
- **Graphing and Writing Linear Equations**
- **Pythagorean Theorem and Square/Cube 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:

7th Grade Beginning of Year

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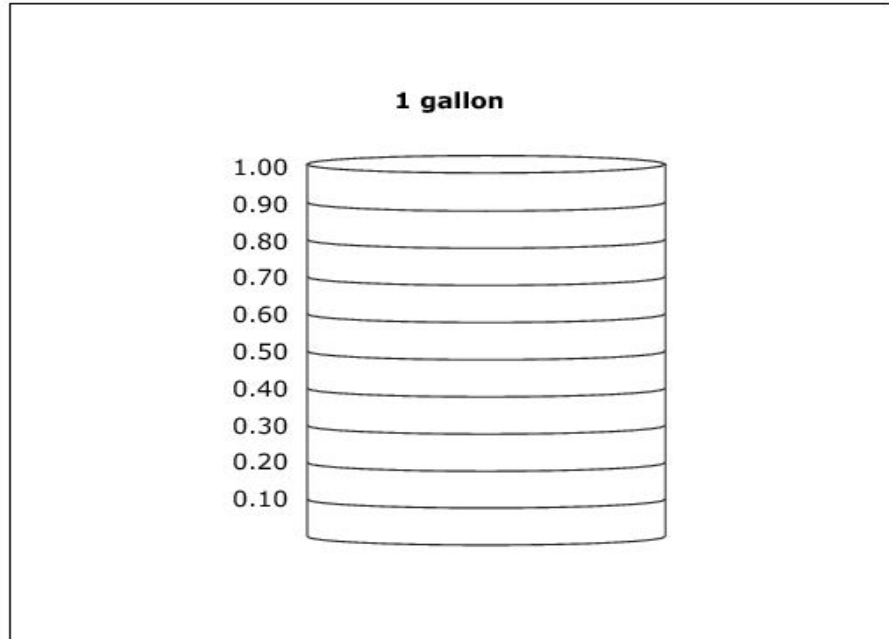


Tim makes 80 gallons of paint by mixing 48 gallons of gray paint with 32 gallons of white paint.

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**
- **Pythagorean Theorem and Square/Cube Roots**
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# Math 8.5 Content

- Solving simple and multi-step equations
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- **Solving Linear Inequalities**
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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*