**Curriculum Coverage in Mathematics for the 2018-2019 School Year as Outlined by TN Standards**

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| * **TN Standards Major Work of the Grade (70%):** * **Multiply and divide fractions** * **Apply system of rational numbers** * **Understand ratio concepts** * **Use ratio reasoning** * **Arithmetic with algebraic expressions** * **Solve one-variable equations and inequalities** * **Represent relationships between independent/dependent variables** | * **Supporting (30%):** * **Compute fluently with multi-digit numbers** * **Solve area, surface area, and volume problems** * **Understand statistical variability** * **Summarize and describe distributions** |

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| **TN Standards** | **Learning Outcomes** | **Instructional Focus** | **Content** |
| **Geometry** | | | |
| **6.G.A.1** Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. | I can find the area of parallelograms, rhombuses, and trapezoids.  I can find the area of a triangle.  I can use equations to solve problems about area of rectangles, parallelograms, trapezoids, and triangles.  I can find the area of a polygon by breaking it into simpler shapes. | Students should interchangeably compose and decompose shapes to form familiar shapes. They then use these finding the area of familiar shapes and the total area of the original composite shape. It is important that the student is able to verbalize that these are equivalent and explain why.In solidifying this concept, students should generalize that the area of a right triangle is half the area of a rectangle resulting in the formula A = ½ bh and explain this connection using mathematical precise vocabulary. Additionally, as students work with the same shape, they should be able to compare different decompositions to see that a shape can be decomposed in multiple ways and have the same area. This understanding should be transferred into solving mathematical and real-world problems by using precise mathematical vocabulary to explain their reasoning. | **Go Math Lesson**  13.1 Area of Quadrilaterals (pg. 371)  13.2 Area of Triangles (pg. 377)  13.3 Solving Area Equations (pg. 383)  13.4 Area of Polygons (pg. 389)  **Engage NY Task:**  [Grade 6 Mathematics Module 5, Topic A](https://www.engageny.org/resource/grade-6-mathematics-module-5-topic-overview) (13.1, 13.2, 13.3, and 13.4) |
| **6.G.A.2** Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Know and apply the formulas *V = lwh* and *V = Bh where B is the area of the base* to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems. | I can find the volume of a rectangular prism.  I can write equations to solve problems involving volume of rectangular prisms. | Students should be demonstrating a strong conceptual understanding of volume using fractional computation skills and modeling skills. Students should be employing this understanding to solve complex real-world problems. Students should also be able to  model their thinking with multiple representations. Additionally, students should provide written and verbal justification explaining the connections between multiple representations of finding volume. | **Go Math Lesson:**  15.2 Volume of Rectangular Prisms (pg. 425)  15.3 Solving Volume Equations (pg. 431)  **Engage NY Task:**  [Grade 6 Mathematics Module 5, Topic C](https://www.engageny.org/resource/grade-6-mathematics-module-5-topic-c-overview) (15.2 and 15.3) |
| **6.G.A.3** Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side that joins two vertices (vertical or horizontal segments only). Know and apply these techniques in the context of solving real-world and mathematical problems. | I can solve problems by drawing polygons in the coordinate plane. | As students strengthen their understanding, they should make connections about how to find the length of the sides of a polygon using the coordinates of the vertices having the same first coordinate (or second coordinate) and generalize their thought process. This should be accompanied by mathematical justifications extending from a polygon drawn in the coordinate plane and not a stand-alone algorithm. It is important for students to recognize and explain the connection between finding the side length of a polygon on a coordinate plane to distance on a number line and absolute value to solidify their conceptual understanding. As students develop a strong understanding of finding the side lengths of a polygon, they should be able to tackle more rigorous problems such as when given all but one coordinate for the vertices of a regular polygon, identifying the missing coordinate and graph the polygon on the coordinate plane. Students should reinforce their understanding of drawing polygons and finding the length of the sides of a polygon in the coordinate plane by solving contextual problems and provide explanations in written and verbal form using precise mathematical vocabulary. | **Go Math Lesson:**  14.2 Polygons in the Coordinate Plane (pg. 407)  **Engage NY Task:**  [Grade 6 Mathematics Module 5, Topic B](https://www.engageny.org/resource/grade-6-mathematics-module-5-topic-b-overview) (14.2) |
| **6.G.A.4** Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. | I can use nets to find surface area. | As students enhance their understanding of surface area, they should be able to explain the connections between how area of a two-dimensional figure relates to surface area of a three dimensional figure. As students make these connections, they look for and make sense of structure (MP7). Finally, students are able to explain the connections that exists between adding the areas to find surface area and the traditional surface area formulas using precise mathematical language. | **Go Math Lesson:**  15.1 Nets and Surface Area (pg. 419)  **Engage NY Task:**  [Grade 6 Mathematics Module 5, Topic D](https://www.engageny.org/resource/grade-6-mathematics-module-5-topic-d-overview) (15.1) |
| **Statistics and Probability** | | | |
| **6.SP.A.1** Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. | I can recognize a statistical question. | ENTER HERE | **Go Math Lesson:**  16.4 Dot Plots and Data Distribution (Explore Activity, pg. 469)  **Engage NY Task:**  [Grade 6 Mathematics Module 6, Topic A](https://www.engageny.org/resource/grade-6-mathematics-module-6-topic-overview) (16.4) |
| **6.SP.A.2** Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center (mean, median, mode), spread (range), and overall shape. | I can describe the spread, center, and shape of a data distribution. | ENTER HERE | **Go Math Lesson:**  16.4 Dot Plots and Data Distribution (Example 2, pg. 471)  **Engage NY Task:**  [Grade 6 Mathematics Module 6, Topic A](https://www.engageny.org/resource/grade-6-mathematics-module-6-topic-overview) (16.4) |
| **6.SP.A.3** Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number. | I can recognize the difference between a measure of center and a measure of variability. | ENTER HERE | **Go Math Lesson:**  16.2 Mean Absolute Deviation (Explore Activity, pg. 455)  **Engage NY Task:**  [Grade 6 Mathematics Module 6, Topic B](https://www.engageny.org/resource/grade-6-mathematics-module-6-topic-b-overview) (16.2) |
| **6.SP.B.4** Display a single set of numerical data using dot plots (line plots), box plots, pie charts and stem plots. | I can use a box plot and measures of spread to describe a data set.  I can use a dot plot to summarize and display numerical data.  I can display data in a histogram. | ENTER HERE | **Go Math Lesson:**  16.3 Box Plots (pg. 463)  16.4 Dot Plots and Data Distribution (Example 1, pg. 470)  16.5 Histograms (pg. 477)  **Engage NY Task:**  [Grade 6 Mathematics Module 6, Topic A](https://www.engageny.org/resource/grade-6-mathematics-module-6-topic-overview) (16.3, 16.4, and 16.5)  [Grade 6 Mathematics Module 6, Topic B](https://www.engageny.org/resource/grade-6-mathematics-module-6-topic-b-overview) (16.5)  [Grade 6 Mathematics Module 6, Topic D](https://www.engageny.org/resource/grade-6-mathematics-module-6-topic-d-overview) (16.4 and 16.5) |
| **6.SP.B.5** Summarize numerical data sets in relation to their context.   1. Reporting the number of observations. 2. Describe the nature of the attribute under investigation, including how it was measured and its units of measurement. 3. Give quantitative measures of center (median and/or mean) and variability (range) as well as describing any overall pattern with reference to the context in which the data were gathered. 4. Relate the choice of measures of center to the shape of the data distribution and the context in which the data were gathered. | I can organize and display data in tables and graphs.  I can summarize numerical data sets by reporting the number of observations in a data set or display. | ENTER HERE | **Go Math Lesson:**  Embedded throughout Module 16 (pg. 448) |