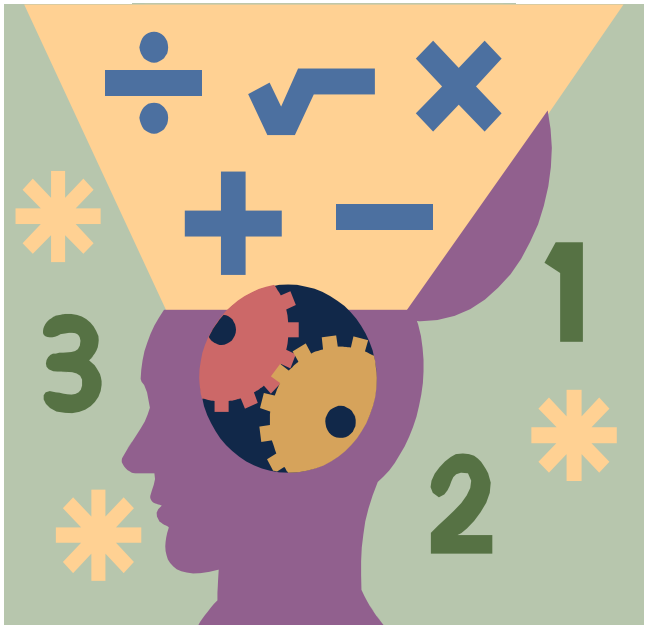
MATH CURRICULUM
GRADES
4 TO 6



Grade 4-Operations and Algebraic Thinking

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Use the four operations with whole numbers to solve problems.			
1. Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.	▪ TB-Multiplication and Rectangles-Unit 4:Lesson1 ▪ Inverse operations ▪ Friends or Family-(fact families)	▪ H-PA: Outdoor Games	▪ Square inch tiles ▪ Bingo chips ▪ Centimeter cubes ▪ Geoboards ▪ Grid paper –centimeter and inch ▪ Dot paper (discrete array)
2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison	▪ Repeated addition word problems ▪ Situational story problems ▪ TB-Division- Unit 13: Lesson 2 (forgiving method/base 10 blocks) ▪ TB-More Division-Unit 13: Lesson 3 ▪ TB-Solving Problems using Multiplication and Division-Unit 13:Lesson 4	▪ H-PA: A Visit to Grandmother???	▪ Base 10 blocks

Grade 4-Operations and Algebraic Thinking

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Use the four operations with whole numbers to solve problems.			
3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.	▪ Harcourt PA- Fish Story TB- Estimation -Unit 7: Lesson 6 ▪ TB- Multiplying Round Numbers- Unit 7: Lesson 7 ▪ TB-TV Survey- Unit 13: Lesson1 (Mult/Div/Elapsed time) ▪ H- Lesson 10.2/11.4- Estimate products ▪ H- Lesson 14.1-Estimate Quotients ▪ H- Lesson 14.6-Interpret the Remainder	▪ Robin's State Fair	

Grade 4-Operations and Algebraic Thinking

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Gain familiarity with factors and multiples.			
4. Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.	▪ Arrays – multiples/factors ▪ TB-Multiplication and Rectangles-Unit 4:Lesson 1 ▪ TB-Factors- Unit 4: Lesson 2 ▪ TB –Prime Factors- Unit 4: Lesson 4 ▪ TB Floor Tile Game ▪ TB Divisibility Rules: Unit 7- Lesson 2 ▪ H-Lesson 16.1 :Divisibility Rules ▪ H- lesson 16.2: Factors and Multiples ▪ H- Lesson 16.3: Prime and Composite Numbers ▪ H-Lesson 16.5: Square Numbers	▪ H-PA: Tile Trials	▪ Grid paper (square inch and centimeter) ▪ Square in tiles ▪ Base ten blocks ▪ 100 charts ▪ Multiplication tables

Grade 4-Operations and Algebraic Thinking

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Generate and analyze patterns.			
5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*	▪ Input/output tables. ▪ Function machines ▪ TB- Planet Gzorp-Unit 15: Lesson 3 ▪ TB- Function Machines- Unit 15:Lesson 4 ▪ H- Lesson 16.4: Find a Pattern	▪ Open Response- input/output table	▪ Charts-T-charts, 2 Column Data Tables ▪ Pattern blocks ▪ Square Inch Tiles

Grade 4-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Generalize place value understanding for multi-digit whole numbers.			
1. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*	▪ TB-Big Base Ten Pieces- Unit 6: Lesson 3 ▪ TB-The TIMS Candy Company- Unit 3: Lesson 4		▪ Place Value charts ▪ Base Ten Blocks
2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	▪ TB Newswire-Unit 6: Lesson 1 ▪ TB–New Number Line- Unit 6: Lesson 4	▪ RTI-Reading Large Numbers ▪ RTI-Writing Large Numbers ▪ RTI-Number Forms	
3. Use place value understanding to round multi-digit whole numbers to any place.	▪ TB- Using Estimation- Unit 6: Lesson 6		

Grade 4-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Use place value understanding and properties of operations to perform multi-digit arithmetic.			
4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.			
5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	▪ Array Model Multiplication ▪ Lattice Method ▪ Partial Products ▪ H- Lesson 11.2:The Distributive Property ▪ H- Lesson 12.1:Multiply 2-Digit Numbers (partial products)		▪ Journals ▪ Grid paper ▪ Square Inch tiles
6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	▪ Array Model Division ▪ Forgiving Method ▪ H-Lesson 13.1-Divide with Remainders ▪ H- Lesson 13.2- Model Division		

Grade 4-Number and Operations -Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Extend understanding of fraction equivalence and ordering.			
1. Explain why a fraction *a*/*b* is equivalent to a fraction (*n* × *a*)/(*n* × *b*) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.			▪ Fraction bars/circles ▪ Fraction chart
2. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.			

Grade 4-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.			
3. Understand a fraction *a*/*b* with *a* > 1 as a sum of fractions 1/*b*.			
a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.			
b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*			

Grade 4-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.			
c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.			
d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.			

Grade 4-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.			
4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.			
a. Understand a fraction *a*/*b* as a multiple of 1/*b*. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).*			

Grade 4-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.			
b. Understand a multiple of *a*/*b* as a m understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)*			
c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*			

Grade 4-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Understand decimal notation for fractions, and compare decimal fractions.			
5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.4 *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*			
6. Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*			
7. Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.			

Grade 4-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.			
1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. *For example, know that 1 ft is 12 times as long as 1 in.* *Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*	▪ TB- Volume- Unit 8: Lesson 1	▪ H-PA: Class Party	

Grade 4-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.			
2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	▪ TB- Volume- Unit 8: Lesson 1 ▪ TB-Hour Walk- Unit 8: ▪ Lesson 5		▪ Foss Measurement Kit ▪ Rulers (in./cm) ▪ Meter/Yard Sticks
3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area* *formula as a multiplication equation with an unknown factor.*	▪ TB-Investigating Area and Perimeter- Unit 2: Lesson1 ▪ TB-Perimeter vs. Length- Unit 2:Lesson 2 & 3 ▪ TB- Helipads for Antopolis- Unit 2: Lesson 4	▪ H-PA: House Addition	▪ Grid paper ▪ Square inch tiles ▪ Rulers

Grade 4-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Represent and interpret data.			
4. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*			

Grade 4-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Geometric measurement: understand concepts of angle and measure angles.			
5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:	▪ H-Lesson 17.2: Measure and Classify Angles		
a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.	▪ TB- Angles-Unit 2: Lesson 6		▪ Rulers ▪ Angles Circles (TB) ▪ Protractors
b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.			

Grade 4-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Geometric measurement: understand concepts of angle and measure angles.			
6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	▪ TB- Angles-Unit 2: Lesson 6 ▪ H-Lesson 17.2: Measure and Classify Angles		▪ Angles Circles (TB) ▪ Protractors
7. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	▪ TB- Angles in Pattern Blocks-Unit 2: Lesson 7		▪ Pattern Blocks ▪ Protractors

Grade 4-Geometry

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Draw and identify lines and angles, and classify shapes by properties of their lines and angles.			
1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	▪ H- Lesson 17.1: Lines and Rays ▪ H-Lesson 17.3: Line Relationships	▪ H-PA: Picture This	▪ Rulers
2. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	▪ H- Lesson18.1: Polygons ▪ H-Lesson 18.2: Classify Triangles ▪ H-Lesson 18.3: Classify Quadrilaterals ▪ H-Lesson 18.4: Draw a Diagram (PS)		
3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	▪ Flower Symmetry – Line/Turn ▪ Butterfly Symmetry-Line		

Grade 5-Operations and Algebraic Thinking

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Write and interpret numerical expressions.			
1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	▪ Go Math – Lesson 8.1 ▪ Order of Operations - Harcourt (12.2) ▪ Order of Operations Practice -Trailblazers ▪ Technology Link Up - Harcourt text ▪ 24 Game ▪ Target Number Dash ▪ Numerical Expressions Wall Clock ▪ Journal Writing – Write and evaluate expressions ▪ Journal Writing – Order of Operations	▪ Teacher observation ▪ Lesson quiz ▪ Essential skills assessment	▪ Go Math – Lesson 8.1 ▪ Harcourt (12.2) Order of Operations – text, reteach, practice and challenge materials ▪ Trailblazers – Order of Operations Practice - text pg. 134 ▪ Harcourt text – Technology Link Up (text pg. 271) ▪ Calculators ▪ 24 Game Cards ▪ Target Number Dash materials: Task Card Dash Deck of Number Cards (3 each of digits 1 – 4 and 4 each of numbers 7 – 10) Recording Sheet ▪ Numerical Expressions Wall Clock materials: Task card Chart Paper (for student clocks) Journal Prompt pg.1 Journal Prompt pg. 2

Grade 5-Operations and Algebraic Thinking

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Write and interpret numerical expressions.			
2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*	▪ Expressions and Variables - Harcourt (4.1) ▪ Expressions and Equations - Harcourt (12.1) ▪ Modeling the Distributive Property ▪ The Distributive Property -Harcourt (12.7) ▪ Building/representing arrays ▪ Expression Match Up Activity ▪ Journal Writing – Interpret Numerical Expressions	▪ Teacher observation ▪ Lesson quizzes ▪ Expressions quiz	▪ Harcourt (4.1) Expressions and Variables – text, reteach, practice, and challenge materials ▪ Harcourt (12.1) Expressions and Equations - text, reteach, practice, and challenge materials ▪ Harcourt (12.7) The Distributive Property – text, reteach, practice, and challenge materials ▪ Array Materials: Tile squares Connecting cubes Grid paper ▪ Expression Match Up materials: Task Card Expression Match Up Cards Journal Prompt pg. 3

Grade 5-Operations and Algebraic Thinking

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Analyze patterns and relationships.			
3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*	▪ Graph Ordered Pairs - Harcourt (6.2) ▪ Graph Relationships - Harcourt (23.1) ▪ Building Patterns (uen.org) ▪ Eye Spy a Pattern (uen.org) ▪ Number Patterns – (Harcourt 12.3) ▪ What's My Function? (uen.org) ▪ Eye Spy A Rule (uen.org) ▪ Functions – (Harcourt 12.4) ▪ Function Tables – (hepingwithmath.com) ▪ Generating and Comparing Sequences (helpingwithmath.com) ▪ Numerical Patterns and Relationships (helpingwithmath.com) ▪ Patterns with Decimals (uen.org)	▪ Teacher observation ▪ Lesson quizzes	▪ Harcourt (6.2) Graph Ordered Pairs – text, reteach, practice, and challenge materials ▪ Harcourt (23.1) Graph Relationships – text, reteach, practice, and challenge materials ▪ Building Patterns materials: The Book That Jack Wrote by John Scieszka Zip lock bags One inch color tiles (50 per student) Crayons Recording sheet Pattern blocks ▪ Eye Spy a Pattern materials: Lesson plan Eye Spy Activity Sheet Hundreds board handouts Colored pencils Number tiles ▪ Number Patterns materials:– Harcourt 12.3 - text, reteach, practice, and challenge materials

Grade 5-Operations and Algebraic Thinking

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Analyze patterns and relationships.			
3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*	▪ Graphing Ordered Pairs (based on numerical sequences) – helpingwithmath.com ▪ Addition on the Coordinate Plane Activity (k-5mathteachingresources.com) ▪ Subtraction on the Coordinate Plane Activity (k-5mathteachingresources.com) ▪ Running Races (illuminations.nctm.org) ▪ Two Runners (illuminations.nctm.org) ▪ Journal Writing – Plot Ordered Pairs From Two Numerical Patterns (JUMP Journal)	▪ Teacher observation ▪ Lesson quizzes	▪ What's My Function? materials: Lesson plan Two of Everything by Lily Troy Hong Binder pages including Find the Patterns In/Out Functions Cards ▪ Eye Spy a Rule materials: Lesson plan "What's the Rule?" sheet Base ten rods 2 Pattern Block Sheets Growing Patterns Sheet "What's the Rule?" #2 ▪ Functions materials: Harcourt 12.4 - text, reteach, practice and challenge materials ▪ Function Tables materials: function tables (can be changed online) Coordinate grids ▪ Generating and Comparing Sequences materials: helpingwithmath.com binder pages

Grade 5-Operations and Algebraic Thinking

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Analyze patterns and relationships.			
3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*			▪ Numerical Patterns and Relationships materials: helpingwithmath.com binder pages ▪ Patterns with Decimals Materials: Lesson plan Hundred squares page Decimal sequencing cards Base ten blocks ▪ Graphing Ordered Pairs materials: helpingwithmath.com lesson plan and related pages ▪ Addition on the Coordinate Grid materials: Task Card Recording Sheet Function Tables Grids ▪ Subtraction on the Coordinate Grid materials: Task Card Recording Sheet (Function tables/grids) ▪ Running Races materials: Lesson Plan Internet access Coordinate grids Notes Recording Sheet Seconds Activity Sheet ▪ Two Runners materials: Lesson plan Take Your Mark Activity Sheet Internet access ▪ Journal Writing materials: JUMP Journal pgs. 4 and 5

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Understand the place value system.			
1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.	▪ Count on Math: Making Your First Million (illuminations.nctm.org) ▪ The Sound of a Number ▪ It's About Patterns (uen.org) ▪ Understand Pace Value - Harcourt Lesson (1.1) ▪ Writing Big Numbers – Trailblazers ▪ A Place for Everything Game (Harcourt Family Activities pg. 2) ▪ Journal Writing – Place Value ▪ (JUMP Journal)		▪ Count on Math materials: Lesson plan Activity Sheet Transparent tape Calculators Stopwatch ▪ The Sound of a Number materials: Base ten pieces ▪ It's About Patterns materials: Base ten Blocks Base ten grid *A Million Fish…More or Less* Chart paper Tape Journals Place value patterns ▪ It's About Patterns Part 2 materials: Bear family story Bear family houses Bear family digit cards Place value tents Whiteboards Markers ▪ Understand Place Value materials: – Harcourt Lesson 1.1 - text, reteach, practice, and challenge materials ▪ Writing Big Numbers materials: Trailblazers DAB pg. 13 ▪ A Place for Everything materials: Instructions/recording Sheet (Harcourt Family Involvement Book – pg. 2) ▪ Journal Writing materials: JUMP Journal Prompt pg. 6

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Understand the place value system.			
2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.	**Whole Numbers:** ▪ Multiplication Patterns (Math Trailblazers Lesson 2.5) ▪ Estimation: Patterns in Multiples (Harcourt Lesson 7.1) ▪ Reading Scientific Notation (Math Trailblazers Lesson 2.8) ▪ Exponents and Expanded Form (Harcourt Lesson 14.2) ▪ Your Best Guesstimate Activity (Harcourt Family Involvement Activities – pg 26) ▪ Multiplying a Whole Number by a Power of Ten Activity (k-5mathteachingresources.com) ▪ Dividing a Whole Number by a Power of Ten Activity (k-5mathteachingresources.com) ▪ Journal Writing: Multiplication ▪ (JUMP Journal) ▪ Journal Writing: Division ▪ (JUMP Journal) **Decimals:** ▪ Patterns in Decimal Factors and Multiplication (Harcourt Lesson 8.2) ▪ Multiplying a Decimal by a Power of Ten Activity (k-5mathteachingresources.com) ▪ Dividing a Decimal by a Power of Ten Activity (k-5mathteachingresources.com)		▪ Multiplication Patterns materials: Math Trailblazers Lesson 2.5 – student text ▪ Estimation: Patterns in Multiples materials: Harcourt Lesson 7.1 – text, reteach, practice, and challenge materials ▪ Reading Scientific Notation materials: Math Trailblazers Lesson 2.8 ▪ Exponents and Expanded Form materials: Harcourt Lesson 14.2 - text, reteach, practice, and challenge materials ▪ Your Best Guesstimate materials: Recording Sheet – (Harcourt Family Involvement pg. 26) ▪ Multiplying a Whole Number By a Power of Ten materials: Task Card Recording Sheet Calculators ▪ Dividing a Whole Number by a Power of Ten materials: Task Card Recording Sheet Calculators ▪ Journal Writing materials: JUMP Journal pg. 7 JUMP Journal pg. 8

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Understand the place value system.			
2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.			**Decimals:** ▪ Algebra: Patterns in Decimal Factors and Multiplication materials: Harcourt Lesson 8.2 – text, reteach, practice, and challenge materials ▪ Multiplying a Decimal by a Power of Ten materials: Task Card Recording Sheet Calculators ▪ Dividing a Decimal by a Power of Ten materials: Task Card Recording Sheet Calculators
3. Read, write, and compare decimals to thousandths.			

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Understand the place value system.			
a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).	**Understanding Decimal Place Value (teachervision.fen.com)** ▪ Decimal Models (Math Trailblazers Lesson 7.2) ▪ Sample the Past Activity (Harcourt Family Involvement Activities pg. 8) ▪ Representing Decimals with Base Ten Blocks Activity (k-5mathteachingresources.com) ▪ Representing Decimals in Different Ways Activity (k-5mathteachingresources.com) ▪ Decimal Place Value (Harcourt Lesson 2.1) ▪ Sports Numbers (illuminations.nctm.org) ▪ Post Office Numbers (illuminations.nctm.org) ▪ Hunt for Decimals Activity Game (k-5mathteachingresources.com) ▪ Model Match (VA Department of Education) ▪ Journal Writing: Decimal Place Value (JUMP Journal)		**Understanding decimal Place Value materials:** ▪ Lesson plan ▪ Grid paper ▪ Practice worksheets ▪ Decimal Models materials: Math Trailblazers Lesson 7.2 Decimal Models Decimal Grids ▪ Sample the Past materials: HFIA pg. 8 Decimal Grids ▪ Representing Decimals with Base Ten Blocks materials: Task Card Recording Sheet Base Ten Blocks ▪ Representing Decimals in materials: Task Card Recording Sheet Counters

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Understand the place value system.			
a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).	▪ Understanding Decimal Place Value (teachervision.fen.com) ▪ Decimal Models (Math Trailblazers Lesson 7.2) ▪ Sample the Past Activity (Harcourt Family Involvement Activities pg. 8) ▪ Representing Decimals with Base Ten Blocks Activity (k-5mathteaching resources.com) ▪ Representing Decimals in Different Ways Activity (k-5mathteaching resources.com) ▪ Decimal Place Value (Harcourt Lesson 2.1) ▪ Sports Numbers (illuminations.nctm.org) ▪ Post Office Numbers (illuminations.nctm.org) ▪ Hunt for Decimals Activity Game (k-5mathteachingresources.com) ▪ Model Match (VA Department of Education) ▪ Journal Writing: Decimal Place Value (JUMP Journal) (k-5mathteachingresources.com)		▪ Decimal Place Value materials: Harcourt Lesson 2.1 – – text, reteach, practice, and challenge materials Decimal grids ▪ Sports Numbers materials: Lesson plan Sports Numbers Activity sheet ▪ Post Office Numbers materials: Lesson plan Internet access U.S. Postal Service information ▪ Hunt for Decimals materials: Game Task Card Game board Game Recording Sheet ▪ Model Match materials: Activity directions Recording sheets Model cards Decimal cards ▪ Journal Writing materials: JUMP Journal pg. 9

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Understand the place value system.			
b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.			▪ Decimals: A Closer Look - Trailblazers DAB pgs. 105 - 109 ▪ Designing Quilts materials: Trailblazers – Activity Page Student text pg. 233 Crayons ▪ Ring and Rounding Decimals materials: Math Trailblazers Lesson 7.3 ▪ Equivalent Decimals materials: Harcourt Lesson 2.2 – text, reteach, practice, and challenge materials ▪ Comparing Decimals materials: Harcourt Lesson 2.3 - text, reteach, practice, and challenge materials ▪ Connect the Dots materials: Trailblazers DAB pg. 111 ▪ Comparing Decimals materials: Task Card Recording Sheet

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Understand the place value system.			
b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.			▪ Recording Sheet ▪ Decimal Cards (showing decimals to the hundredths) ▪ Base Ten Blocks ▪ Decimal Challenge Activity materials: ▪ HVIA pg. 6 ▪ Digit cards ▪ Decimal grids ▪ Decimal War materials: ▪ Activity directions ▪ Game board ▪ Number cards (four sets) ▪ Game pieces ▪ Pen ▪ Die ▪ Who Is Larger? Materials: ▪ Game directions ▪ Number cards ▪ Journal Writing materials: ▪ JUMP Journal pg. 10

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Understand the place value system.			
4. Use place value understanding to round decimals to any place.	▪ Comparing and Rounding Decimals (Math Trailblazers Lesson 7.3) ▪ Round Decimals (Harcourt Lesson 3.2) ▪ Rounding Decimals to the Nearest Hundredth Activity (k-5mathteachingresources.com) ▪ Decimal Spokes (VA Department of Education) ▪ Decimal Match (VA Department of Education) ▪ Roll 'em (VA Department of Education) ▪ What's My Number? (VA Department of Education) ▪ Journal Writing: Round Decimals (JUMP Journal)		▪ Comparing and Rounding Decimals materials: Math Trailblazers Lesson 7.3 (see 5.NBT.3) ▪ Round Decimals materials: Harcourt Lesson 3.2 - text, reteach, practice, and challenge materials ▪ Rounding Decimals to the Nearest Hundredth materials: Task Card Recording Sheet Numeral cards (0 – 9) Counter (to represent the decimal point) ▪ Decimal Spokes materials: Directions Game board Die Game cards Game pieces ▪ Decimal Match materials: Directions Memory game cards Die Recording sheet ▪ Roll 'em materials: Directions Three number cubes Recording sheet ▪ What's My Number? materials: Directions Decimal cards showing values between 00.1 and 10.0 ▪ Journal Writing materials: JUMP Journal pg. 11

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Perform operations with multi-digit whole numbers and with decimals to hundredths.			
5. Fluently multiply multi-digit whole numbers using the standard algorithm.	▪ Multi-digit Multiplication (uen.org) ▪ Multiplication Strategy Review(uen.org) ▪ Multiply and Conquer (illuminations.nctm.org) ▪ Reach for the Stars (Math Trailblazers Lesson 2.5) ▪ Multiply by 1 Digit Numbers (Harcourt Lesson 7.2) ▪ Multiply by 2 digit Numbers (Harcourt 7.3) ▪ Choose A Method – (Harcourt Lesson 7.4) ▪ Make the Smallest Product Game (k-5mathteachingresources.com) ▪ Make the Largest Product Game (k-5mathteachingresources.com) ▪ Journal Writing: Multiplication ▪ (JUMP Journal)		▪ Multi-digit Multiplication materials: Lesson plan Base ten blocks Crayons Grid paper ▪ Multiplication Strategy Review materials: Lesson Plan *100 Hungry Ants* by Elinor Pinczes Strategy cards Multiplication problem cards ▪ Multiply and Conquer materials: Lesson plan Base ten blocks Multiplication Activity Sheets ▪ Reach for the Stars materials: Trailblazers Lesson 2.5 ▪ Multiply by 1 Digit Numbers materials: Harcourt Lesson 7.2 – text, reteach, practice, and challenge materials ▪ Multiply by 2 Digit Numbers materials: Harcourt 7.3 – text, reteach, practice, and challenge materials

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Perform operations with multi-digit whole numbers and with decimals to hundredths.			
5. Fluently multiply multi-digit whole numbers using the standard algorithm.			▪ Choose A Method materials: Harcourt Lesson 7.4 – text, reteach, practice, and challenge materials ▪ Make the Smallest Product Game materials: Task Card Number Cards (several copies of 0 – 9) Score Sheet ▪ Make the Largest Product Game materials: Task Card Number Cards (several copies of 0 – 9) Score Sheet ▪ Journal Writing materials: JUMP Journal pg. 12
6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	▪ Modeling Division - Math Trailblazers Lesson 4.2 ▪ Relate Multiplication to Division - Go Math Lesson 1.4 ▪ Modeling Division (Math Trailblazers Lesson 4.2) ▪ Paper and Pencil Division (Math Trailblazers Lesson 4.3) ▪ Division (Math Trailblazers Lesson 9.2) ▪ Partial Quotients (uen.org)		▪ Modeling Division materials: Math Trailblazers Lesson 4.2 – (student text) Base ten pieces ▪ Relate Multiplication to Division materials: Go Math Lesson 1.4 – text and practice book ▪ Modeling Division materials: Math Trailblazers Lesson 4.2 ▪ Paper and Pencil Division materials: Math Trailblazers Lesson 4.3–

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Perform operations with multi-digit whole numbers and with decimals to hundredths.			
6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	▪ Patterns in Division (Harcourt Lesson 10.1) ▪ Estimate Quotients (Harcourt Lesson 9.1) ▪ Estimate Quotients (Harcourt Lesson 10.2) ▪ Remainder Riddles (uen.org) ▪ Creating and Solving a Division Problem (k-5mathteachingresources.com) ▪ Journal Writing – Modeling Division (JUMP Journal)		▪ Division materials: Math Trailblazers Lesson 9.2 ▪ Partial Quotients materials: Lesson plan *Divide and* Ride by Stuart Murphy Base ten blocks Recording sheet ▪ Patterns in Division materials: Harcourt Lesson 10.1 - text, reteach, practice, and challenge materials ▪ Estimate Quotients materials: Harcourt Lesson 9.1 – text, reteach, practice and challenge materials ▪ Estimate Quotients materials: Harcourt Lesson 10.2 - text, reteach, practice and challenge materials ▪ Remainder Riddles materials: Riddles 1 - 25 Calculators (optional) ▪ Creating and Solving a Division Problem materials: Task Card Graphic organizer ▪ Journal Writing materials: JUMP Journal pg. 13

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Perform operations with multi-digit whole numbers and with decimals to hundredths.			
7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	**Adding/Subtracting Decimals:** ▪ Adding/Subtracting Decimals (Trailblazers Lesson 7.4) ▪ Base Ten Pictures With Decimals Activity (k-5mathteachingresources.com) ▪ Base Ten Buildings with Decimals Activity (k-5mathteachingresources.com) ▪ Adding and Subtracting Decimals (Harcourt Lesson 3.5) ▪ Specialty Cakes (uen.com) ▪ Decimal Cross Number Puzzles Activity (k-5mathteachingresources.com) ▪ Base Ten Decimal Bag: Addition Activity (k-5mathteachingresources.com)		**Adding/Subtracting Decimals:** ▪ Adding and Subtracting Decimals with Grids materials: Math Trailblazers Lesson 7.4 – text and DAB pgs. 113 - 118 ▪ Base Ten Pictures With Decimals Activity materials: Task Card Base Ten Block Base Ten Block Copies Recording sheet ▪ Base Ten Building with Decimals Activity materials: Task Card Base Ten Block Base Ten Block Copies Recording sheet ▪ Adding and Subtracting Decimals materials: Harcourt Lesson 3.5 - text, reteach, practice, and challenge materials ▪ Specialty Cakes materials: Lesson plan Utah Bakery Cakes page Specialty Cake Template Bargain Cake Template Pattern blocks Markers Math Journal

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Perform operations with multi-digit whole numbers and with decimals to hundredths.			
7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	▪ Total Ten Game (k-mathteachingresources.com) ▪ Decimal Addition to 500 (k-mathteachingresources.com) ▪ Decimal Addition Bingo (k-mathteachingresources.com) ▪ Decimal Magic Triangle Activity (k-mathteachingresources.com) ▪ Decimal Magic Squares (k-mathteachingresources.com) ▪ Base Ten Decimal Bag (Subtraction) (k-mathteachingresources.com) ▪ Decimal Subtraction Spin (k-mathteachingresources.com) ▪ Decimal Race to Zero Game (k-mathteachingresources.com) ▪ Decimal Patterns (VA Department of Education) ▪ Decimal Board Activities (VA Department of Education) ▪ Journal Writing – Modeling Decimal Subtraction (JUMP Journal)		▪ Decimal Cross Number Puzzle materials: Task Card Puzzles (set A – J) Dry Erase Pockets Dry Erase Markers ▪ Base Ten Decimal Bag Addition materials: Activity Task Card Recording Sheet Base Ten Blocks (3 flats (wholes) 12 tenths and 12 hundredths One paper bag One die ▪ Total Ten Materials: Task Card Game Board Base Ten Decimal Bag Recording Sheet Counters ▪ Decimal Addition to 500 Materials: Task Card Recording Sheet Deck of cards (remove the 10's) 1 die Pencil

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Perform operations with multi-digit whole numbers and with decimals to hundredths.			
7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	**Multiplying Decimals:** ▪ Multiplying Decimals With Area (Math Trailblazers Lesson 7.5) ▪ Paper and Pencil Decimal Multiplication (Math Trailblazers Lesson 7.6) ▪ Multiplying Decimals and Whole Numbers (Harcourt Lesson 8.1) ▪ Model Decimal Multiplication –(Harcourt Lesson 8.3) ▪ Place the Decimal Point (Harcourt Lesson 8.4) ▪ Zeros in the Product (Harcourt Lesson 8.5) ▪ Power Football - decimal computation (illuminations.nctm.com and Funbrain.com) ▪ Journal Writing – Modeling Decimal Multiplication (JUMP Journal) **Division:** ▪ Patterns in Decimal Division (Harcourt Lesson 11.1) ▪ Decimal Division (Harcourt Lesson 11.2)		▪ Decimal Addition Bingo materials: Task Card Bingo boards (one per player) Counters One die marked 1, 1, 1, 1.5, 1.5, 2 ▪ Decimal Magic Triangle Activity materials: Large equilateral triangle templates Small paper squares with the values, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, Recording Sheet ▪ Decimal Magic Squares materials; Task Card Magic squares Recording Sheet ▪ Base Ten Decimal Bag (Subtraction) Materials: Task Card Recording Sheet Base Ten Blocks (1 whole, 9 tenths, 11 hundredths) Paper bag

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Perform operations with multi-digit whole numbers and with decimals to hundredths.			
7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.			▪ Decimal Subtraction Spin materials: Task Card Score Sheets Paper clip Pencil ▪ Decimal Race to Zero materials: Task Card Base Ten Blocks One pair of dice Recording Sheet ▪ Decimal Patterns materials: Pattern page ▪ Decimal Board Activities materials: Directions Decimal board Chips Crayons recording sheet ▪ Journal Writing materials: JUMP Journal pg. 14 ▪ Multiplying Decimals With Area materials: Math Trailblazers Lesson 7.5 ▪ Paper and Pencil Decimal Multiplication materials: Math Trailblazers Lesson 7.6 ▪ Multiplying Decimals and Whole Numbers materials:

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Perform operations with multi-digit whole numbers and with decimals to hundredths.			
7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.			**Whole Numbers materials:** ▪ Harcourt Lesson 8.1 - text, reteach, practice, and challenge materials ▪ Model Decimal Multiplication materials: Harcourt Lesson 8.3 - text, reteach, practice, and Challenge materials ▪ Place the Decimal Point materials: Harcourt Lesson 8.4 - text, reteach, practice, and challenge materials ▪ Zeros in the Product materials: Harcourt Lesson 8.5 - text, reteach, practice, and challenge materials ▪ Power Football materials: Internet access ▪ Journal Writing materials: JUMP Journal pg. 15

Grade 5-Number and Operations in Base Ten

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Perform operations with multi-digit whole numbers and with decimals to hundredths.			
7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.			**Division:** ▪ Patterns in Decimal Division materials: Harcourt Lesson 11.1 - text, reteach, practice, and challenge materials ▪ Decimal Division materials: Harcourt Lesson 11.2 - text, reteach, practice, and challenge materials ▪ Divide Decimals by Whole Numbers materials: Harcourt lesson 11.3 - text, reteach, practice, and challenge materials ▪ Jewelry Store materials: Harcourt Performance Assessment Book pg. PA 22 ▪ Rolling Prices materials: Harcourt Performance Assessment Book pg. PA 31 ▪ Journal Writing materials: JUMP Journal pg. 16

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Use equivalent fractions as a strategy to add and subtract fractions.			
1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*	• Fun With Pattern Block Fractions (illuminations.nctm.com) • Fun With Pattern Block Fractions: Expanding Our Pattern Block Fraction Repertoire (illuminations.nctm.com) • Fun With Pattern Block Fractions: Exploring the Value of the Whole (illuminations.nctm.com) • Eggsactly with Fractions: Eggsactly With a Dozen Eggs(illuminations.nctm.com) • Eggsactly with Fractions: Eggsactly Equivalent (illuminations.nctm.com) • Parts of a Dozen (uen.org) • Eggsactly with Fractions: Eggsactly with Eighteen Eggs (illuminations.nctm.com) • Eggsactly with Fractions: Set Modeling Using Attribute Pieces (illuminations.nctm.com)		• Fun With Pattern Block Fractions materials: Lesson plan Pattern blocks Markers Region Relationships Activity sheet NLVM:virtual pattern blocks ▪ Fun With Pattern Block Fractions: Expanding Our Pattern Block Fraction Repertoire materials: Lesson plan Pattern blocks Chart paper Markers Region Relationships Activity Sheet 3 NLVM:virtual pattern blocks ▪ Fun With Pattern Block Fractions: Exploring the • Value of the Whole materials: Lesson plan Pattern blocks Region Relationships Activity Sheet 4

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Use equivalent fractions as a strategy to add and subtract fractions.			
1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*	▪ Eggsactly with Fractions: Another Look at Fractions of a Set (illuminations.nctm.com) ▪ Eggsactly with Fractions: Class Attributes (illuminations.nctm.com) ▪ How Low Can You Go? (uen.org) ▪ Multiples and the LCM (Harcourt Lesson 13.3) ▪ Equivalent Fractions (Trailblazers Lesson 3.3) ▪ Fraction Cover All (Trailblazers) ▪ Using Common Denominators (Trailblazers Lesson 5.4) ▪ Equivalent Fractions (Harcourt Lesson 15.1) ▪ Fruity O Fractions (uen.org) ▪ Add Fractions with Rectangles (Trailblazers Lesson 5.6) ▪ Add/Subtract Fractions (Trailblazers Lesson 5.7) ▪ Specialty Cakes (uen.org) ▪ Add/Subtract Unlike Fractions (Harcourt Lesson 16.2) ▪ Use Common Denominators (Harcourt Lesson 16.4)		▪ Eggsactly with Fractions materials: Lesson plan Egg cartons Plastic eggs Eggsactly Eggs Activity Sheet ▪ Eggsactly with Fractions: Eggsactly Equivalent materials: Lesson plan Egg cartons Plastic eggs Construction paper Eggsactly Eggs overhead ▪ Parts of a Dozen materials: Lesson plan Egg cartons String math journals Counters Sticky notes Parts of a Dozen activity page Parts of the Class activity sheet Egg carton sheet ▪ Eggsactly with Fractions: Eggsactly with Eighteen Eggs materials: Lesson plan 18 Eggs in a Carton activity sheet Eggsactly eggs sheet Cartons that hold 18 eggs Plastic eggs

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Use equivalent fractions as a strategy to add and subtract fractions.			
▪1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*	▪ Use the LCD (Harcourt Lesson 16.5) ▪ Mixed Number/Improper Fraction Bingo (uen.org) ▪ Add Mixed Numbers (Harcourt Lesson 17.1) ▪ Subtract Mixed Numbers (Harcourt Lesson 17.1) ▪ Subtraction With Renaming (Harcourt Lesson 17.3 ▪ Practice With Mixed Numbers (Harcourt Lesson 17.4) ▪ Closest to 25(k-5mathteachingresources.com ▪ Magic Squares(k-5mathteachingresources.com) ▪ Mixed Numbers with a Sum of …(k-5mathteachingresources.com) ▪ Mixed Numbers with a Difference of …(k-5mathteachingresources.com) ▪ Fraction Tracks (nctm.org) ▪ Journal Writing: Adding Fractions (JUMP Journal)		▪ Eggsactly with Fractions: Set Modeling Using Attribute Pieces materials: lesson plan Index cards Attribute sheet Attribute pieces ▪ Eggsactly with Fractions: Another Look at Fractions of a Set materials: Lesson plan Colored candies Recording sheet Line plot ▪ Eggsactly with Fractions: Class Attributes materials: Envelopes Scrap paper Class Survey activity sheet Bar grapher

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Use equivalent fractions as a strategy to add and subtract fractions.			
▪1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*			▪ How Low Can You Go? Materials: Lesson plan *Picture Pie* Fraction circles (4") Fraction cards Large paper Factor Tree sheet ▪ How to Find the LCD sheet Multiples and the LCM materials: Harcourt Lesson 13.3 text, reteach, practice, and challenge materials ▪ Equivalent Fractions materials: Trailblazers Lesson 3.3 Dot paper Fraction Cover All materials: Trailblazers Lesson 5.3 Centimeter dot paper Fraction cards ▪ Using Common Denominators materials: Trailblazers Lesson 5.4

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Use equivalent fractions as a strategy to add and subtract fractions.			
1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*			▪ Equivalent Fractions materials: Harcourt Lesson 15.1 - text, reteach, practice, and challenge materials Fruity O Fractions materials: Fruity O cereal Bowls Binder pages including Mmmm… Fruity Os Fruity O Fractions Part 2 ▪ Add Fractions with Rectangles materials: Trailblazers Lesson 5.6 Dot paper ▪ Add/Subtract Fractions materials: Trailblazers Lesson 5.7 Dot paper Specialty Cakes materials: Lesson plan Utah Bakery Cakes page Specialty Cakes Template Bargain Cake Template Pattern blocks Markers Math journal

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Use equivalent fractions as a strategy to add and subtract fractions.			
▪1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*			▪ Add/Subtract Unlike Fractions materials: Harcourt Lesson 16.2 - text, reteach, practice, and challenge materials ▪ Use Common Denominators materials: Harcourt Lesson 16.4 - text, reteach, practice, and challenge materials ▪ Use the LCD materials: Harcourt Lesson 16.5 - text, reteach, practice, and challenge materials ▪ Mixed Number/Improper Fraction Bingo materials: Lesson plan Fraction circles Game board Fraction cards Markers ▪ Add Mixed Numbers materials: Harcourt Lesson 17.1 - text, reteach, practice, and challenge materials ▪ Subtract Mixed Numbers materials: Harcourt Lesson 17.2 - text, reteach, practice, and challenge materials ▪ Subtraction With Renaming materials: Harcourt Lesson 17.3 - text, reteach, practice, and challenge materials

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Use equivalent fractions as a strategy to add and subtract fractions.			
▪1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*			• Practice With Mixed Numbers materials: Harcourt Lesson 17.4 - text, reteach, practice, and challenge materials ▪ Closest to 25 materials: Task card Recording sheet Die ▪ Magic Squares materials: Magic Squares activity sheet ▪ Mixed Numbers with a Sum of materials: Task card Recording sheet ▪ Mixed Numbers with a Difference of … materials: Task card Recording sheet ▪ Fraction Tracks materials: Lesson plan Internet access Recording sheet ▪ Journal Writing materials: JUMP Journals

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Use equivalent fractions as a strategy to add and subtract fractions.			
▪1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*			▪ Harcourt Lesson 17.3 - text, reteach, practice, and challenge materials ▪ Practice With Mixed Numbers materials: Harcourt Lesson 17.4 - text, reteach, practice, and challenge materials ▪ Closest to 25 materials: Task card Recording sheet Die ▪ Magic Squares materials: Magic Squares activity sheet ▪ Mixed Numbers with a Sum of materials: Task card Recording sheet ▪ Mixed Numbers with a Difference of … materials: Task card Recording sheet ▪ Fraction Tracks materials: Lesson plan Internet access Recording sheet ▪ Journal Writing materials: JUMP Journal pg. 17

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Use equivalent fractions as a strategy to add and subtract fractions.			
2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that3/7 < 1/2.*	▪ Solve word problems involving addition and subtraction of fractions ▪ Benchmarking Fractions (Trailblazers Lesson 3.4 - text pg. 87) ▪ Estimate Sums and Differences (Harcourt Lesson 16.3) ▪ Fraction/Mixed Number Word Problems (k-5mathteachingresources.com) ▪ Fraction Story Problems (?)The Wishing Club (I) (k-5mathteachingresources.com) ▪ The Wishing Club (II) (k-5mathteachingresources.com) ▪ Use Equivalent Fractions to Subtract Fractions (k-5mathteachingresources.com) ▪ Addition Word Problem with Fractions (k-5mathteachingresources.com) ▪ Subtraction Word		▪ Word problems are included in the above referenced lessons ▪ Benchmarking Fractions materials: Trailblazers Lesson 3.4 (text pg. 87) ▪ Estimate Sums and Differences materials: Harcourt Lesson 16.3 - text, reteach, practice, and challenge materials ▪ Fraction/Mixed Number Word Problems materials: Word problem sheets ▪ Fraction Story Problems materials: Activity page ▪ The Wishing Club materials: *The Wishing Club: A Story About Fractions* Task card Recording sheet ▪ The Wishing Club (II) materials: *The Wishing Club: A Story About Fractions* Task card

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Use equivalent fractions as a strategy to add and subtract fractions.			
2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that3/7 < 1/2.*	▪ Problem with Fractions (k-5mathteachingresources.com) ▪ Journal Writing: Writing Word Problems ▪ (JUMP Journal)		▪ Recording sheet ▪ Use Equivalent Fractions to Subtract Fractions materials: Task card Recording sheet ▪ Addition Word Problem with Fractions materials: Task card Recording sheet ▪ Subtraction Word Problem with Fractions materials: Task card Recording sheet ▪ Journal Writing materials: JUMP Journal pg. 18

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
3. Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*	▪ Fractions and Division (Trailblazers Lesson 9.1) ▪ Relate Fractions and Decimals (Harcourt Lesson 15.6) ▪ Sports Math (uen.org) ▪ Dear Dr. Math Writing ▪ Journal Writing: Write a Word Problem ▪ (JUMP Journal)		▪ Fractions and Division materials: Trailblazers Lesson 9.1 ▪ Relate Fractions and Decimals materials: Harcourt Lesson 15.6 text, reteach, practice, and challenge materials ▪ Sports Math materials: Lesson plan, Basketball, Basketball hoop, Scrap paper, Garbage can, Sports Math worksheet, Number Cards ▪ Dear Dr. Math materials: Writing prompt ▪ Journal Writing materials: JUMP Journal pg. 19
4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.			

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
a. Interpret the product (*a*/*b*) × *q* as *a* parts of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a* × *q* ÷ *b*. *For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)*	▪ Multiplication of Fractions and whole Numbers (Trailblazers Lesson 12.4) ▪ Using Patterns to Multiply Fractions (Trailblazers Lesson 12.5) ▪ Multiply Fractions by Whole Numbers (Harcourt Lesson 18.2) ▪ Multiply a Fraction by a Fraction (Harcourt Lesson 18.1) ▪ Multiplying Fractions by Dividing Rectangles (k-5mathteachingresources.com) ▪ Multiplying Fractions Word Problems (k-5mathteachingresources.com) ▪ Journal Writing: Multiply a Fraction by a Whole Number ▪ (JUMP Journal) ▪ Journal Writing: Multiplying Fractions (JUMP Journal)		▪ Multiply Fractions and Whole Numbers materials: Trailblazers Lesson 12.4 ▪ Using Patterns to Multiply Fractions materials: Trailblazers Lesson 12.5 ▪ Multiply Fractions by Whole Numbers materials: Harcourt Lesson 18.2 - text, reteach, practice, and challenge materials ▪ Multiply a Fraction by a Fraction materials: Harcourt Lesson 18.1 - text, reteach, practice, and challenge materials ▪ Multiplying Fractions by Dividing Rectangles materials: Task card Grid paper ▪ Multiplying Fractions Word Problems materials: Word problem pages ▪ Journal Writing materials: JUMP Journal pg. 20 ▪ Journal Writing materials: JUMP Journal pg. 21

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.	▪ Area of Squares (Harcourt Lesson 26.2) ▪ Area Word Problems (k-5mathteachingresources.com) ▪ Journal Writing: Area (JUMP Journal)		▪ Algebra: Area of Squares materials: Harcourt Lesson 26.2 - text, reteach, practice, and challenge materials ▪ Area Word Problems materials: Task card, Word problem pages, Grid paper ▪ Journal Writing materials: JUMP Journal pg. 22

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
5. Interpret multiplication as scaling (resizing), by:			
a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.	▪ Journal Writing: Multiplication ▪ (JUMP Journal)		▪ Journal Writing materials: JUMP Journal pg. 23
b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.	▪ Journal Writing: Multiplying Whole Numbers and Mixed Numbers (JUMP Journal)		▪ Journal Writing materials: JUMP Journal pg. 24

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	▪ Mixed Number x Fraction Models (k-5mathteachingresources.com) ▪ Party Problems (Trailblazers Lesson 12.8) ▪ Word Problems (Harcourt) ▪ Fraction and Mixed Number Word Problems (k-5mathteachingresources.com) ▪ Journal Writing: Multiplying Fractions (JUMP Journals)		▪ Mixed Number x Fraction Models materials; Task card Cuisenaire rods ▪ Party Problems materials: Trailblazers Lesson 12.8 Word problems are embedded in Harcourt Lessons 18.1 – 18.4 ▪ Fraction and Mixed Number Word Problems materials: Word problem pages ▪ Journal Writing materials: JUMP Journal pg. 25

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.			
Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.*	▪ Fractions of Groups (Trailblazers Lesson 12.3) ▪ Explore Division of Fractions (Harcourt Lesson 19.1) ▪ Reciprocals (Harcourt Lesson 19.2) ▪ Divide Whole Numbers by Fractions (Harcourt lesson 19.3) ▪ Divide Fractions (Harcourt Lesson 19.4) ▪ Divide a Unit Fraction by a Whole Number (k-5mathteachingresources.com)		▪ Fractions of Groups materials: Trailblazers Lesson 12.3 ▪ Explore Division of Fractions materials: Harcourt Lesson 19.1 - text, reteach, practice, and challenge materials ▪ Reciprocals materials: Harcourt Lesson 19.2 - text, reteach, practice, and challenge materials ▪ Divide Whole Numbers by Fractions materials: Harcourt lesson 19.3 - text, reteach, practice, and challenge materials ▪ Divide Fractions materials: Harcourt Lesson 19.4 - text, reteach, practice, and challenge materials

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.*	▪ Journal Writing: Divide a Fraction by a Whole Number (JUMP Journal) ▪ Dividing a Whole Number by a Unit Fraction (k-5mathteachingresources.com) ▪ Division Word Problems (k-5mathteachingresources.com) ▪ Journal Writing: Divide a Whole Number by a Fraction ▪ (JUMP Journal) ▪ Journal Writing: Fractions Divided b y Whole Number ▪ (JUMP Journal) ▪ Journal Writing: Divide Whole Numbers by Fractions (JUMP Journal)		▪ Divide a Unit Fraction by a Whole Number materials: Task card Recording sheet ▪ Journal Writing materials: JUMP Journal pg. 26 ▪ Dividing a Whole Number by a Unit Fraction materials: Task card Fraction kits Recording sheet ▪ Division Word Problems materials: Word problem pages ▪ Journal Writing materials: JUMP Journal pg. 27 ▪ Journal Writing materials: JUMP Journal pg. 28 ▪ Journal Writing materials: JUMP Journal pg. 29

Grade 5-Number and Operations-Fractions

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.*			
c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?*			

Grade 5-NS.MA-The Number System

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
5.NS.MA.1 Use positive and negative integers to describe quantities such as temperature above/below 0, elevation above/below sea level, or credit/debit.	▪ Understand Integers (Harcourt Lesson 22.1) ▪ Compare and Order Integers ▪ (Harcourt Lesson 22.2)		▪ Understand Integers materials: Harcourt Lesson 22.1 text, reteach, practice and challenge materials ▪ Compare and Order Integers materials: Harcourt Lesson 22.2 text, reteach, practice, and challenge materials

Grade 5-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Convert like measurement units within a given measurement system.			
1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.	▪ The Amazing Inch and Measuring Up! (uen.org) ▪ Found Pounds (illuminations.nctm.org) ▪ King Henry did What? (uen.org) ▪ Comparing Units of Metric Linear Measure (k-5mathteachingresources.com) ▪ Metric Length (Harcourt Lesson 24.2) ▪ Change Linear Units (Harcourt Lesson 24.2) ▪ Customary Capacity and Weight (Harcourt Lesson 24.3) ▪ Metric Capacity and Mass (Harcourt Lesson 24.5) ▪ Conversion Word Problems (k-5mathteachingresources.com) ▪ Twice the Rice, or More? (uen.org)		▪ The Amazing Inch materials: 2 3" x 12" pieces of oak tag Rulers with standard and metric measurements "Measuring in Feet and Inches" chart Enlarged inch (labeled) Enlarged Inch Math journals ▪ Found Pounds materials: Lesson plan 16 oz. of sliced bread Ziploc bags Kitchen scale Paper Found Pounds Activity Sheet ▪ King Henry Did What? materials: Lesson plan Meter stick King Henry story King Henry worksheets "Metric Rap" Metric rulers Metric/standard rulers Candy measuring worksheet Items to measure Tape measure "When I Say, You Say" Dry erase boards Expo markers ▪ Comparing Units of Metric Linear Measure materials: Task card Base ten blocks Rulers Metric ruler

Grade 5-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Convert like measurement units within a given measurement system.			
1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.	▪ The Amazing Inch and Measuring Up! (uen.org) ▪ Found Pounds (illuminations.nctm.org) ▪ King Henry did What? (uen.org) ▪ Comparing Units of Metric Linear Measure (k-5mathteachingresources.com) ▪ Metric Length (Harcourt Lesson 24.2) ▪ Change Linear Units (Harcourt Lesson 24.2) ▪ Customary Capacity and Weight (Harcourt Lesson 24.3) ▪ Metric Capacity and Mass (Harcourt Lesson 24.5) ▪ Conversion Word Problems (k-5mathteachingresources.com) ▪ Twice the Rice, or More? (uen.org)		▪ Metric Length materials: Harcourt Lesson 24.2 text, reteach, practice and challenge materials ▪ Change Linear Units materials: Harcourt Lesson 24.3 text, reteach, practice and challenge materials ▪ Customary Capacity and Weight materials: Harcourt Lesson 24. 4 text, reteach, practice and challenge materials ▪ Metric Capacity and Mass materials: Harcourt Lesson 24.5 text, reteach, practice and challenge materials ▪ Conversion Word Problems materials: Word problem sheets ▪ Twice the Rice, or More? Materials: Lesson plan Measuring supplies Customary and metric measuring spoons Measuring cups Rubbermaid containers Gallon t Robo sheet Capacity Worksheet Inner G worksheet Capacity measurement chart

Grade 5-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Represent and interpret data.			
2. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*	▪ Fractions on a Line Plot (k-5mathteachingresources.com) ▪ Sacks of Flour (k-5mathteachingresources.com)		▪ Fractions on a Line Plot materials: Task card Recording sheet ▪ Sacks of Flour materials: Task card Recording sheet

Grade 5-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.			
3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.	▪ Exploring Volume (k-5mathteachingresources.com)		▪ Exploring Volume materials: Task card cm. grid paper Centimeter cubes Recording sheet
a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.	▪ Building Rectangular Prisms with a Given volume (k-5mathteachingresources.com		▪ Building Rectangular Prisms with a Given volume materials: Task card Centimeter cubes Recording sheet
b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.	▪ Ordering Rectangular Prisms by Volume (k-5mathteachingresources.com) ▪ Journal Writing: Volume ▪ (JUMP Journal)		▪ Ordering Rectangular Prisms by Volume materials: Task card Centimeter cubes Recording sheet ▪ Journal Writing materials: JUMP Journal pg. 32 ▪ Journal Writing materials: JUMP Journal pg. 33

Grade 5-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.			
4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.	▪ Popcorn Prisms Anyone? (illuminations.nctm.org) ▪ Surface Area and Volume (shodor.org) ▪ Insides and Outsides (uen.org) ▪ Fill "Er Up (illuminations.nctm.org) ▪ Rubic's Cube (youandthecube.com) ▪ Three Dimensional Structures (k-5mathteachingresources.com) ▪ Build a Cubic Meter (k-5mathteachingresources.com) ▪ Roll a Rectangular Prism (k-5mathteachingresources.com) ▪ Journal Writing: Volume ▪ (JUMP Journal) ▪ Candies R Us		▪ Popcorn Prisms Anyone materials: Activity plan/packet Lesson plan 8 ½" x 11" white paper 8 ½" x 11" colored paper Tape Popcorn Plates Cups Rulers ▪ Surface Area and Volume materials: Lesson plan Worksheet www.shodor.org applet ▪ Insides and Outsides materials: x/y axis dry erase boards pre-made rectangular prisms rectangular prism net patterns Markers Cubes Graph paper scissors tape Cut It Out worksheet ▪ Fill "Er Up materials: Lesson plan Fill 'Er Up applet Fill 'Er Up Activity Sheet Tape Paper (81/2" by 11") Centimeter cubes

Grade 5-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.			
4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.			▪ Rubic's Cube materials: Rubic's cubes Calculators Centimeter rulers Measurement activity sheet ▪ Three Dimensional Structures materials: Task card Centimeter cubes Recording sheet ▪ Build a Cubic Meter materials: Task card Meter Rulers Newspaper Tape Scissors Recording sheet ▪ Roll a Rectangular Prism materials: Task card Die ▪ Journal Writing materials: JUMP Journal pg. 34

Grade 5-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.			
5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.	▪ Box It Up (uen.org)		▪ Box It Up materials: Lesson plan ▪ Related binder pages including: Let's Build Boxes Two-cm. grid paper Multiink cubes Scissors Tape
a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.	▪ Candies R Us (uen.org)		▪ Candies R Us materials: Lesson plan Tape Scissors Multilink cubes ▪ Related binder pages including: Net 1 Net 2
b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.	▪ Designing a Toy Box (k-5mathteachingresources.com) ▪ Designing a Cereal Box (k-5mathteachingresources.com) ▪ Journal Writing: Volume ▪ (JUMP Journal)		▪ Designing a Toy Box materials: Task card Centimeter cubes Ruler ▪ Designing a Cereal Box Materials: Task card Ruler

Grade 5-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.			
c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.	▪ Designing a Cereal Box (k-5mathteachingresources.com) ▪ Journal Writing: Volume ▪ (JUMP Journal) ▪ Journal Writing: Volume ▪ (JUMP Journal)		▪ Designing a Cereal Box Materials: Task card Ruler ▪ Journal Writing materials: JUMP Journal pg. 35 ▪ Journal Writing materials: JUMP Journal pg. 36 ▪ Journal Writing materials: JUMP Journal pg. 37

Grade 5-Measurement and Data

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Graph points on the coordinate plane to solve real-world and mathematical problems.			
1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate).	▪ Graph Relationships (Harcourt Lesson 23.1) ▪ Graph Ordered Pairs (Harcourt Lesson 6.2) ▪ Match My Masterpiece (uen.org) ▪ Coordinate Grid Geoboards (k-5mathteachingresources.com) ▪ Coordinate Shapes (k-5mathteachingresources.com) ▪ Coordinate Grid Swap (k-5mathteachingresources.com) ▪ Coordinate Grid Tangram (k-5mathteachingresources.com) ▪ Geometric Shapes on the Coordinate Plane (k-5mathteachingresources.com) ▪ Journal Writing: Ordered Pairs (JUMP Journal)		▪ Graph Relationships materials: ▪ Harcourt Lesson 23.1 text, reteach, practice and challenge materials ▪ Graph Ordered Pairs materials: Harcourt Lesson 6.2 text, reteach, practice and challenge materials ▪ Match My Masterpiece materials: Lesson plan *A Fly on the Ceiling* by Julie Glass Match My Masterpiece Activity Sheet Colored pencils ▪ Coordinate Grid Geoboards materials: Task card Geoboards Rubber bands Coordinate grid paper Rulers ▪ Coordinate Shapes materials: Task card Graph paper Rulers ▪ Coordinate Grid Swap materials: Task card Coordinate grid paper

Grade 5-Geometry

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Graph points on the coordinate plane to solve real-world and mathematical problems.			
1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate).			▪ Coordinate Grid Tangram materials: Task card Rulers Coordinate grid paper Recording sheet ▪ Geometric Shapes on the Coordinate Plane materials: Task card Graph paper Rulers Recording sheet ▪ Journal Writing materials: JUMP Journal pg. 38
2. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	▪ Getting to the Point (uen.org) ▪ Points of Interest Activity Stations (uen.org) ▪ *stations are listed in Getting to the Point lesson plan ▪ Journal Writing: Coordinate System (JUMP Journal)		▪ Naming Ordered Pairs materials: Harcourt Performance Assessment Book pg. 58 ▪ Getting to the Point materials: Lesson plan *A Fly on the Ceiling* x/y axis dry erase boards Dry erase markers Paper strips Metal brads Coordinate cards

Grade 5-Geometry

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Graph points on the coordinate plane to solve real-world and mathematical problems.			
2. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.			▪ Points of Interest materials: Getting to the Point Lesson Plan Tic Tac Toe page Pencils Scratch paper In Search of Buried Treasure page Space Wars page Computers Guidelines Math journal Coordinate plane assessment ▪ Journal Writing materials: JUMP Journal pg. 39

Grade 5-Geometry

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Classify two-dimensional figures into categories based on their properties.			
3. Understand that attributes belonging to a category of two dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*	▪ Identifying Quadrilaterals (k-5mathteachingresources.com) ▪ Quadrilateral Criteria (k-5mathteachingresources.com) ▪ Constructing Quadrilaterals (k-5mathteachingresources.com) ▪ Quadrilateral Tangram Challenge ▪ (k-5mathteachingresources.com) ▪ Geometric Window Pane ▪ Journal Writing: Classifying Rectangles (JUMP Journal)		▪ Identifying Quadrilaterals materials: Task card Recording sheet ▪ Quadrilateral Criteria materials: Task card Geoboards Rubber bands Geoboard recording paper Rulers ▪ Constructing Quadrilaterals materials: Task card Geoboards Rubber bands Geoboard paper Rulers Recording sheet ▪ Quadrilateral Tangram Challenge materials: Task card Tangram set Recording sheet ▪ Geometric Window Pane materials: Task card Graphic organizer Rubric ▪ Journal Writing materials: JUMP Journal pg. 40

Grade 5-Geometry

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Understand ratio concepts and use ratio reasoning to solve problems.			
4. Classify two-dimensional figures in a hierarchy based on properties.	▪ Triangle Hierarchy Diagram I (k-5mathteachingresources.com) ▪ Triangle Hierarchy Diagram II (k-5mathteachingresources.com) ▪ Quadrilateral Hierarchy Diagram (k-5mathteachingresources.com) ▪ Journal Writing: Quadrilateral Hierarchy (JUMP Journal)		▪ Triangle Hierarchy Diagram materials: Task card Triangles sheet Glue Rulers Recording sheet ▪ Triangle Hierarchy Diagram II materials: Task card Triangles sheet Glue Rulers Recording sheet ▪ Quadrilateral Hierarchy Diagram materials: Task card Quadrilaterals sheet Recording sheet ▪ Journal Writing materials: JUMP Journal pg. 41

Grade 6- Ratios and Proportional Relationships

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Understand ratio concepts and use ratio reasoning to solve problems.			
1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *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."*	▪ Bits and Pieces I Investigation 4 ▪ Comparing and Scaling Investigation 1-3	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits and Pieces I ▪ Comparing and Scaling
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. *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."*	▪ Variables and Patterns Investigation 1 ▪ Comparing and Scaling Investigation 3	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Variables and Patterns ▪ Comparing and Scaling

Grade 6- Ratios and Proportional Relationships

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Understand ratio concepts and use ratio reasoning to solve problems.			
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.	▪ Bits and Pieces I Investigation 3-4 ▪ Comparing and Scaling Investigation 1-3	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits and Pieces I ▪ Comparing and Scaling
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.	▪ Bits and Pieces I Investigation 4 ▪ Variables and Patterns Investigation 3	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits and Pieces I ▪ Variables and Patterns
b. Solve unit rate problems including those involving unit pricing and constant speed. *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 mowed?*	▪ Bits and Pieces I Investigation 4 ▪ Variables and Patterns Investigation 1-3 ▪ Comparing and Scaling Investigation 3	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits and Pieces I ▪ Variables and Patterns ▪ Comparing and Scaling

Grade 6- Ratios and Proportional Relationships

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Understand ratio concepts and use ratio reasoning to solve problems.			
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.	▪ Bits and Pieces III ▪ Bits and Pieces II ▪ Comparing and Scaling Investigation 2	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits and Pieces III ▪ Bits and Pieces II ▪ Comparing and Scaling
d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. The Number System	▪ Comparing and Scaling Investigation 3-4 ▪ Covering and Surrounding Investigation 1 ▪ ACE ▪ Filling and Wrapping Investigation 5 ▪ ACE	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Comparing and Scaling ▪ Covering and Surrounding ▪ Filling and Wrapping

Grade 6-The Number System

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of multiplication and division to divide fractions by fractions.			
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. *For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3.* *(In general, (a/b) ÷ (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?*	▪ Review multiplying & dividing fractions ▪ Centers of story problems (many cards with different situational problems) ▪ Pull from Bits III ▪ Highlight in depth investigation 7	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits and Pieces II • Pull from Bits III ▪ Highlight in depth investigation 7

Grade 6- The Number System

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Compute fluently with multi-digit numbers and find common factors and multiples.			
2. Fluently divide multi-digit numbers using the standard algorithm.	▪ Finding mean ▪ Changing fractions ▪ Data About Us ▪ Finding mean ▪ Bits & Pieces I ▪ Fraction to decimal ▪ Bits & Pieces III ▪ Minute Math ▪ Teacher created materials	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Data About Us ▪ Bits & Pieces I ▪ Bits & Pieces III ▪ Minute Math
3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	▪ Bits & Pieces I ▪ Finding discounts ▪ Bits & Pieces III ▪ Tax & tip & discounts ▪ Covering & Surrounding ▪ Area, Perimeter, & Circumference ▪ Filling & Wrapping ▪ Surface Area	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits & Pieces I ▪ Bits & Pieces III ▪ Covering & Surrounding ▪ Filling & Wrapping
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. *For example, express 36 + 8 as 4 (9 + 2).*	▪ Prime Time ▪ Bits & Pieces I ▪ Bits & Pieces II ▪ LCM & equivalent fractions ▪ Hands On Equations ▪ Using distributive property ▪ Variables & Pattern	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Prime Time ▪ Bits & Pieces I ▪ Bits & Pieces II ▪ Hands On Equations ▪ Variables & Patterns

Grade 6- The Number System

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of numbers to the system of rational numbers.			
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.	▪ Bits and Pieces II Investigation 2 ▪ Accentuate the Negative Investigation 1 & 2	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits and Pieces II ▪ Accentuate the Negative
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.	▪ Bits & Pieces I Investigation 1 –4 ▪ Bits & Pieces II Investigation 1-4 ▪ Bits & Pieces III Investigation 1 –4 ▪ Accentuate the Negative Investigation 1-4	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits & Pieces I ▪ Bits & Pieces II ▪ Bits & Pieces III ▪ Accentuate the Negative
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.	▪ Hands On Equations ▪ Accentuate the Negative Investigation 1 ▪ Bits & Pieces II Investigation 2	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Hands On Equations ▪ Accentuate the Negative ▪ Bits & Pieces II

Grade 6- The Number System

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of numbers to the system of rational numbers.			
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.	▪ Data About Us ▪ Variables & Patterns Investigation 1 –2, 4 ▪ Accentuate the Negative Investigation 2	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Data About Us ▪ Variables & Patterns ▪ Accentuate the Negative
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.	▪ Data About Us ▪ Variables & Pattern Investigation 1 &2 ▪ Accentuate the Negative Investigation 1 &2 ▪ Bits & Pieces I ▪ Samples & Populations Investigation 4	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Data About Us ▪ Variables & Patterns ▪ Accentuate the Negative ▪ Bits & Pieces I ▪ Samples & Populations

Grade 6- The Number System

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of numbers to the system of rational numbers.			
7. Understand ordering and absolute value of rational numbers.	▪ Bits & Pieces I Investigation 1 –3 ▪ Bits & Pieces II Investigation 1 ▪ Accentuate the Negative Investigation 1 &2 ▪ Hands on Equations	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits & Pieces I ▪ Bits & Pieces II ▪ Accentuate the Negative ▪ Hands on Equations
a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *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.*	▪ Bits & Pieces I Investigation 1 –4 ▪ Bits & Pieces II Investigation 2 ▪ Accentuate the Negative Investigation 1 ▪ Hands on Equations	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits & Pieces I ▪ Bits & Pieces II ▪ Accentuate the Negative ▪ Hands on Equations
b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write –3 oC > –7 oC to express the fact that –3 oC is warmer than –7 oC.*	▪ Accentuate the Negative Investigation 1 ▪ Bits & Pieces II Investigation 2 ▪ Bits & Pieces III Investigation 1	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Accentuate the Negative ▪ Bits & Pieces II ▪ Bits & Pieces III

Grade 6- The Number System

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of numbers to the system of rational numbers.			
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. *For example, for an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars.*	▪ Accentuate the Negative Investigation 2	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Accentuate the Negative
d. Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars.*	▪ Accentuate the Negative Investigation 2	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Accentuate the Negative
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.	▪ Covering & Surrounding Investigation 2 ▪ Data About Us Investigation 2 ▪ Accentuate the Negative Investigation 2 ▪ Samples & Populations Investigation 4	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Covering & Surrounding ▪ Data About Us ▪ Accentuate the Negative ▪ Samples & Populations

Grade 6- Expressions and Equations

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of arithmetic to algebraic expressions.			
1. Write and evaluate numerical expressions involving whole-number exponents.	▪ Prime Time Investigation 4	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Prime Time
2. Write, read, and evaluate expressions in which letters stand for numbers.	▪ Bits & Pieces II Investigation 2 –4 ▪ Bits & Pieces III Investigation 1-4 ▪ Variables & Patterns Investigation 1 -3 ▪ Comparing & Scaling Investigation 3 ▪ Samples & Populations Investigation 4 ▪ Hands On Equations	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits & Pieces II ▪ Bits & Pieces III ▪ Variables & Patterns ▪ Comparing & Scaling ▪ Samples & Populations ▪ Hands On Equations
a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as 5 – y.*	▪ Bits & Pieces II Investigation 2 –4 ▪ Bits & Pieces III Investigation 1-3 ▪ Variables & Patterns Investigation 1 -3 ▪ Comparing & Scaling Investigation 3 ▪ Samples & Populations Investigation 4 ▪ Hands On Equations	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits & Pieces II ▪ Bits & Pieces III ▪ Variables & Patterns ▪ Comparing & Scaling ▪ Samples & Populations ▪ Hands On Equations

Grade 6- Expressions and Equations

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of arithmetic to algebraic expressions.			
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. *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.*	▪ Prime Time Investigation 1, 3-5 ▪ Bits & Pieces II Investigation 2 –4 ▪ Bits & Pieces III Investigation 1-3 ▪ Variables & Patterns Investigation 3	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Prime Time ▪ Bits & Pieces II ▪ Bits & Pieces III ▪ Variables & Patterns
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). *For example, use the formulas V = s3 and A = 6 s2 to find the volume and surface area of a cube with sides of length s = 1/2.*	▪ Covering & Surrounding Investigation 1-5 ▪ Filling & Wrapping Investigation 1-4 ▪ Variables & Patterns Investigation 3 ▪ Samples & Populations Investigation 4	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Covering & Surrounding ▪ Filling & Wrapping ▪ Variables & Patterns ▪ Samples & Populations

Grade 6- Expressions and Equations

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Apply and extend previous understandings of arithmetic to algebraic expressions.			
3. Apply the properties of operations to generate equivalent expressions. *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.*	▪ Accentuate The Negative Investigation 2-4 ▪ Hands On Equations	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Accentuate The Negative ▪ Hands On Equations
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). *For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.*	▪ Accentuate The Negative Investigation 2, 4 ▪ Hands On Equations	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Accentuate The Negative ▪ Hands On Equations

Grade 6- Expressions and Equations

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Reason about and solve one-variable equations and inequalities.			
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.	▪ Bits & Pieces II ▪ Investigation 2-4 ▪ Bits & Pieces III ▪ Investigation 1-3 ▪ Variables & Patterns ▪ Investigation 3	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Bits & Pieces II ▪ Bits & Pieces III ▪ Variables & Patterns
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.	▪ Covering & Surrounding ▪ Investigation 5 ▪ Variables & Patterns ▪ Investigation 1-3 ▪ Comparing & Scaling ▪ Investigation 3 ▪ Samples & Populations ▪ Investigation 4	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Covering & Surrounding ▪ Variables & Patterns ▪ Comparing & Scaling ▪ Samples & Populations
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.	▪ Covering & Surrounding ▪ Investigation 5	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Covering & Surrounding

Grade 6- Expressions and Equations

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Reason about and solve one-variable equations and inequalities.			
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.	▪ Common Core Additional Investigation Grade 6 ▪ Problem 3.5 page 36	▪ Quizzes & tests	▪ Common Core Additional Investigation Grade 6 ▪ Problem 3.5 page 36
Represent and analyze quantitative relationships between dependent and independent variables.			
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. *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.*	▪ Covering & Surrounding Investigation 2 ▪ Data About Us Investigation 2 ▪ Variables & Patterns Investigation 1-3 ▪ Samples & Populations Investigation 4	• Quizzes & tests • Teacher made with help from book	▪ Covering & Surrounding ▪ Data About Us ▪ Variables & Patterns ▪ Samples & Populations

Grade 6- Geometry

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Solve real-world and mathematical problems involving area, surface area, and volume.			
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.	▪ Covering & Surrounding Investigation 1-5	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Covering & Surrounding
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 $V = l\ w\ h$ and $V = b\ h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.	▪ Filling & Wrapping Investigation 2	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Filling & Wrapping

Grade 6- Geometry

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Solve real-world and mathematical problems involving area, surface area, and volume.			
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.	▪ Covering & Surrounding Investigation 1-5	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Covering & Surrounding
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.	▪ Filling & Wrapping Investigation 2	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Filling & Wrapping

Grade 6-Statistic and Probability

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Develop understanding of statistical variability.			
1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *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.*	▪ Data About Us Investigation 1-3	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Data About Us
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.	▪ Data About Us Investigation 1-3	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Data About Us
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.	▪ Data About Us Investigation 1-3	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Data About Us

Grade 6-Statistic and Probability

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Summarize and describe distributions.			
4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	▪ Data About Us Investigation 1 & 3 ▪ Samples & Populations Investigation 1-4	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Data About Us ▪ Samples & Populations
5. Summarize numerical data sets in relation to their context, such as by:	▪ Data About Us Investigation 1, 3 ▪ Samples & Populations Investigation 1-4	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Data About Us ▪ Samples & Populations
a. Reporting the number of observations.	▪ Samples & Populations Investigation 1-4	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Samples & Populations
b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.	▪ Data About Us Investigation 1-2 ▪ Samples & Populations Investigation 1-4	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Data About Us ▪ Samples & Populations

Grade 6-Statistic and Probability

Standard	Benchmark Task (Activities)	Benchmark Assessments	Resources
Summarize and describe distributions.			
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.	▪ Data About Us Investigation 3 ▪ Samples & Populations Investigation 1-4	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Data About Us ▪ Samples & Populations
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.	▪ Data About Us Investigation 3 ▪ Samples & Populations Investigation 1-4	▪ Quizzes & tests ▪ Teacher made with help from book	▪ Data About Us ▪ Samples & Populations