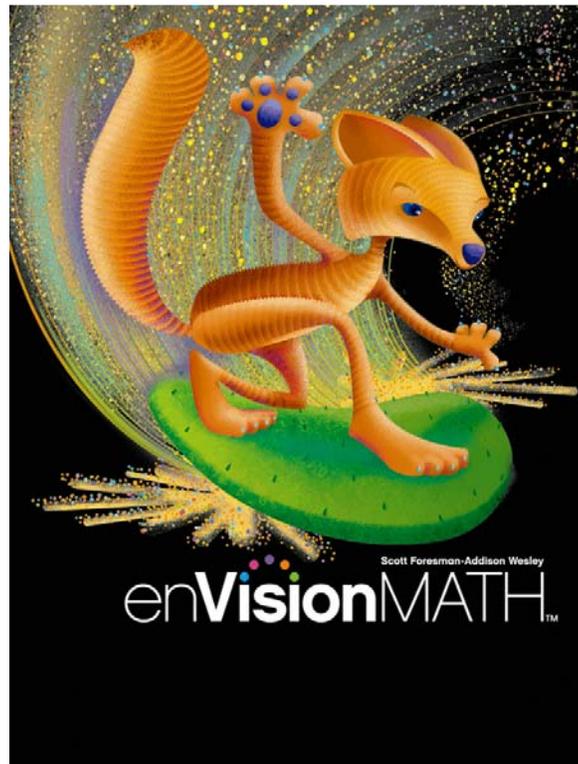


A Correlation of

enVisionMATH

©2009

with Common Core Transition Kit



to the

**Common Core State Standards
for Mathematics Oregon**

Grade 6

A Correlation of enVisionMATH ©2009 with Common Core Transition Kit
to the Common Core State Standards for Mathematics Oregon

Common Core State Standards for Mathematics Oregon Grade 6	enVisionMATH ©2009 with Common Core Transition Kit Grade 6 Topics - Lessons
Mathematical Practices	6.MP
<p><i>The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.</i></p>	
<p>6.MP.1 Make sense of problems and persevere in solving them.</p>	<p><i>enVisionMATH</i> is built on a foundation of problem-based instruction that has sense-making at its heart. The Problem Solving Handbook, found on pages xiv–xxiii, presents to students a process that begins with making sense of the problem. <i>Read and Understand</i>, the first phase of the process, has students ask themselves, <i>What am I trying to find?</i> and <i>What do I know?</i>, questions that will help identify the givens and constraints of the problem. In the second phase, <i>Plan and Solve</i>, students decide on a solution plan. The Problem-Solving Recording Sheet, a reproducible teaching resource, provides a structured outline to help students make sense of the problem and implement a workable solution method. In the final phase, <i>Look Back and Check</i>, students verify that their work is reasonable and reflects the information given.</p> <p>Each lesson begins with Problem-Based Interactive Learning, an activity in which students interact with their peers and teachers to make sense of and decide on a workable solution for a real-world situation. Another feature of each lesson is the set of problem-solving exercises in which students persevere by applying different skills and strategies to solve problems. Each topic includes at least one problem-solving lesson in which students focus on honing their sense-making and problem-solving skills.</p>

A Correlation of enVisionMATH ©2009 with Common Core Transition Kit
to the Common Core State Standards for Mathematics Oregon

Common Core State Standards for Mathematics Oregon Grade 6	enVisionMATH ©2009 with Common Core Transition Kit Grade 6 Topics - Lessons
6.MP.2 Reason abstractly and quantitatively.	<p><i>enVisionMATH</i> provides scaffolded instruction to help students develop both quantitative and abstract reasoning. In the Visual Learning Bridge, students can see how to represent a given situation numerically or algebraically. They will have opportunities later in the lesson to reason abstractly as they endeavor to represent situations symbolically. Reasonableness exercises remind students to compare their work to the original situation. In the Do You Understand? part of the Guided Practice, students gain experiences with quantitative reasoning as they consider the meaning of different parts of an expression or equation. Reasoning problems throughout the exercise sets focus students' attention on the structure or meaning of an operation, for example, rather than merely the solution.</p>
6.MP.3 Construct viable arguments and critique the reasoning of others.	<p>Consistent with a focus on reasoning and sense-making is a focus on critical reasoning—argumentation and critique of arguments. In Pearson's <i>enVisionMATH</i> the Problem-Based Interactive Learning affords students opportunities to share with classmates their thinking about problems, their solution methods, and their reasoning about the solutions. The many Reasoning exercises found throughout the program specifically call for students to justify or explain their solutions. Writing to Explain exercises help students develop foundational critical reasoning skills by having them construct explanations for processes. The ability to articulate a clear explanation for a process is a stepping stone to critical analysis and reasoning of both the student's own processes and those of others.</p>

A Correlation of enVisionMATH ©2009 with Common Core Transition Kit
to the Common Core State Standards for Mathematics Oregon

Common Core State Standards for Mathematics Oregon Grade 6	enVisionMATH ©2009 with Common Core Transition Kit Grade 6 Topics - Lessons
6.MP.4 Model with mathematics.	Students in Pearson's <i>enVisionMATH</i> are introduced to mathematical modeling in the early grades. They first use manipulatives and drawings and then equations to model addition and subtraction situations. The Visual Learning Bridge and Visual Learning Animation often present real-world situations, and students are shown how these can be modeled mathematically. In later grades, students expand their modeling skills to include representations such as tables and graphs, as well as equations.
6.MP.5 Use appropriate tools strategically.	Students become fluent in the use of a wide assortment of tools ranging from physical objects, including manipulatives, rulers, protractors, and even pencil and paper, to digital tools, such as eTools, calculators, and computers. As students become more familiar with the tools available to them, they are able to begin making decisions about which tools are most helpful in a particular situation.
6.MP.6 Attend to precision.	Students are expected to use mathematical terms and symbols with precision. Key terms and concepts are highlighted in each lesson. In the Do You Understand? feature, students revisit these key terms or concepts and provide explicit definitions or explanations. For the Writing to Explain and Think About the Structure exercises, students are asked to use precise language to provide clear explanations of terms, concepts, or processes. Students are reminded to use appropriate units of measure in their solutions as well as in labels for diagrams, graphs, and other kinds of displays.

A Correlation of enVisionMATH ©2009 with Common Core Transition Kit
to the Common Core State Standards for Mathematics Oregon

Common Core State Standards for Mathematics Oregon Grade 6	enVisionMATH ©2009 with Common Core Transition Kit Grade 6 Topics - Lessons
6.MP.7 Look for and make use of structure.	Students are encouraged to look for structure as they develop solution plans. In the Look for a Pattern problem-solving lessons, children in the early years develop a sense of patterning with visual and physical objects. As students mature in their mathematical thinking, they look for structure in numerical operations by focusing on place value and properties of operations. This focus on looking for and recognizing structure enables students to draw from patterns as they formalize their thinking about the structure of operations.
6.MP.8 Look for and express regularity in repeated reasoning.	Students are prompted to look for repetition in computations to help them develop shortcuts and become more efficient problem-solvers. Students are reminded to think about problems they have encountered previously that may share features or processes. They are encouraged to draw on the solution plan developed for such problems, and as their mathematical thinking matures, to look for and apply generalizations to similar situations. The Problem-Based Interactive Learning activities offer students opportunities to look for regularity in the way operations behave.
Ratios and Proportional Relationships	
6.RP	
A. Understand ratio concepts and use ratio reasoning to solve problems.	
6.RP.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. <i>For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."</i>	12-1, 12-6
6.RP.2 Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship. <i>For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is $3/4$ cup of flour for each cup of sugar." "We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger." (Expectations for unit rates in this grade are limited to non-complex fractions.)</i>	12-3, 12-6, 13-2

A Correlation of enVisionMATH ©2009 with Common Core Transition Kit
to the Common Core State Standards for Mathematics Oregon

Common Core State Standards for Mathematics Oregon Grade 6	enVisionMATH ©2009 with Common Core Transition Kit Grade 6 Topics - Lessons
6.RP.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.	12-4, 12-6, 13-1, 14-1, 14-2, 14-4 CC: 13-3A
a. Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.	12-2, 13-1 CC: 13-3B
b. Solve unit rate problems including those involving unit pricing and constant speed. <i>For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being</i>	12-4, 12-5, 13-2, 13-4
c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.	14-5, 14-7 CC: 14-6A
d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.	16-1, 16-2, 16-4, 16-6

A Correlation of enVisionMATH ©2009 with Common Core Transition Kit
to the Common Core State Standards for Mathematics Oregon

Common Core State Standards for Mathematics Oregon Grade 6	enVisionMATH ©2009 with Common Core Transition Kit Grade 6 Topics - Lessons
The Number System	6.NS
<i>B. Apply and extend previous understandings of multiplication and division to divide fractions by fractions.</i>	
6.NS.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, create a story context for $(2/3) \div (3/4)$ and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that $(2/3) \div (3/4) = 8/9$ because $3/4$ of $8/9$ is $2/3$. (In general, $(a/b) \div (c/d) = ad/bc$.) How much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $3/4$-cup servings are in $2/3$ of a cup of yogurt? How wide is a rectangular strip of land with length $3/4$ mi and area $1/2$ square mi?</i>	9-1, 9-3, 9-4, 9-5
<i>C. Compute fluently with multi-digit numbers and find common factors and multiples.</i>	
6.NS.2 Fluently divide multi-digit numbers using the standard algorithm.	3-5, 3-8 CC: 3-5A
6.NS.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	3-2, 3-4, 3-5, 3-6, 3-7, 3-8, 3-10, 8-5, 19-11
6.NS.4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. <i>For example, express $36 + 8$ as $4(9 + 2)$.</i>	5-3, 7-2

A Correlation of enVisionMATH ©2009 with Common Core Transition Kit
to the Common Core State Standards for Mathematics Oregon

Common Core State Standards for Mathematics Oregon Grade 6	enVisionMATH ©2009 with Common Core Transition Kit Grade 6 Topics - Lessons
D. Apply and extend previous understandings of numbers to the system of rational numbers.	
6.NS.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.	10-1
6.NS.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.	10-1, 10-3, 10-9
a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite.	10-1 CC: 10-2A
b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.	10-9 CC: 10-2A
c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.	6-5, 10-1, 10-3, 10-9
6.NS.7 Understand ordering and absolute value of rational numbers.	10-1, 10-2, 10-3
a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. <i>For example, interpret $-3 > -7$ as a statement that -3 is located to the right of -7 on a number line oriented from left to right.</i>	10-2, 10-3
b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. <i>For example, write $-3^{\circ}\text{C} > -7^{\circ}\text{C}$ to express the fact that -3°C is warmer than -7°C.</i>	10-2, 10-3

A Correlation of enVisionMATH ©2009 with Common Core Transition Kit
to the Common Core State Standards for Mathematics Oregon

Common Core State Standards for Mathematics Oregon Grade 6	enVisionMATH ©2009 with Common Core Transition Kit Grade 6 Topics - Lessons
c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. <i>For example, for an account balance of -30 dollars, write $-30 = 30$ to describe the size of the debt in dollars.</i>	10-1 CC: 10-2A
d. Distinguish comparisons of absolute value from statements about order. <i>For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.</i>	CC: 10-2A
6.NS.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	10-9 CC: 10-10A
Expressions and Equations	6.EE
E. Apply and extend previous understandings of arithmetic to algebraic expressions.	
6.EE.1 Write and evaluate numerical expressions involving whole-number exponents.	1-3
6.EE.2 Write, read, and evaluate expressions in which letters stand for numbers.	2-1, 2-6
a. Write expressions that record operations with numbers and with letters standing for numbers. <i>For example, express the calculation "Subtract y from 5" as $5 - y$.</i>	2-1, 2-7, 2-8
b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. <i>For example, describe the expression $2(8 + 7)$ as a product of two factors; view $(8 + 7)$ as both a single entity and a sum of two terms.</i>	2-1, 2-6

A Correlation of enVisionMATH ©2009 with Common Core Transition Kit
to the Common Core State Standards for Mathematics Oregon

Common Core State Standards for Mathematics Oregon Grade 6	enVisionMATH ©2009 with Common Core Transition Kit Grade 6 Topics - Lessons
c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). <i>For example, use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.</i>	2-6, 3-8, 17-1, 17-2, 17-3, 18-2
6.EE.3 Apply the properties of operations to generate equivalent expressions. <i>For example, apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$; apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$; apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$.</i>	2-2, 2-3, 2-4, 2-6, 4-1
6.EE.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). <i>For example, the expressions $y + y + y$ and $3y$ are equivalent because they name the same number regardless of which number y stands for.</i>	4-1
F. Reason about and solve one-variable equations and inequalities.	
6.EE.5 Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.	4-2, 4-4, 15-7 CC: 3-9A, 15-6A
6.EE.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.	2-1, 2-6, 4-2, 4-5 CC: 3-9A

A Correlation of enVisionMATH ©2009 with Common Core Transition Kit
to the Common Core State Standards for Mathematics Oregon

Common Core State Standards for Mathematics Oregon Grade 6	enVisionMATH ©2009 with Common Core Transition Kit Grade 6 Topics - Lessons
6.EE.7 Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p , q and x are all nonnegative rational numbers.	4-2, 4-3, 4-4, 4-5, 9-6, 15-1, 17-1, 17-2, 17-3
6.EE.8 Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.	CC: 15-6A
G. Represent and analyze quantitative relationships between dependent and independent variables.	
6.EE.9 Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. <i>For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.</i>	15-2, 15-3, 15-4, 15-5
Geometry 6.G	
H. Solve real-world and mathematical problems involving area, surface area, and volume.	
6.G.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.	17-2, 17-3

A Correlation of enVisionMATH ©2009 with Common Core Transition Kit
to the Common Core State Standards for Mathematics Oregon

Common Core State Standards for Mathematics Oregon Grade 6	enVisionMATH ©2009 with Common Core Transition Kit Grade 6 Topics - Lessons
6.G.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = lwh$ and $V = bh$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.	CC: 18-4A
6.G.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.	CC: 10-10A
6.G.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.	18-1, 18-2
Statistics and Probability	6.SP
I. Develop understanding of statistical variability.	
6.SP.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. <i>For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.</i>	CC: 19-5A
6.SP.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.	CC: 19-5B

A Correlation of enVisionMATH ©2009 with Common Core Transition Kit
to the Common Core State Standards for Mathematics Oregon

Common Core State Standards for Mathematics Oregon Grade 6	enVisionMATH ©2009 with Common Core Transition Kit Grade 6 Topics - Lessons
6.SP.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.	CC: 19-5C, 19-8B
K. Summarize and describe distributions.	
6.SP.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	19-6 CC: 19-8A
6.SP.5 Summarize numerical data sets in relation to their context, such as by:	CC: 19-9A
a. Reporting the number of observations.	19-6 CC: 19-9A
b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.	CC: 19-5A, 19-9A
c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	CC: 19-5C, 19-5D, 19-8B, 19-9A
d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.	19-10 CC: 19-8, 19-9A