**Curriculum Coverage in 8th Grade Mathematics for the 2018-2019 School Year as Outlined by TN Standards**

**TN Standards Major Work of the Grade:**

* **Radical and integer exponents**
* **Functions**
* **Expressions and Equations**
* **Pythagorean Theorem**

**Supporting:**

* **Rational Numbers**
* **Transformation**
* **Volume of cylinders, cones, and spheres**
* **Scatterplots**
* **Probability**

**The Standards for Mathematical Practice**

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| **MP1. Make sense of problems and persevere in solving them.** | **MP2. Reason abstractly and quantitatively.** | **MP3. Construct viable arguments and critique the reasoning of others.** | **MP4. Model with mathematics.** |
| **MP5. Use appropriate tools strategically.** | **MP6. Attend to precision.** | **MP7. Look for and make use of structure.** | **MP8. Look for and express regularity in repeated reasoning.** |

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| **TN Standards** | **Learning Outcomes** | **Instructional Focus** | **Content Resources** |
| **Transformations**  **Allow 2 weeks for instruction, review, and assessment** | | | |
| * **8.G.A.1** Verify experimentally the properties of rotations, reflections, and translations.   a. Lines are taken to lines, and line segments to line segments of the same length.  b. Angles are taken to angles of the same measure.  c. Parallel lines are taken to parallel lines.   * **8.G.A.2** Describe the effects of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. | I can translate a shape, line segment, or parallel lines by using a verbal description (right 5 units, up 7 units) on the coordinate plane.  I can translate a shape, line segment, or parallel lines by using a mathematic description (-5 and -2) on the coordinate plane or without a coordinate plane.  I can reflect a shape, line segment, or parallel lines over a line of reflection (vertical, horizontal, and diagonal lines of reflection) on the coordinate plane or without a coordinate plane.  I can dilate a shape, line segment, or parallel lines based on the scale factor of the dilation on a coordinate plane or without a coordinate plane.  I can understand that a scale factor of a number >1 is an enlargement and a scale factor of a number <1 is a reduction.  I can rotate a shape or line segment around the origin on the coordinate plane.  I can perform a series of dilations on a coordinate plane.  I can determine which transformation has occurred when looking at the pre-image and the new image. |  | **Go Math Lesson:**  \* Lesson 9.1 Properties of Translations (pg. 279)  \* Lesson 9.2 Properties of Reflections (pg. 285)  \* Lesson 9.3 Properties of Rotations (pg. 291)  \* Lesson 9.4 Algebraic Representations of Transformations (pg. 297)  \* Lesson 9.5 Congruent Figures  \* Lesson 10.1 Properties of Dilations (pg. 315)  \* Lesson 10.2 Algebraic Representations of Dilations (pg. 327)  \* Lesson 10.3 Similar Figures (pg. 327)  **Engage NY Task:**  [Module 2, Topic A, B](https://www.engageny.org/resource/grade-8-mathematics-module-2)  [Definitions and Properties of Basic Rigid Motions](https://www.engageny.org/resource/grade-8-mathematics-module-2)  [Sequencing the Basic Rigid Motions](https://www.engageny.org/resource/grade-8-mathematics-module-2)  [Module 3, Topic A, B](https://www.engageny.org/resource/grade-8-mathematics-module-3)  [Dilation](https://www.engageny.org/resource/grade-8-mathematics-module-3)  [Similar Figures](https://www.engageny.org/resource/grade-8-mathematics-module-3) |
| **Volume of Curved Figures**  **(Allow 2 weeks for instruction, review, and assessment)** | | | |
| * **8.G.C.7** Know and understand the formulas for the volumes of cones, cylinders, and spheres, and use them to solve real-world and mathematical problems. | I can know and understand the formula for the volume of a cylinder and use the formula to solve for the volume of a cylinder in the appropriate units of measurement.  I can know and understand that there are three cones in each cylinder with the same radius and height.  I can know and understand the formula for the volume of a cone and use the formula to solve for the volume of a cone in the appropriate units of measurement.  I can know and understand the formula for the volume of a sphere and use the formula to solve for the volume of a sphere in the appropriate units of measurement.  I can apply each of the formulas of curved shapes to contextual problems involving cones, cylinders, and spheres. | **8.G.C.7**  **Instructional Focus:**  Students should demonstrate their conceptual understanding of the volume of cylinders, cones, and spheres by making connections to previous geometric coursework, explaining their reasoning in both verbal and written form using precise mathematical vocabulary. Students should also be able to clearly recognize which formula is needed to find the volume in solving complex real-world or mathematical problems. Additionally, students should generalize their conceptual understanding and connections of the volume formulas and use them to efficiently solve real-world and mathematical problems. | **Go Math Lesson:**  \* Lesson 13.1 Volume of Cylinders (pg. 399)  \* Lesson 13.2 Volume of Cones (pg. 405)  \* Lesson 13.3 Volume of Spheres (pg. 411)  **Engage NY Task:**  [Module 5, Topic B, Volume](https://www.engageny.org/resource/grade-8-mathematics-module-5-topic-b-overview) |
| **Compound Probability**  Allow 1 week for instruction, review, and assessment | | | |
| * **8.SP.B.4** Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event described in everyday language (e.g. “rolling double sixes”), identify the outcomes in the sample space which compose the event. | I can represent the sample space of a compound event using an organized list, table, and tree diagram.  I can identify the probability of a compound event using an organized list, table, and tree diagram.  I can represent the probability of a compound event as a fraction of outcomes in the sample space for which the compound event occurs. |  |  |
| **Use Any Additional Time to Review for TN Ready**  **Pay attention to the blueprints for the Major Work of the Grade** | | | |
| **Resource Toolbox:**  **Additional Resources**  [Mathematics Assessment Project](http://map.mathshell.org/materials/index.php)  [Illustrative Mathematics](http://www.illustrativemathematics.org/standards/k8)  [Virtual Nerd](http://www.virtualnerd.com/)  [Khan Academy](https://www.khanacademy.org/)  [Internet 4 Classrooms](http://www.internet4classrooms.com/skills-8th-mathbuilders.htm)  [Teacher Tube](http://www.teachertube.com/)  [Kuta Software](http://www.kutasoftware.com/free.html)  [Illuminations](http://illuminations.nctm.org/) | | | |