

Content Emphases by Cluster--Grade 6*

Not all of the content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than the 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. In addition, an intense focus on the most critical material at each grade allows depth in learning, which is carried out through 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. The following table identifies the Major Clusters, Additional Clusters, and Supporting Clusters for this grade.

Key: ■ Major Clusters; ■ Supporting Clusters; ● Additional Clusters

Ratios and Proportional Reasoning

- **Understand ratio concepts and use ratio reasoning to solve problems.**

The Number System

- **Apply and extend previous understandings of multiplication and division to divide fractions by fractions.**
- **Compute fluently with multi-digit numbers and find common factors and multiples.**
- **Apply and extend previous understandings of numbers to the system of rational numbers.**

Expressions and Equations

- **Apply and extend previous understandings of arithmetic to algebraic expressions.**
- **Reason about and solve one-variable equations and inequalities.**
- **Represent and analyze quantitative relationships between dependent and independent variables.**

Geometry

- **Solve real-world and mathematical problems involving area, surface area, and volume.**

Statistics and Probability

- **Develop understanding of statistical variability.**
- **Summarize and describe distributions.**

* 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.

Content Emphases by Cluster--Grade 7*

Not all of the content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than the 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. In addition, an intense focus on the most critical material at each grade allows depth in learning, which is carried out through the Standards for Mathematical Practice.

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Key: ■ Major Clusters; ■ Supporting Clusters; ● Additional Clusters

Ratios and Proportional Reasoning

- **Analyze proportional relationships and use them to solve real-world and mathematical problems.**

The Number System

- **Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.**

Expressions and Equations

- **Use properties of operations to generate equivalent expressions.**
- **Solve real-life and mathematical problems using numerical and algebraic expressions and equations.**

Geometry

- **Draw, construct and describe geometrical figures and describe the relationships between them.**
- **Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.**

Statistics and Probability

- **Use random sampling to draw inferences about a population.**
- **Draw informal comparative inferences about two populations.**
- **Investigate chance processes and develop, use, and evaluate probability models.**

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Content Emphases by Cluster--Grade 8*

Not all of the content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than the 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. In addition, an intense focus on the most critical material at each grade allows depth in learning, which is carried out through 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. The following table identifies the Major Clusters, Additional Clusters, and Supporting Clusters for this grade.

Key: ■ Major Clusters; ■ Supporting Clusters; ● Additional Clusters

The Number System

- Know that there are numbers that are not rational, and approximate them by rational numbers.

Expressions and Equations

- Work with radicals and integer exponents.
- Understand the connections between proportional relationships, lines, and linear equations.
- Analyze and solve linear equations and pairs of simultaneous linear equations.

Functions

- Define, evaluate, and compare functions.
- Use functions to model relationships between quantities.

Geometry

- Understand congruence and similarity using physical models, transparencies, or geometry software.
- Understand and apply the Pythagorean Theorem.
- Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.

Statistics and Probability

- Investigate patterns of association in bivariate data.

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