MAJOR, SUPPORTING, AND ADDITIONAL CLUSTERS FOR GRADE 1

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

1.OA.A ■ Represent and solve problems involving addition and subtraction.
1.OA.B ■ Understand and apply properties of operations and the relationship between addition and subtraction.
1.OA.C ■ Add and subtract within 20.
1.OA.D ■ Work with addition and subtraction equations.
1.NBT.A ■ Extending the counting sequence.
1.NBT.B ■ Understand place value.
1.NBT.C ■ Use place value understanding and properties of operations to add and subtract.
1.MD.A ■ Measure lengths indirectly and by iterating length units.
1.MD.B ○ Tell and write time.
1.MD.C ■ Represent and interpret data.
1.G.A ■ Reason with shapes and their attributes.

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 1

1.OA.C.6 Add/subtract within 10

1 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.
2 Refer also to criterion #3 in the K–8 Publishers’ Criteria for the Common Core State Standards for Mathematics www.achievethecore.org/publisherscriteria.
3 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.
An important subset of the major work in grades K–8 is the progression that leads toward middle school algebra.

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<thead>
<tr>
<th>K</th>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td>Know number names and the count sequence</td>
<td>Represent and solve problems involving addition and subtraction</td>
<td>Represent and solve problems involving addition and subtraction</td>
<td>Represent &amp; solve problems involving multiplication and division</td>
<td>Use the four operations with whole numbers to solve problems</td>
<td>Understand the place value system</td>
<td>Apply and extend previous understandings of multiplication and division to divide fractions by fractions</td>
<td>Apply and extend previous understanding of operations with fractions to add, subtract, multiply, and divide rational numbers</td>
<td>Work with radical and integer exponents</td>
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<tr>
<td>Count to tell the number of objects</td>
<td>Understand and apply properties of operations and the relationship between addition and subtraction</td>
<td>Add and subtract within 20</td>
<td>Understand properties of multiplication and the relationship between multiplication and division</td>
<td>Generalize place value understanding for multi-digit whole numbers</td>
<td>Use equivalent fractions as a strategy to add and subtract fractions</td>
<td>Apply and extend previous understandings of numbers to the system of rational numbers</td>
<td>Understand proportional relationships, lines, and linear equations**</td>
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<tr>
<td>Compare numbers</td>
<td>Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from</td>
<td>Add and subtract within 20</td>
<td>Use place value understanding and properties of operations to add and subtract</td>
<td>Multiply &amp; divide within 100</td>
<td>Use place value understanding and properties of operations to perform multidigit arithmetic</td>
<td>Apply and extend previous understandings of numbers to the system of rational numbers</td>
<td>Analyze and solve linear equations and pairs of simultaneous linear equations</td>
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<td>Work with numbers 11–19 to gain foundations for place value</td>
<td>Work with addition and subtraction equations</td>
<td>Measure and estimate lengths in standard units</td>
<td>Solve problems involving the four operations, and identify &amp; explain patterns in arithmetic</td>
<td>Extend understanding of fraction equivalence and ordering</td>
<td>Extend understanding of fraction equivalence and division to multiply and divide fractions</td>
<td>Understand ratio concepts and use ratio reasoning to solve problems</td>
<td>Define, evaluate, and compare functions</td>
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<td>Understate place value</td>
<td>Extend the counting sequence</td>
<td>Relate addition and subtraction to length</td>
<td>Develop understanding of fractions as numbers</td>
<td>Build fractions from unit fractions by applying and extending previous understandings of operations</td>
<td>Build fractions from unit fractions by applying and extending previous understandings of operations</td>
<td>Apply and extend previous understanding of arithmetic to algebraic expressions</td>
<td>Use functions to model relationships between quantities</td>
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<td>Use place value understanding and properties of operations to add and subtract</td>
<td>Measure lengths indirectly and by iterating length units</td>
<td>Use solve problems involving measurement and estimation of intervals of time, liquid volumes, &amp; masses of objects</td>
<td>Understand decimal notation for fractions, and compare decimal fractions</td>
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<td>Reason about and solve one-variable equations and inequalities</td>
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<td>Geometric measurement: understand concepts of area and relate area to multiplication and addition</td>
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* Indicates a cluster that is well thought of as a part of a student’s progress to algebra, but that is currently not designated as major by the assessment consortia in their draft materials. Apart from the one asterisked exception, the clusters listed here are a subset of those designated as major in the assessment consortia’s draft documents. ** Depends on similarity ideas from geometry to show that slope can be defined and then used to show that a linear equation has a graph which is a straight line and conversely.