

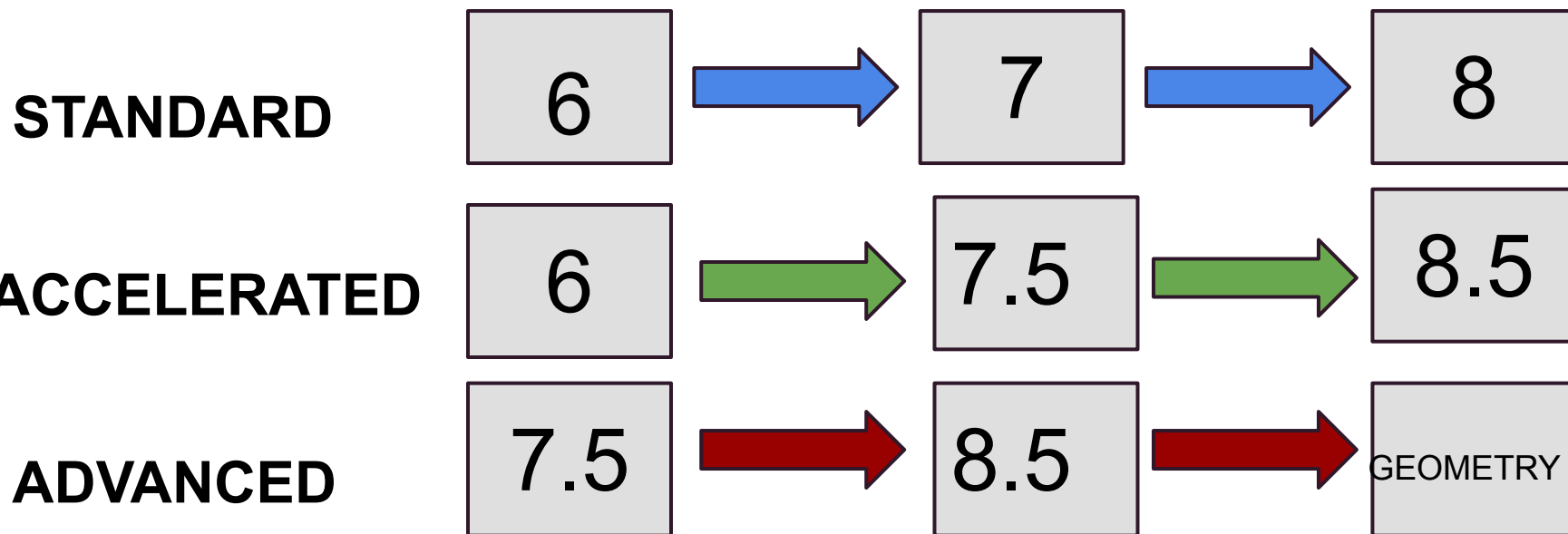
Mathematics Placement Information Meeting

Buckeye Union School District



MIDDLE SCHOOL PATHWAYS

Framework suggests standard pathway:



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

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

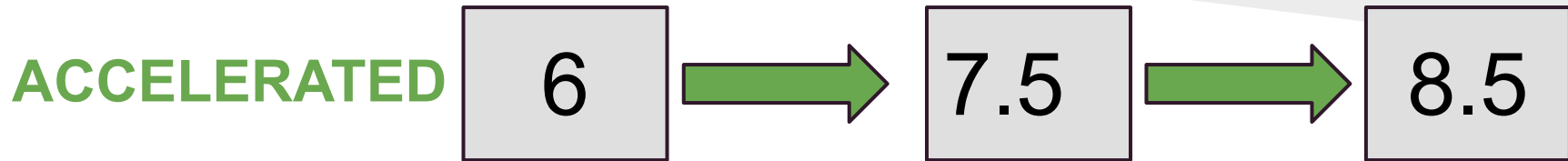
Math 7 Content

- 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

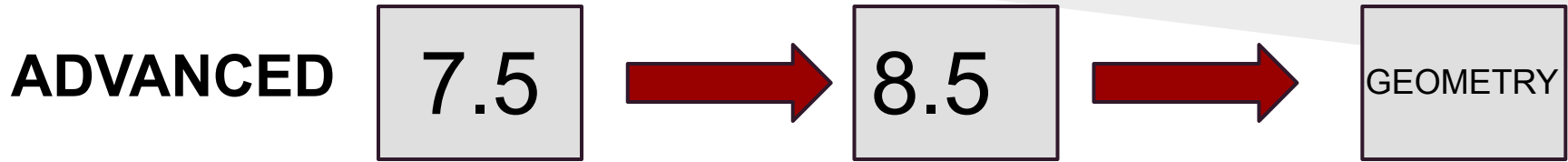
- **Geometric Transformations:**
- **Similar Figures with Perimeter, Area, Volume and Surface Area to include cones and spheres**
- **Polygonal Angle Relationships**
- **Parallel and Perpendicular lines and Transversals**
- **Graphing and Writing Linear Equations**
- **Pythagorean Theorem and Square/Cube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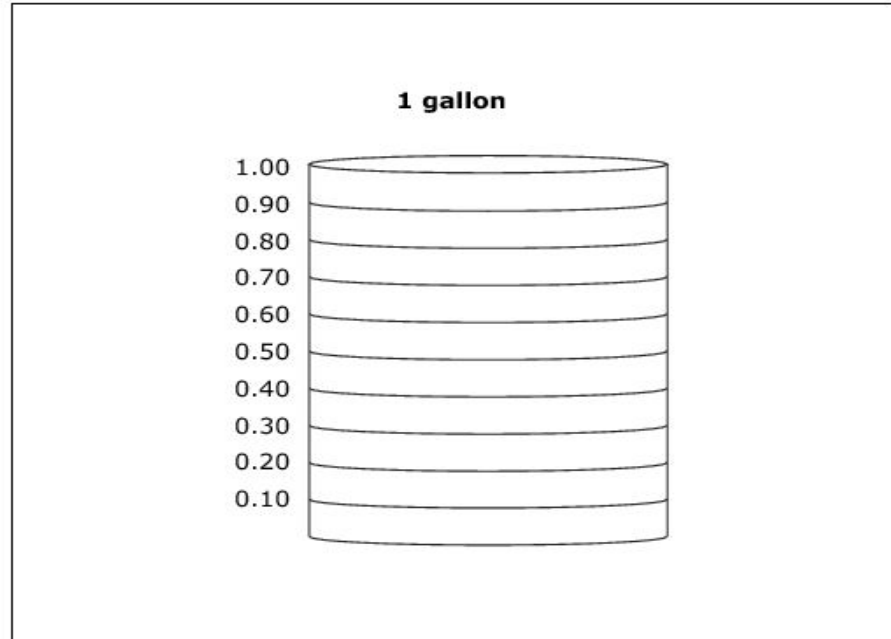


Tim makes 80 gallons of paint by mixing 48 gallons of gray paint with 32 gallons of white paint.

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