

8th Grade Math Curriculum

Our goal is to make sure students complete middle school with not only the math skills they need to be successful in their future high school courses, but also with the confidence they need to explore and discover as they continue to learn about the world around them.

An eighth-grade math curriculum is usually a course that gets the student ready for high school. The following information will explain the steps you should take to meet your child's 8th grade math goals.

What Math Should an 8th Grader Already Know?

An eighth-grade math curriculum covers more than just basic arithmetic. It dives into several different mathematical areas that are crucial for comprehensive learning. Students will use their previous knowledge of number sense and operations, solving equations with one and two variables, metric and standard measurement, and probability as they explore a new area of math this year – *Geometry*.

Mastering math skills is important to help your student succeed in high school by building upon prior knowledge. Here are the topics that eighth graders should already be familiar with:

1. Representing numbers in word, standard, expanded, and scientific notation
2. Understanding and applying ratios and rates
3. Performing multiplication and division with positive and negative rational numbers
4. Solving and graphing single-variable linear inequalities
5. Plotting ordered pairs in all four quadrants
6. Computing experimental & theoretical probabilities
7. Calculating depending and independent probability events

If your student needs to revisit seventh-grade math concepts, our curriculum offers flexible grade-level options, allowing access to lessons in the seventh grade.

What Do 8th Graders Learn in Math?

The major math concepts covered for an eighth-grade curriculum are:

- Algebra: Review 7th Grade concepts
- Geometry: Fundamentals
- Properties of Geometric Shapes
- Geometry: Transformations
- Geometry: Lines & Angles
- Plane Geometry
- Composite Shapes
- Geometric Similarity
- Data Analysis & Statistics
- Real-world Applications & Projects

A YEAR AT A GLANCE Be sure to include a bit of wiggle room in case your student needs extra time with a math topic. Also note that students may do Data & Statistics at any time during the year. The sequence below is our recommendation for a full year course:

Grade 8: Algebra Review, Geometry, Data & Statistics

September <i>Geometry Session #1</i>	October <i>Geometry Session #2</i>	November <i>Geometry Sessions #3-4</i>	December Two weeks of extra practice if needed.
January <i>Geometry Sessions #5-6</i>	February <i>Geometry Advanced Labs #1-4</i>	March <i>Data & Statistics</i>	April <i>Data & Statistics, Geometry Review</i>
May <i>Algebra Review Sessions #1-4</i>	June <i>Math Camp</i>	July	August

Special Note Regarding *Soft Approach* Middle School Math

The *Soft Approach* Math program allows students to take three years instead of two to cover their math concepts in pre-Algebra, Algebra 1, Geometry, Probability, & Statistics. Students will study the first half of both Algebra 1 and Geometry over a two-year period, which will provide a solid foundation and help the student be more prepared for the full challenges of these subjects in high school.

For 7th Grade, students will start out with a full review of all math concepts covered in Fractions, Decimals, and Percent, start with pre-Algebra, then move into the first half of Algebra 1 (Sessions 1-4), and finish their year with Probability. Students are now ready for the 8th grade year.

For 8th Grade, students will continue their study with a full review of all Algebra concepts covered in the previous year (Sessions 1-4), then move into the first half of Geometry (Sessions 1-6), and finish the year with a course in Statistics. (If you're switching in from another course and starting 8th Grade math with us, please make sure your student has completed the topics covered in 7th grade before starting, as this is a 2-year course for Grades 7-8th.)

For 9th Grade, students will cover the second half of both Algebra 1 and Geometry in a single year. After this three-year cycle, students are ready for Algebra 2.

8th Grade Math Lesson Plan – 31 Weeks

Fall Term (Sept – Dec)

- Week 1: [Geometry Basics](#)*
- Week 2: [Constructing Shapes](#)
- Week 3: [Geometry Transformations Part 1](#)
- Week 4: [Geometry Transformations Part 2](#)
- Week 5: [Bisecting and Constructing Shapes](#)
- Week 6: [Types of Angles Part 1](#)*
- Week 7: [Types of Angles Part 2](#)
- Week 8: [Properties of Triangles Part 1](#)*
- Week 9: [Properties of Triangles Part 2](#)
- Week 10: [Properties of Circles Part 1](#)*
- Week 11: [Properties of Circles Part 2](#)

Winter Term (Jan – Feb)

- Week 12: [Rectangles & Parallelograms](#)*
- Week 13: [Triangles & Trapezoids](#)
- Week 14: [Composite Figures](#)
- Week 15: [Similarity Part 1](#)
- Week 16: [Similarity Part 2](#)
- Week 17: Advanced Labs 1 [Technical Drawings](#)
- Week 17: Advanced Labs 2 [Physics of Light](#)
- Week 18: Advanced Labs 3 [Physics of Forces & Motion](#)
- Week 19: Advanced Labs 4 [Astronomy](#)
- Week 20: Geometry Review

Spring Term (March – May)

- Week 21: Data and Statistics ([Mean, Median, Measures of Center](#))
- Week 22: Data and Statistics & Review ([Range, IQR, and MAD](#))
- Week 23: Data and Statistics ([Dot Plots & Histograms](#))
- Week 24: Data and Statistics ([Box Plots & Statistics Applications](#))
- Week 25: Data and Statistics Review
- Week 26: Review of Geometry #1-3
- Week 27: Review of Geometry #4-6
- Week 28: Algebra Session #1 Review
- Week 29: Algebra Session #2 Review
- Week 30: Algebra Session #3 Review
- Week 31: Algebra Session #4 Review

Please bring these materials with you to *every* Geometry Lesson with a teacher:

- Math journal / notebook
- Pencils and eraser
- Protractor
- Compass ([one with a set screw adjustment](#))
- Ruler (inches and cm)
- Calculator

***Geometry Build Challenges!**

In addition to math lessons with teachers and working on homework assignments, students also explore how geometry is used in the science and engineering fields by designing and building several Geometry Challenge Projects!

Your child will need materials to participate in all the hands-on fun! [Click for materials list.](#)