

# CCSS WHERE TO FOCUS GRADE 6 MATHEMATICS



MATHEMATICS



GRADE 6



FOCUS

This document shows where students and teachers should spend the large majority of their time in order to meet the expectations of the Standards.

Not all content in a given grade is emphasized equally in the Standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Standards for Mathematical Practice.

To say that some things have greater emphasis is not to say that anything in the Standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade.

Students should spend the large majority<sup>1</sup> of their time on the major work of the grade (■). Supporting work (□) and, where appropriate, additional work (○) can engage students in the major work of the grade.<sup>2,3</sup>

## MAJOR, SUPPORTING, AND ADDITIONAL CLUSTERS FOR GRADE 6

Emphases are given at the cluster level. Refer to the Common Core State Standards for Mathematics for the specific standards that fall within each cluster.

Key: ■ Major Clusters   □ Supporting Clusters   ○ Additional Clusters

- 6.RP.A | ■ Understand ratio concepts and use ratio reasoning to solve problems.
- 6.NS.A | ■ Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
- 6.NS.B | ○ Compute fluently with multi-digit numbers and find common factors and multiples.
- 6.NS.C | ■ Apply and extend previous understandings of numbers to the system of rational numbers.
- 6.EE.A | ■ Apply and extend previous understandings of arithmetic to algebraic expressions.
- 6.EE.B | ■ Reason about and solve one-variable equations and inequalities.
- 6.EE.C | ■ Represent and analyze quantitative relationships between dependent and independent variables.
- 6.G.A | □ Solve real-world and mathematical problems involving area, surface area, and volume.
- 6.SPA | ○ Develop understanding of statistical variability.
- 6.SPB | ○ Summarize and describe distributions.

## HIGHLIGHTS OF MAJOR WORK IN GRADES K–8

K–2	Addition and subtraction – concepts, skills, and problem solving; place value
3–5	Multiplication and division of whole numbers and fractions – concepts, skills, and problem solving
6	Ratios and proportional relationships; early expressions and equations
7	Ratios and proportional relationships; arithmetic of rational numbers
8	Linear algebra and linear functions

## REQUIRED FLUENCIES FOR GRADE 6

6.NS.B.2	Multi-digit division
6.NS.B.3	Multi-digit decimal operations

<sup>1</sup> At least 65% and up to approximately 85% of class time, with Grades K–2 nearer the upper end of that range, should be devoted to the major work of the grade. For more information, see Criterion #1 of the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics [www.achievethecore.org/publisherscriteria](http://www.achievethecore.org/publisherscriteria).

<sup>2</sup> Refer also to criterion #3 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics [www.achievethecore.org/publisherscriteria](http://www.achievethecore.org/publisherscriteria).

<sup>3</sup> Note, the critical areas are a survey of what will be taught at each grade level; the major work is the subset of topics that deserve the large majority of instructional time during a given year to best prepare students for college and careers.

# CCSS WHERE TO FOCUS GRADE 7 MATHEMATICS



MATHEMATICS



GRADE 7



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Students should spend the large majority<sup>1</sup> of their time on the major work of the grade (■). Supporting work (□) and, where appropriate, additional work (○) can engage students in the major work of the grade.<sup>2,3</sup>

## MAJOR, SUPPORTING, AND ADDITIONAL CLUSTERS FOR GRADE 7

Emphases are given at the cluster level. Refer to the Common Core State Standards for Mathematics for the specific standards that fall within each cluster.

Key: ■ Major Clusters    □ Supporting Clusters    ○ Additional Clusters

- 7.RP.A | ■ Analyze proportional relationships and use them to solve real-world and mathematical problems.
- 7.NS.A | ■ Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.
- 7.EE.A | ■ Use properties of operations to generate equivalent expressions.
- 7.EE.B | ■ Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
- 7.G.A | ○ Draw, construct and describe geometrical figures and describe the relationships between them.
- 7.G.B | ○ Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
- 7.SP.A | □ Use random sampling to draw inferences about a population.
- 7.SP.B | ○ Draw informal comparative inferences about two populations.
- 7.SP.C | □ Investigate chance processes and develop, use, and evaluate probability models.

## HIGHLIGHTS OF MAJOR WORK IN GRADES K–8

K–2	Addition and subtraction – concepts, skills, and problem solving; place value
3–5	Multiplication and division of whole numbers and fractions – concepts, skills, and problem solving
6	Ratios and proportional relationships; early expressions and equations
7	Ratios and proportional relationships; arithmetic of rational numbers
8	Linear algebra and linear functions

<sup>1</sup> At least 65% and up to approximately 85% of class time, with Grades K–2 nearer the upper end of that range, should be devoted to the major work of the grade. For more information, see Criterion #1 of the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics [www.achievethecore.org/publisherscriteria](http://www.achievethecore.org/publisherscriteria).

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# CCSS WHERE TO FOCUS GRADE 8 MATHEMATICS



MATHEMATICS



GRADE 8



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Students should spend the large majority<sup>1</sup> of their time on the major work of the grade (■). Supporting work (□) and, where appropriate, additional work (○) can engage students in the major work of the grade.<sup>2,3</sup>

## MAJOR, SUPPORTING, AND ADDITIONAL CLUSTERS FOR GRADE 8

Emphases are given at the cluster level. Refer to the Common Core State Standards for Mathematics for the specific standards that fall within each cluster.

Key: ■ Major Clusters   □ Supporting Clusters   ○ Additional Clusters

- 8.NS.A | □ Know that there are numbers that are not rational, and approximate them by rational numbers.
- 8.EE.A | ■ Work with radicals and integer exponents.
- 8.EE.B | ■ Understand the connections between proportional relationships, lines, and linear equations.
- 8.EE.C | ■ Analyze and solve linear equations and pairs of simultaneous linear equations.
- 8.F.A | ■ Define, evaluate, and compare functions.
- 8.F.B | ■ Use functions to model relationships between quantities.
- 8.G.A | ■ Understand congruence and similarity using physical models, transparencies, or geometry software.
- 8.G.B | ■ Understand and apply the Pythagorean Theorem.
- 8.G.C | ○ Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.
- 8.SPA | □ Investigate patterns of association in bivariate data.

## HIGHLIGHTS OF MAJOR WORK IN GRADES K–8

K–2	Addition and subtraction – concepts, skills, and problem solving; place value
3–5	Multiplication and division of whole numbers and fractions – concepts, skills, and problem solving
6	Ratios and proportional relationships; early expressions and equations
7	Ratios and proportional relationships; arithmetic of rational numbers
8	Linear algebra and linear functions

<sup>1</sup> At least 65% and up to approximately 85% of class time, with Grades K–2 nearer the upper end of that range, should be devoted to the major work of the grade. For more information, see Criterion #1 of the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics [www.achievethecore.org/publisherscriteria](http://www.achievethecore.org/publisherscriteria).

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