EUREKA MATH™

GREAT MINDS

ABOUT *EUREKA MATH*

Created by the nonprofit Great Minds, *Eureka Math* helps teachers deliver unparalleled math instruction that provides students with a deep understanding and fluency in math. Crafted by teachers and math scholars, the curriculum carefully sequences the mathematical progressions to maximize coherence from Prekindergarten through Precalculus—a principle tested and proven to be essential in students' mastery of math.

Teachers and students using *Eureka Math* find the trademark "Aha!" moments in *Eureka Math* to be a source of joy and inspiration, lesson after lesson, year after year.

ALIGNED

Eureka Math is the only curriculum found by EdReports.org to align fully with the Common Core State Standards for Mathematics for all grades, Kindergarten through Grade 8. Great Minds offers detailed analyses which demonstrate how each grade of *Eureka Math* aligns with specific state standards. Access these free alignment studies at greatminds.org/state-studies.

DATA

Schools and districts nationwide are experiencing student growth and impressive test scores after using *Eureka Math*. See their stories and data at greatminds.org/data.

FULL SUITE OF RESOURCES

As a nonprofit, Great Minds offers the *Eureka Math* curriculum as PDF downloads for free, noncommercial use. Access the free PDFs at greatminds.org/math/curriculum.

The teacher–writers who created the curriculum have also developed essential resources, available only from Great Minds, including the following:

- Printed material in English and Spanish
- Digital resources
- Professional development
- Classroom tools and manipulatives
- Teacher support materials
- Parent resources

Oklahoma Academic Standards for Mathematics Correlation to *Eureka Math*™

GEOMETRY

The majority of the Geometry Oklahoma Academic Standards for Mathematics are fully covered by the Geometry *Eureka Math* curriculum. The areas where the Geometry Oklahoma Academic Standards for Mathematics and Geometry *Eureka Math* do not align will require the use of *Eureka Math* content from other grade levels or supplemental materials. A detailed analysis of alignment is provided in the table below. With strategic placement of supplemental materials, *Eureka Math* can ensure students are successful in achieving the proficiencies of Oklahoma Academic Standards for Mathematics while still benefiting from the coherence and rigor of *Eureka Math*.

INDICATORS

Green indicates that the Oklahoma standard is fully addressed in *Eureka Math*.

Yellow indicates that the Oklahoma standard may not be completely addressed in *Eureka Math*.

Red indicates that the Oklahoma standard is not addressed in *Eureka Math*.

Blue indicates there is a discrepancy between the grade level at which this standard is addressed in the Oklahoma standards and in *Eureka Math*.

Mathematical Actions and Processes	Aligned Components of *Eureka Math*
Develop a Deep and Flexible Conceptual Understanding Demonstrate a deep and flexible conceptual understanding of mathematical concepts, operations, and relations while making mathematical and real-world connections. Students will develop an understanding of how and when to apply and use the mathematics they know to solve problems.	Lessons in every module engage students in making sense of problems and persevering in solving them as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 1 and 2, which are specifically addressed in the following modules: Geometry M4: Connecting Algebra and Geometry Through Coordinates Geometry M5: Circles With and Without Coordinates
Develop Accurate and Appropriate Procedural Fluency Learn efficient procedures and algorithms for computations and repeated processes based on a strong sense of numbers. Develop fluency in addition, subtraction, multiplication, and division of numbers and expressions. Students will generate a sophisticated understanding of the development and application of algorithms and procedures.	Lessons in every module engage students in reasoning abstractly and quantitatively as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 7 and 8, which are specifically addressed in the following modules: Geometry M2: Similarity, Proof, and Trigonometry Geometry M3: Extending to Three Dimensions Geometry M4: Connecting Algebra and Geometry Through Coordinates Geometry M5: Circles With and Without Coordinates

Mathematical Actions and Processes	Aligned Components of *Eureka Math*
Develop Strategies for Problem Solving Analyze the parts of complex mathematical tasks and identify entry points to begin the search for a solution. Students will select from a variety of problem solving strategies and use corresponding multiple representations (verbal, physical, symbolic, pictorial, graphical, tabular) when appropriate. They will pursue solutions to various tasks from real-world situations and applications that are often interdisciplinary in nature. They will find methods to verify their answers in context and will always question the reasonableness of solutions.	Lessons in every module engage students in constructing viable arguments and critiquing the reasoning of others as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 1, 2, and 8, which are specifically addressed in the following modules: Geometry M4: Connecting Algebra and Geometry Through Coordinates Geometry M5: Circles With and Without Coordinates
Develop Mathematical Reasoning Explore and communicate a variety of reasoning strategies to think through problems. Students will apply their logic to critique the thinking and strategies of others to develop and evaluate mathematical arguments, including making arguments and counterarguments and making connections to other contexts.	Lessons in every module engage students in modeling with mathematics as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 3, which is specifically addressed in the following modules: Geometry M1: Congruence, Proof, and Constructions Geometry M2: Similarity, Proof, and Trigonometry Geometry M5: Circles With and Without Coordinates

Mathematical Actions and Processes	Aligned Components of *Eureka Math*
Develop a Productive Mathematical Disposition Hold the belief that mathematics is sensible, useful and worthwhile. Students will develop the habit of looking for and making use of patterns and mathematical structures. They will persevere and become resilient, effective problem solvers.	Lessons in every module engage students in using appropriate tools strategically as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 1, 7, and 8, which are specifically addressed in the following modules: Geometry M2: Similarity, Proof, and Trigonometry Geometry M3: Extending to Three Dimensions Geometry M4: Connecting Algebra and Geometry Through Coordinates Geometry M5: Circles With and Without Coordinates
Develop the Ability to Make Conjectures, Model, and Generalize Make predictions and conjectures and draw conclusions throughout the problem solving process based on patterns and the repeated structures in mathematics. Students will create, identify, and extend patterns as a strategy for solving and making sense of problems.	Lessons in every module engage students in attending to precision as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 4, 7, and 8, which are specifically addressed in the following modules: Geometry M1: Congruence, Proof, and Constructions Geometry M2: Similarity, Proof, and Trigonometry Geometry M3: Extending to Three Dimensions Geometry M4: Connecting Algebra and Geometry Through Coordinates Geometry M5: Circles With and Without Coordinates

Mathematical Actions and Processes	Aligned Components of *Eureka Math*
Develop the Ability to Communicate Mathematically Students will discuss, write, read, interpret and translate ideas and concepts mathematically. As they progress, students' ability to communicate mathematically will include their increased use of mathematical language and terms and analysis of mathematical definitions.	Lessons in every module engage students in looking for and making use of structure as required by this standard. This Mathematical Action and Process is analogous to the CCSSM Standards for Mathematical Practice 3 and 6, which are specifically addressed in the following modules: Geometry M1: Congruence, Proof, and Constructions Geometry M2: Similarity, Proof, and Trigonometry Geometry M3: Extending to Three Dimensions Geometry M5: Circles With and Without Coordinates

Strand	Objectives for Mathematical Content		Aligned Components of *Eureka Math*
Geometry: Reasoning & Logic	**Standard: Use appropriate tools and logic to evaluate mathematical arguments.**		
	G.RL.1.1 Understand the use of undefined terms, definitions, postulates, and theorems in logical arguments/proofs.		Geometry M1 Topic A: Basic Constructions Geometry M1 Lesson 11: Unknown Angle Proofs—Proofs of Known Facts Geometry M1 Lesson 33: Review of the Assumptions Geometry M3 Lesson 5: Three-Dimensional Space
	G.RL.1.2 Analyze and draw conclusions based on a set of conditions using inductive and deductive reasoning. Recognize the logical relationships between a conditional statement and its inverse, converse, and contrapositive.		Geometry M1 Lesson 11: Unknown Angle Proofs—Proofs of Known Facts Geometry M1 Lesson 18: Looking More Carefully at Parallel Lines Geometry M1 Lesson 21: Correspondence and Transformation Geometry M1 Lesson 28: Properties of Parallelograms Note: Supplemental material may be necessary to completely address this standard.
	G.RL.1.3 Assess the validity of a logical argument and give counterexamples to disprove a statement.		*Eureka Math* does not explicitly address counterexamples.

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
Geometry: Two-Dimensional Shapes	**Standard: Discover, evaluate and analyze the relationships between lines, angles, and polygons to solve real-world and mathematical problems; express proofs in a form that clearly justifies the reasoning, such as two-column proofs, paragraph proofs, flow charts, or illustrations.**	
	G.2D.1.1 Apply the properties of parallel and perpendicular lines, including properties of angles formed by a transversal, to solve real-world and mathematical problems and determine if two lines are parallel, using algebraic reasoning and proofs.	Geometry M1 Lesson 7: Solve for Unknown Angles—Transversals Geometry M1 Lesson 18: Looking More Carefully at Parallel Lines Geometry M2 Topic A: Scale Drawings Geometry M2 Lesson 19: Families of Parallel Lines and the Circumference of the Earth Geometry M4 Lesson 4: Designing a Search Robot to Find a Beacon Geometry M4 Topic B: Perpendicular and Parallel Lines in the Cartesian Plane Geometry M4 Lesson 14: Motion Along a Line—Search Robots Again
	G.2D.1.2 Apply the properties of angles, including corresponding, exterior, interior, vertical, complementary, and supplementary angles to solve real-world and mathematical problems using algebraic reasoning and proofs.	Geometry M1 Topic B: Unknown Angles Geometry M1 Lesson 18: Looking More Carefully at Parallel Lines Geometry M1 Topic G: Axiomatic Systems

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
	G.2D.1.3 Apply theorems involving the interior and exterior angle sums of polygons and use them to solve real-world and mathematical problems using algebraic reasoning and proofs.	Geometry M1 Lesson 8: Solve for Unknown Angles—Angles in a Triangle Geometry M1 Lesson 11: Unknown Angle Proofs—Proofs of Known Facts Geometry M1 Lesson 23: Base Angles of Isosceles Triangles Geometry M5 Lesson 20: Cyclic Quadrilaterals Note: Supplemental material is necessary to address interior angle sums of polygons other than triangles, as well as exterior angle sums of all polygons.

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
	G.2D.1.4 Apply the properties of special quadrilaterals (square, rectangle, trapezoid, isosceles trapezoid, rhombus, kite, parallelogram) and use them to solve real-world and mathematical problems involving angle measures and segment lengths using algebraic reasoning and proofs.	Geometry M1 Lesson 28: Properties of Parallelograms Geometry M1 Topic G: Axiomatic Systems Geometry M2 Lesson 7: How Do Dilations Map Segments? Geometry M2 Lesson 10: Dividing the King's Foot into 12 Equal Pieces Geometry M2 Lesson 19: Families of Parallel Lines and the Circumference of the Earth Geometry M2 Lesson 20: How Far Away Is the Moon? Geometry M4 Lesson 6: Segments That Meet at Right Angles Geometry M5 Lesson 3: Rectangles Inscribed in Circles Geometry M5 Lesson 4: Experiments with Inscribed Angles Geometry M5 Lesson 8: Arcs and Chords Geometry M5 Topic E: Cyclic Quadrilaterals and Ptolemy's Theorem
	G.2D.1.5 Use coordinate geometry to represent and analyze line segments and polygons, including determining lengths, midpoints, and slopes of line segments.	Geometry M2 Lesson 7: How Do Dilations Map Segments? Geometry M2 Lesson 19: Families of Parallel Lines and the Circumference of the Earth Geometry M4: Connecting Algebra and Geometry Through Coordinates

Strand	Objectives for Mathematical Content		Aligned Components of *Eureka Math*
	G.2D.1.6 Apply the properties of polygons to solve real-world and mathematical problems involving perimeter and area (e.g., triangles, special quadrilaterals, regular polygons up to 12 sides, composite figures).		Geometry M4: Connecting Algebra and Geometry Through Coordinates Note: Supplemental material is necessary to address special quadrilaterals and regular polygons up to 12 sides.
	G.2D.1.7 Apply the properties of congruent or similar polygons to solve real-world and mathematical problems using algebraic and logical reasoning.		Geometry M2 Topic C: Similarity and Dilations Geometry M3 Lesson 3: The Scaling Principle for Area
	G.2D.1.8 Construct logical arguments to prove triangle congruence (SSS, SAS, ASA, AAS and HL) and triangle similarity (AA, SSS, SAS).		Geometry M2 Lesson 4: Comparing the Ratio Method with the Parallel Method Geometry M2 Lesson 5: Scale Factors Geometry M2 Topic B: Dilations Geometry M2 Lesson 17: The Side-Angle-Side (SAS) and Side-Side-Side (SSS) Criteria for Two Triangles to Be Similar Geometry M2 Lesson 18: Similarity and the Angle Bisector Theorem Geometry M2 Lesson 19: Families of Parallel Lines and the Circumference of the Earth Geometry M2 Topic D: Applying Similarity to Right Triangles

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
	G.2D.1.9 Use numeric, graphic and algebraic representations of transformations in two dimensions, such as reflections, translations, dilations, and rotations about the origin by multiples of 90°, to solve problems involving figures on a coordinate plane and identify types of symmetry.	Geometry M1 Topic C: Transformations/Rigid Motions Geometry M2 Topic A: Scale Drawings Geometry M2 Topic B: Dilations Geometry M2 Lesson 14: Similarity Geometry M4 Lesson 6: Segments That Meet at Right Angles Geometry M4 Lesson 9: Perimeter and Area of Triangles in the Cartesian Plane
Geometry: Three-Dimensional Shapes	**Standard: Solve real-world and mathematical problems involving three-dimensional figures.**	
	G.3D.1.1 Solve real-world and mathematical problems using the surface area and volume of prisms, cylinders, pyramids, cones, spheres, and composites of these figures. Use nets, measuring devices, or formulas as appropriate.	Geometry M3: Extending to Three Dimensions

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
	G.3D.1.2 Use ratios derived from similar three-dimensional figures to make conjectures, generalize, and to solve for unknown values such as angles, side lengths, perimeter or circumference of a face, area of a face, and volume.	Geometry M2 Lesson 2: Making Scale Drawings Using the Ratio Method Geometry M2 Lesson 4: Comparing the Ratio Method with the Parallel Method Geometry M2 Lesson 16: Between-Figure and Within-Figure Ratios Geometry M2 Lesson 17: The Side-Angle-Side (SAS) and Side-Side-Side (SSS) Criteria for Two Triangles to Be Similar Geometry M2 Lesson 18: Similarity and the Angle Bisector Theorem Geometry M3: Extending to Three Dimensions Geometry M4 Lesson 3: Lines That Pass Through Regions Geometry M4 Lesson 9: Perimeter and Area of Triangles in the Cartesian Plane Geometry M5 Lesson 8: Arcs and Chords
Geometry: Circles	**Standard: Solve real-world and mathematical problems using the properties of circles.**	
	G.C.1.1 Apply the properties of circles to solve problems involving circumference and area, approximate values and in terms of π, using algebraic and logical reasoning.	Geometry M3: Extending to Three Dimensions Geometry M5 Topic B: Arcs and Sectors

Strand	Objectives for Mathematical Content		Aligned Components of *Eureka Math*
	G.C.1.2 Apply the properties of circles and relationships among angles; arcs; and distances in a circle among radii, chords, secants, and tangents to solve problems using algebraic and logical reasoning.		Geometry M1 Topic F: Advanced Constructions Geometry M2 Lesson 19: Families of Parallel Lines and the Circumference of the Earth Geometry M2 Lesson 20: How Far Away Is the Moon? Geometry M5: Circles With and Without Coordinates
	G.C.1.3 Recognize and write the radius r, center (h, k), and standard form of the equation of a circle $(x - h)^2 + (y - k)^2 = r^2$ with and without graphs.		Geometry M5 Topic D: Equations for Circles and Their Tangents
	G.C.1.4 Apply the distance and midpoint formula, where appropriate, to develop the equation of a circle in standard form.		Geometry M5 Lesson 17: Writing the Equation for a Circle

Strand	Objectives for Mathematical Content	Aligned Components of *Eureka Math*
Geometry: Right Triangle Trigonometry	**Standard: Develop and verify mathematical relationships of right triangles and trigonometric ratios to solve real-world and mathematical problems.**	
	G.RT.1.1 Apply the distance formula and the Pythagorean Theorem and its converse to solve real-world and mathematical problems, as approximate and exact values, using algebraic and logical reasoning (include Pythagorean Triples).	G8 M2 Topic D: The Pythagorean Theorem G8 M3 Topic C: The Pythagorean Theorem G8 M7 Lesson 1: The Pythagorean Theorem G8 M7 Topic C: The Pythagorean Theorem G8 M7 Lesson 18: Applications of the Pythagorean Theorem Geometry M2 Topic D: Applying Similarity to Right Triangles Geometry M2 Lesson 30: Trigonometry and the Pythagorean Theorem Geometry M4 Lesson 1: Searching a Region in the Plane Geometry M4 Lesson 9: Perimeter and Area of Triangles in the Cartesian Plane Geometry M4 Lesson 15: The Distance from a Point to a Line

Strand	Objectives for Mathematical Content		Aligned Components of *Eureka Math*
	G.RT.1.2 Verify and apply properties of right triangles, including properties of 45–45–90 and 30–60–90 triangles, to solve problems using algebraic and logical reasoning.		Geometry M2 Topic D: Applying Similarity to Right Triangles Geometry M2 Lesson 27: Since and Cosine of Complementary Angles and Special Angles Geometry M2 Lesson 28: Solving Problems Using Sine and Cosine Geometry M2 Lesson 30: Trigonometry and the Pythagorean Theorem
	G.RT.1.3 Use the definition of the trigonometric functions to determine the sine, cosine, and tangent ratio of an acute angle in a right triangle. Apply the inverse trigonometric functions to find the measure of an acute angle in right triangles.		Geometry M2 Lesson 26: The Definition of Sine, Cosine, and Tangent Geometry M2 Lesson 27: Sine and Cosine of Complementary Angles and Special Angles Geometry M2 Lesson 28: Solving Problems Using Sine and Cosine Geometry M2 Lesson 34: Unknown Angles Geometry M5 Topic E: Cyclic Quadrilaterals and Ptolemy's Theorem
	G.RT.1.4 Apply the trigonometric functions as ratios (sine, cosine, and tangent) to find side lengths in right triangles in real-world and mathematical problems.		Geometry M2 Lesson 21: Special Relationships Within Right Triangles—Dividing into Two Similar Sub-Triangles Geometry M2 Topic E: Trigonometry