## 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

# GEOMETRY

The majority of the Geometry Arizona Mathematics Standards are fully covered by the Geometry *Eureka Math* curriculum. The primary area where the Geometry Arizona Mathematics Standards and Geometry *Eureka Math* do not align is in the domain of Quantities. Standards from this domain will require the use of *Eureka Math* content from another course. A detailed analysis of alignment is provided in the table below.

# INDICATORS

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

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

Red indicates that the Arizona 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 Arizona standards and in *Eureka Math*.

| Standards for Mathematical Practice | Aligned Components of *Eureka Math* |
|---|---|
| **1: Make sense of problems and persevere in solving them.**<br>Mathematically proficient students explain to themselves the meaning of a problem, look for entry points to begin work on the problem, and plan and choose a solution pathway. While engaging in productive struggle to solve a problem, they continually ask themselves, "Does this make sense?" to monitor and evaluate their progress and change course if necessary. Once they have a solution, they look back at the problem to determine if the solution is reasonable and accurate. Mathematically proficient students check their solutions to problems using different methods, approaches, or representations. They also compare and understand different representations of problems and different solution pathways, both their own and those of others. | Lessons in every module engage students in making sense of problems and persevering in solving them as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 1, which is specifically addressed in the following modules:<br><br>Geometry M4: Connecting Algebra and Geometry Through Coordinates<br><br>Geometry M5: Circles With and Without Coordinates |
| **2: Reason abstractly and quantitatively.**<br>Mathematically proficient students make sense of quantities and their relationships in problem situations. Students can contextualize and decontextualize problems involving quantitative relationships. They contextualize quantities, operations, and expressions by describing a corresponding situation. They decontextualize a situation by representing it symbolically. As they manipulate the symbols, they can pause as needed to access the meaning of the numbers, the units, and the operations that the symbols represent. Mathematically proficient students know and flexibly use different properties of operations, numbers, and geometric objects and when appropriate they interpret their solution in terms of the context. | Lessons in every module engage students in reasoning abstractly and quantitatively as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 2, which is specifically addressed in the following modules:<br><br>Geometry M4: Connecting Algebra and Geometry Through Coordinates |

| Standards for Mathematical Practice | Aligned Components of *Eureka Math* |
|---|---|
| **3: Construct viable arguments and critique the reasoning of others.**<br>Mathematically proficient students construct mathematical arguments (explain the reasoning underlying a strategy, solution, or conjecture) using concrete, pictorial, or symbolic referents. Arguments may also rely on definitions, assumptions, previously established results, properties, or structures. Mathematically proficient students make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. Mathematically proficient students present their arguments in the form of representations, actions on those representations, and explanations in words (oral or written). Students critique others by affirming or questioning the reasoning of others. They can listen to or read the reasoning of others, decide whether it makes sense, ask questions to clarify or improve the reasoning, and validate or build on it. Mathematically proficient students can communicate their arguments, compare them to others, and reconsider their own arguments in response to the critiques of others. | Lessons in every module engage students in constructing viable arguments and critiquing the reasoning of others as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 3, which is specifically addressed in the following modules:<br><br>Geometry M1: Congruence, Proof, and Constructions<br><br>Geometry M2: Similarity, Proof, and Trigonometry<br><br>Geometry M5: Circles With and Without Coordinates |

| Standards for Mathematical Practice | Aligned Components of *Eureka Math* |
|---|---|
| **4: Model with mathematics.**<br>Mathematically proficient students apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. When given a problem in a contextual situation, they identify the mathematical elements of a situation and create a mathematical model that represents those mathematical elements and the relationships among them. Mathematically proficient students use their model to analyze the relationships and draw conclusions. They interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. | Lessons in every module engage students in modeling with mathematics as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 4, which is specifically addressed in the following modules:<br><br>Geometry M1: Congruence, Proof, and Constructions<br><br>Geometry M4: Connecting Algebra and Geometry Through Coordinates |
| **5: Use appropriate tools strategically.**<br>Mathematically proficient students consider available tools when solving a mathematical problem. They choose tools that are relevant and useful to the problem at hand. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful; recognizing both the insight to be gained and their limitations. Students deepen their understanding of mathematical concepts when using tools to visualize, explore, compare, communicate, make and test predictions, and understand the thinking of others. | Lessons in every module engage students in using appropriate tools strategically as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 5, which is specifically addressed in the following modules:<br><br>Geometry M1: Congruence, Proof, and Constructions |

| Standards for Mathematical Practice | Aligned Components of *Eureka Math* |
|---|---|
| **6: Attend to precision.**<br>Mathematically proficient students clearly communicate to others using appropriate mathematical terminology, and craft explanations that convey their reasoning. When making mathematical arguments about a solution, strategy, or conjecture, they describe mathematical relationships and connect their words clearly to their representations. Mathematically proficient students understand meanings of symbols used in mathematics, calculate accurately and efficiently, label quantities appropriately, and record their work clearly and concisely. | Lessons in every module engage students in attending to precision as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 6, which is specifically addressed in the following modules:<br><br>Geometry M1: Congruence, Proof, and Constructions<br><br>Geometry M3: Extending to Three Dimensions |
| **7: Look for and make use of structure.**<br>Mathematically proficient students use structure and patterns to assist in making connections among mathematical ideas or concepts when making sense of mathematics. Students recognize and apply general mathematical rules to complex situations. They are able to compose and decompose mathematical ideas and notations into familiar relationships. Mathematically proficient students manage their own progress, stepping back for an overview and shifting perspective when needed. | Lessons in every module engage students in looking for and making use of structure as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 7, which is specifically addressed in the following modules:<br><br>Geometry M2: Similarity, Proof, and Trigonometry<br><br>Geometry M3: Extending to Three Dimensions<br><br>Geometry M4: Connecting Algebra and Geometry Through Coordinates<br><br>Geometry M5: Circles With and Without Coordinates |

| Standards for Mathematical Practice | Aligned Components of *Eureka Math* |
|---|---|
| **8: Look for and express regularity in repeated reasoning.**<br>Mathematically proficient students look for and describe regularities as they solve multiple related problems. They formulate conjectures about what they notice and communicate observations with precision. While solving problems, students maintain oversight of the process and continually evaluate the reasonableness of their results. This informs and strengthens their understanding of the structure of mathematics which leads to fluency. | Lessons in every module engage students in looking for and expressing regularity in repeated reasoning as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 8, which is specifically addressed in the following modules:<br><br>Geometry M1: Congruence, Proof, and Constructions<br><br>Geometry M4: Connecting Algebra and Geometry Through Coordinates |

| Conceptual Category | Domain | Standards for Mathematical Content | Aligned Components of *Eureka Math* |
|---|---|---|---|
| **Number and Quantity** | **Quantities** | **Cluster: Reason quantitatively and use units to solve problems.** | |
| | | **G.N-Q.A.1**<br>Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays, include utilizing real-world context. | Algebra I M1: Relationships Between Quantities and Reasoning with Equations and Their Graphs |
| | | **G.N-Q.A.2**<br>Define appropriate quantities for the purpose of descriptive modeling. Include problem-solving opportunities utilizing real-world context. | Algebra I M1 Topic A: Introduction to Functions Studied this Year—Graphing Stories<br><br>Algebra I M5: A Synthesis of Modeling with Equations and Functions<br><br>Algebra II M1 Lessons 20–21: Modeling Riverbeds with Polynomials<br><br>Algebra II M3 Lesson 2: Base 10 and Scientific Notation<br><br>Algebra II M3 Lesson 9: Logarithms—How Many Digits Do You Need? |
| | | **G.N-Q.A.3**<br>Choose a level of accuracy appropriate to limitations on measurement when reporting quantities utilizing real-world context. | Algebra I M1 Topic A: Introduction to Functions Studied this Year—Graphing Stories<br><br>Algebra I M5: A Synthesis of Modeling with Equations and Functions |

| Conceptual Category | Domain | Standards for Mathematical Content | Aligned Components of *Eureka Math* |
|---|---|---|---|
| **Geometry** | **Congruence** | **Cluster: Experiment with transformations in the plane.** | |
| | | **G.G-CO.A.1**<br>Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc. | Geometry M1 Topic A: Basic Constructions<br><br>Geometry M1 Topic G: Axiomatic Systems |
| | | **G.G-CO.A.2**<br>Represent and describe transformations in the plane as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not. | Geometry M1 Topic C: Transformations/Rigid Motions<br><br>Geometry M2 Lesson 6: Dilations as Transformations of the Plane |
| | | **G.G-CO.A.3**<br>Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself. | Geometry M1 Lesson 15: Rotations, Reflections, and Symmetry<br><br>Geometry M1 Lesson 21: Correspondence and Transformations |

| Conceptual Category | Domain | Standards for Mathematical Content | Aligned Components of *Eureka Math* |
|---|---|---|---|
| | | **G.G-CO.A.4**<br>Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments. | Geometry M1 Lesson 12: Transformations—The Next Level<br>Geometry M1 Lesson 13: Rotations<br>Geometry M1 Lesson 14: Reflections<br>Geometry M1 Lesson 16: Translations |
| | | **G.G-CO.A.5**<br>Given a geometric figure and a rotation, reflection, or translation draw the transformed figure. Specify a sequence of transformations that will carry a given figure onto another. | Geometry M1 Topic C: Transformations/Rigid Motions |
| | | **Cluster: Understand congruence in terms of rigid motions.** | |
| | | **G.G-CO.B.6**<br>Use geometric definitions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent. | Geometry M1 Lesson 15: Rotations, Reflections, and Symmetry<br>Geometry M1 Lesson 16: Translations<br>Geometry M1 Lesson 19: Construct and Apply a Sequence of Rigid Motions<br>Geometry M1 Lesson 21: Correspondence and Transformations |

| Conceptual Category | Domain | Standards for Mathematical Content | | Aligned Components of *Eureka Math* |
|---|---|---|---|---|
| | | **G.G-CO.B.7**<br>Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent. | | Geometry M1 Lesson 16: Translations<br><br>Geometry M1 Lesson 19: Construct and Apply a Sequence of Rigid Motions<br><br>Geometry M1 Lesson 20: Applications of Congruence in Terms of Rigid Motions<br><br>Geometry M1 Lesson 21: Correspondence and Transformations<br><br>Geometry M1 Topic D: Congruence<br><br>Geometry M1 Topic G: Axiomatic Systems |
| | | **G.G-CO.B.8**<br>Explain how the criteria for triangle congruence (ASA, AAS, SAS, and SSS) follow from the definition of congruence in terms of rigid motions. | | Geometry M1 Topic D: Congruence<br><br>Geometry M1 Topic G: Axiomatic Systems |

| Conceptual Category | Domain | Standards for Mathematical Content | Aligned Components of *Eureka Math* |
|---|---|---|---|
| | | **Cluster: Prove geometric theorems.** | |
| | | **G.G-CO.C.9**<br>Prove theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints. | Geometry M1 Topic B: Unknown Angles<br>Geometry M1 Lesson 18: Looking More Carefully at Parallel Lines<br>Geometry M1 Topic G: Axiomatic Systems |
| | | **G.G-CO.C.10**<br>Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangle are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point. | Geometry M1 Lesson 23: Base Angles of Isosceles Triangles<br>Geometry M1 Topic E: Proving Properties of Geometric Figures<br>Geometry M1 Topic G: Axiomatic Systems |

| Conceptual Category | Domain | Standards for Mathematical Content | Aligned Components of *Eureka Math* |
|---|---|---|---|
| | | **G.G-CO.C.11**<br>Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and rectangles are parallelograms with congruent diagonals. | Geometry M1 Lesson 28: Properties of Parallelograms<br>Geometry M1 Topic G: Axiomatic Systems |
| | | **Cluster: Make geometric constructions.** | |
| | | **G.G-CO.D.12**<br>Make formal geometric constructions with a variety of tools and methods. Constructions include: copying segments; copying angles; bisecting segments; bisecting angles; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line. | Geometry M1 Topic A: Basic Constructions<br>Geometry M1 Topic C: Transformations/Rigid Motions |
| | | **G.G-CO.D.13**<br>Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle; with a variety of tools and methods. | Geometry M1 Lessons 1–2: Construct an Equilateral Triangle<br>Geometry M1 Topic F: Advanced Constructions |

| Conceptual Category | Domain | Standards for Mathematical Content | | Aligned Components of *Eureka Math* |
|---|---|---|---|---|
| | **Similarity, Right Triangles, and Trigonometry** | **Cluster: Understand similarity in terms of similarity transformations.** | | |
| | | **G.G-SRT.A.1**<br>Verify experimentally the properties of dilations given by a center and a scale factor: | | |
| | | a. Dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. | | Geometry M2 Lesson 3: Making Scale Drawings Using the Parallel Method<br><br>Geometry M2 Lesson 5: Scale Factors<br><br>Geometry M2 Topic B: Dilations |
| | | b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor. | | Geometry M2 Topic A: Scale Drawings<br><br>Geometry M2 Topic B: Dilations |
| | | **G.G-SRT.A.2**<br>Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides. | | Geometry M2 Lesson 12: What Are Similarity Transformations, and Why Do We Need Them?<br><br>Geometry M2 Lesson 13: Properties of Similarity Transformations<br><br>Geometry M2 Lesson 14: Similarity |

| Conceptual Category | Domain | Standards for Mathematical Content | Aligned Components of *Eureka Math* |
|---|---|---|---|
| | | **G.G-SRT.A.3**<br>Use the properties of similarity transformations to establish the AA, SAS, and SSS criterion for two triangles to be similar. | Geometry M2 Lesson 15: The Angle-Angle (AA) Criterion for Two Triangles to Be Similar<br><br>Geometry M2 Lesson 17: The Side-Angle-Side (SAS) and Side-Side-Side (SSS) Criteria for Two Triangles to Be Similar |
| | | **Cluster: Prove theorems involving similarity.** | |
| | | **G.G-SRT.B.4**<br>Prove theorems about triangles. Theorems include: an interior line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity. | Geometry M2 Lesson 4: Comparing the Ratio Method with the Parallel Method<br><br>Geometry M2 Lesson 5: Scale Factors<br><br>Geometry M2 Topic B: Dilations<br><br>Geometry M2 Lesson 17: The Side-Angle-Side (SAS) and Side-Side-Side (SSS) Criteria for Two Triangles to Be Similar<br><br>Geometry M2 Lesson 18: Similarity and the Angle Bisector Theorem<br><br>Geometry M2 Lesson 19: Families of Parallel Lines and the Circumference of the Earth<br><br>Geometry M2 Topic D: Applying Similarity to Right Angles |

| Conceptual Category | Domain | Standards for Mathematical Content | Aligned Components of *Eureka Math* |
|---|---|---|---|
| | | **G.G-SRT.B.5**<br>Use congruence and similarity criteria to prove relationships in geometric figures and solve problems utilizing real-world context. | Geometry M2 Lesson 16: Between-Figure and Within-Figure Ratios<br><br>Geometry M2 Lesson 17: The Side-Angle-Side (SAS) and Side-Side-Side (SSS) Criteria for Two Triangles to Be Similar<br><br>Geometry M2 Lesson 18: Similarity and the Angle Bisector Theorem<br><br>Geometry M2 Topic D: Applying Similarity to Right Triangles |
| | | **Cluster: Define trigonometric ratios and solve problems involving right triangles.** | |
| | | **G.G-SRT.C.6**<br>Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles. | Geometry M2 Lesson 25: Incredibly Useful Ratios<br><br>Geometry M2 Lesson 26: The Definition of Sine, Cosine, and Tangent |
| | | **G.G-SRT.C.7**<br>Explain and use the relationship between the sine and cosine of complementary angles. | Geometry M2 Lesson 27: Sine and Cosine of Complementary Angles and Special Angles<br><br>Geometry M2 Lesson 28: Solving Problems Using Sine and Cosine<br><br>Geometry M2 Lesson 29: Applying Tangents |

| Conceptual Category | Domain | Standards for Mathematical Content | Aligned Components of *Eureka Math* |
|---|---|---|---|
| | | **G.G-SRT.C.8**<br>Use trigonometric ratios (including inverse trigonometric ratios) and the Pythagorean Theorem to find unknown measurements in right triangles utilizing real-world context. | Geometry M2 Topic E: Trigonometry |
| | **Circles** | **Cluster: Understand and apply theorems about circles.** | |
| | | **G.G-C.A.1**<br>Prove that all circles are similar. | Geometry M5 Lesson 7: The Angle Measure of an Arc |
| | | **G.G-C.A.2**<br>Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle. | Geometry M5: Circles With and Without Coordinates |
| | | **G.G-C.A.3**<br>Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle. | Geometry M5 Lesson 1: Thales' Theorem<br>Geometry M5 Lesson 3: Rectangles Inscribed in Circles<br>Geometry M5 Lesson 12: Tangent Segments<br>Geometry M5 Topic E: Cyclic Quadrilaterals and Ptolemy's Theorem |

| Conceptual Category | Domain | Standards for Mathematical Content | Aligned Components of *Eureka Math* |
|---|---|---|---|
| | | **Cluster: Find arc lengths and areas of sectors of circles.** | |
| | | **G.G-C.B.5**<br>Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector. Convert between degrees and radians. | Geometry M5 Topic B: Arcs and Sectors |
| | **Expressing Geometric Properties with Equations** | **Cluster: Translate between the geometric description and the equation for a conic section.** | |
| | | **G.G-GPE.A.1**<br>Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation. | Geometry M5 Topic D: Equations for Circles and Their Tangents |

| Conceptual Category | Domain | Standards for Mathematical Content | Aligned Components of *Eureka Math* |
|---|---|---|---|
| | | **Cluster: Use coordinates to prove geometric theorems algebraically.** | |
| | | **G.G-GPE.B.4**<br>Use coordinates to algebraically prove or disprove geometric relationships algebraically. Relationships include: proving or disproving geometric figures given specific points in the coordinate plane; and proving or disproving if a specific point lies on a given circle. | Geometry M4: Connecting Algebra and Geometry Through Coordinates<br><br>Geometry M5 Lesson 19: Equations for Tangent Lines to Circles |
| | | **G.G-GPE.B.5**<br>Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems, including finding the equation of a line parallel or perpendicular to a given line that passes through a given point. | Geometry M4 Lesson 4: Designing a Search Robot to Find a Beacon<br><br>Geometry M4 Topic B: Perpendicular and Parallel Lines in the Cartesian Plane<br><br>Geometry M5 Lesson 19: Equations for Tangent Lines to Circles |
| | | **G.G-GPE.B.6**<br>Find the point on a directed line segment between two given points that partitions the segment in a given ratio. | Geometry M4 Topic D: Partitioning and Extending Segments and Parameterization of Lines |

| Conceptual Category | Domain | Standards for Mathematical Content | Aligned Components of *Eureka Math* |
|---|---|---|---|
| | | **G.G-GPE.B.7**<br>Use coordinates to compute perimeters of polygons and areas of triangles and rectangles. | Geometry M4 Topic A: Rectangular and Triangular Regions Defined by Inequalities<br><br>Geometry M4 Topic C: Perimeters and Areas of Polygonal Regions in the Cartesian Plane |
| | **Geometric Measurement and Dimension** | **Cluster: Explain volume formulas and use them to solve problems.** | |
| | | **G.G-GMD.A.1**<br>Analyze and verify the formulas for the volume of a cylinder, pyramid, and cone. | Geometry M3: Extending to Three Dimensions |
| | | **G.G-GMD.A.3**<br>Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems utilizing real-world context. | Geometry M3: Extending to Three Dimensions |
| | | **Cluster: Visualize relationships between two-dimensional and three-dimensional objects.** | |
| | | **G.G-GMD.B.4**<br>Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects. | Geometry M3: Extending to Three Dimensions |

| Conceptual Category | Domain | Standards for Mathematical Content | Aligned Components of *Eureka Math* |
|---|---|---|---|
| | **Modeling with Geometry** | **Cluster: Apply geometric concepts in modeling situations.** | |
| | | **G.G-MG.A.1**<br>Use geometric shapes, their measures, and their properties to describe objects utilizing real-world context. | Geometry M2 Lesson 19: Families of Parallel Lines and the Circumference of the Earth<br>Geometry M2 Lesson 20: How Far Away Is the Moon?<br>Geometry M3 Lesson 5: Three-Dimensional Space<br>Geometry M3 Lesson 6: General Prisms and Cylinders and Their Cross-Sections<br>Geometry M3 Lesson 11: The Volume Formula of a Pyramid and Cone<br>Geometry M3 Lesson 12: The Volume Formula of a Sphere |
| | | **G.G-MG.A.2**<br>Apply concepts of density based on area and volume in modeling situations utilizing real-world context. | Geometry M3 Lesson 8: Definition and Properties of Volume<br>Geometry M3 Lesson 11: The Volume Formula of a Pyramid and Cone |
| | | **G.G-MG.A.3**<br>Apply geometric methods to solve design problems utilizing real-world context. | Geometry M2 Lesson 2: Making Scale Drawings Using the Ratio Method<br>Geometry M3 Lesson 11: The Volume Formula of a Pyramid and Cone<br>Geometry M3 Lesson 12: The Volume Formula of a Sphere<br>Geometry M3 Lesson 13: How Do 3D Printers Work? |