

# Major Work of Grade 5

The purpose of this document is to provide a brief overview of the most essential content in the grade level along with a progression of how the content was addressed in the prior grade level and will prepare students for content in the future grade level. This is not a comprehensive list of content in the grade level as defined in the Utah Core Standards, but rather highlights the major work of the grade level.

<i>Major Work of Grade Band: Grades 3 - 5</i>		
3	4	5
Represent and understand multiplication and division		
Develop understanding of fractions		
Generalize and use place value understanding		
Solve problems involving measurement		Understand concepts of volume

## Vertical Alignment of Major Work

<i>Major Work: Represent and Understand Multiplication and Division</i>
<b>Prior grades:</b> Understand multiplication as comparison (4.OA.1-2). Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers (4.NBT.5). Divide up to four-digit dividends and one-digit divisors (4.NBT.6).
<b>Grade 5:</b> Fluently multiply multi-digit whole numbers using the standard algorithm (5.NBT.5). Divide whole numbers up to four-digit dividends and two-digit divisors (5.NBT.6). Multiply and divide decimals to hundredths. Dividing decimals is limited to a whole number dividend with a decimal divisor or a decimal dividend with a whole number divisor (5.NBT.7).
<b>Future grades:</b> Students use reasoning about multiplication and division to solve ratio and rate problems (6.RP.2-3). Fluently divide multi-digit numbers using the standard algorithm (6.NS.2). Fluently multiply and divide multi-digit decimals using the standard algorithm (6.NS.3).

<i>Major Work: Develop Understanding of Fractions</i>
<b>Prior Grades:</b> In fourth grade, denominators include 2, 3, 4, 5, 6, 8, 10, 12, and 100. Students continue to work with equivalence by reasoning about the number and size of the parts (4.NF.1) and compare two fractions with different numerators and different denominators (4.NF.2). Understand fractions as sums of unit fractions. Add and subtract fractions and mixed numbers with like denominators (4.NF.3). Multiply a fraction by a whole number (4.NF.4). Understand decimal notation to the hundredths and compare decimal fractions with denominators of 10 and 100 (4.NF.5-7).
<b>Grade 5:</b> Students use equivalent fractions as a strategy to add and subtract fractions with unlike denominators including mixed numbers (5.NF.1-2). Fractions are interpreted as division of the numerator by the denominator (5.NF.3). Multiply a fraction or whole number by a fraction including

real-world problems (5.NF.4,6). Interpret multiplication as scaling (5.NF.5). Divide unit fractions by whole numbers and whole numbers by unit fractions using reasoning about the relationship between multiplication and division (5.NF.7).

**Future Grades:** Divide fractions by fractions (6.NS.1). Solve real-world problems by writing and solving equations including adding and multiplying fractions in the form of  $x+a=b$  and  $ax=b$  (6.EE.7).

### *Major Work: Generalize and Use Place Value Understanding*

**Prior grades:** Students extend understanding of place value to 1,000,000 understanding the relative sizes of numbers in each place (4.NBT.1-2). Fluently add and subtract multi-digit whole numbers using the standard algorithm (4.NBT.4).

**Grade 5:** Students understand patterns in place value including decimals and powers of ten (5.NBT.1-3). Add, subtract, multiply and divide decimals to hundredths (5.NBT.7).

**Future grades:** Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm (6.NS.3).

### *Major Work: Understand Concepts of Volume*

**Prior grades:** Students recognize area as an attribute of two-dimensional regions and relate the concept of area to multiplication and addition (3.MD.5-7). Apply the area formula for rectangles in real-world and mathematical problems (4.MD.3).

**Grade 5:** Students recognize volume as an attribute of three-dimensional space. Students understand concepts of geometric measurement and volume as well as how multiplication and addition relate to volume (5.MD.3-5).

**Future grades:** Students apply volume concepts to find the volume of rectangular prisms with unit fraction edge lengths (6.NS.2).