

INNOVATION IN EDUCATION

Common Core State Standards

August 2010



DESTINATION MATH



HOUGHTON MIFFLIN
LEARNING TECHNOLOGY

Destination Math
Aligned to
Common Core State Standards

Common Core State Standards	Destination Math
Grade Three	
3.OA: Operations and Algebraic Thinking	
Represent and solve problems involving multiplication and division.	
1. Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as 5×7 .	Course II: <ul style="list-style-type: none"> Module: Operations with Numbers Unit: Multiplication Session: Repeated Addition and Arrays Module: Operations with Numbers Unit: Multiplication Session: Skip Counting to Show Multiplication Module: Operations with Numbers Unit: Multiplication Session: Finding Products Less than 100
2. Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.	Course II: <ul style="list-style-type: none"> Module: Operations with Numbers Unit: Division Session: Meaning of Division Module: Operations with Numbers Unit: Division Session: Dividing by a 1-digit Number
3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	Course II: <ul style="list-style-type: none"> Module: Operations with Numbers Unit: Multiplication Session: Repeated Addition and Arrays Module: Operations with Numbers Unit: Multiplication Session: Skip Counting to Show Multiplication Module: Operations with Numbers Unit: Multiplication Session: Finding Products Less than 100 Module: Operations with Numbers Unit: Division Session: Meaning of Division Module: Operations with Numbers Unit: Division Session: Dividing by a 1-digit Number
Understand properties of multiplication and the relationship between multiplication and division.	
5. Apply properties of operations as strategies to multiply and divide. ² Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)	Course II: <ul style="list-style-type: none"> Module: Algebraic Thinking Unit: Properties and Relationships Session: Number Patterns and Properties Module: Operations with Numbers Unit: Multiplication Session: Repeated Addition and Arrays
Multiply and divide within 100.	
7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	Course II: <ul style="list-style-type: none"> Module: Operations with Numbers Unit: Multiplication Session: Finding Products Less than 100 Module: Operations with Numbers Unit: Division Session: Meaning of Division Module: Operations with Numbers Unit: Division Session: Dividing by a 1-digit Number

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Solve problems involving the four operations, and identify and explain patterns in arithmetic.	
8. Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	Course II: <ul style="list-style-type: none"> • Module: Algebraic Thinking Unit: Properties and Relationships Session: Number Patterns and Properties
9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.	Course II: <ul style="list-style-type: none"> • Module: Algebraic Thinking Unit: Properties and Relationships Session: Number Patterns and Properties • Module: Operations with Numbers Unit: Multiplication Session: Skip Counting to Show Multiplication
3.NBT: Number and Operations in Base Ten	
Use place value understanding and properties of operations to perform multi-digit arithmetic.	
2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Course II: <ul style="list-style-type: none"> • Module: Operations with Numbers Unit: Addition and Subtraction Session: Sums Less than 100 • Module: Operations with Numbers Unit: Addition and Subtraction Session: Estimating and Finding Sums less than 1,000 • Module: Operations with Numbers Unit: Addition and Subtraction Session: Differences within 100 • Module: Operations with Numbers Unit: Addition and Subtraction Session: Estimating and Finding Differences within 1,000
3.NF: Number and Operations-Fractions	
Develop understanding of fractions as numbers.	
1. Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.	Course II: <ul style="list-style-type: none"> • Module: Operations with Numbers Unit: Division Session: Fractional Parts
3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.	
a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.	Course II: <ul style="list-style-type: none"> • Module: Operations with Numbers Unit: Division Session: Fractional Parts
b. Recognize and generate simple equivalent fractions, e.g., $1/2 = 2/4$, $4/6 = 2/3$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.	Course II: <ul style="list-style-type: none"> • Module: Operations with Numbers Unit: Division Session: Fractional Parts
c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form $3 = 3/1$; recognize that $6/1 = 6$; locate $4/4$ and 1 at the same point of a number line diagram.	Course II: <ul style="list-style-type: none"> • Module: Operations with Numbers Unit: Division Session: Fractional Parts
d. Compare two fractions with the same	Course II:

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numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.	<ul style="list-style-type: none"> Module: Operations with Numbers Unit: Division Session: Fractional Parts
3.MD: Measurement and Data	
Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.	
1. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	Course II: <ul style="list-style-type: none"> Module: Geometry and Measurement Unit: Measurement Session: Time
2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). 6 Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	Course I: <ul style="list-style-type: none"> Module: Geometry and Measurement Unit: Measurement Session: Weight Course II: <ul style="list-style-type: none"> Module: Geometry and Measurement Unit: Geometry Session: Volume
Geometric measurement: understand concepts of area and relate area to multiplication and to addition.	
5. Recognize area as an attribute of plane figures and understand concepts of area measurement.	
a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.	Course II: <ul style="list-style-type: none"> Module: Geometry and Measurement Unit: Geometry Session: Area
b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.	Course II: <ul style="list-style-type: none"> Module: Geometry and Measurement Unit: Geometry Session: Area
6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	
a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.	Course II: <ul style="list-style-type: none"> Module: Geometry and Measurement Unit: Geometry Session: Area
b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.	Course II: <ul style="list-style-type: none"> Module: Geometry and Measurement Unit: Geometry Session: Area
d. Recognize area as additive. Find areas of rectilinear figures by decomposing	Course II: <ul style="list-style-type: none"> Module: Geometry and Measurement Unit: Geometry

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<p>them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.</p>	<p>Session: Area</p>
<p>3.G: Geometry</p>	
<p>Reason with shapes and their attributes.</p>	
<p>2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the shape.</p>	<p>Course II:</p> <ul style="list-style-type: none"> • Module: Operations with Numbers Unit: Division Session: Fractional Parts