**Neshoba Central Elementary School**

**5th Grade Math Pacing Guide for 1st Nine Weeks**

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| **Domain** | **Major Clusters/Common Core Standards**  | **I Ready Alignment** | **Visible Learning** |
| **Number and Operations in Base Ten*****- Read, write, and compare decimals to thousandths.******-Round decimals to any place.******-Multiply and divide whole numbers.******- Add and subtract decimals to hundredths.*** | **Understand the place value system.*** **5. NBT.3-** Read and write decimals to the thousandths.
* **5. NBT.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.
	+ - **5. NBT.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.
		- **5. NBT.3-** Read, write, and compare decimals to thousandths. **a.** Use 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).**b.** Compare two decimals to thousandths based on meanings of the  digits in each place, using >, =, < symbols to record the results  of comparisons. * + - **5. NBT.4** – Use place value understanding *to round* decimals to any place.

**Perform operations with multi-digit whole numbers and with decimals to hundredths.*** **5. NBT.5** - Fluently multiply multi-digit whole numbers using the standard algorithm.
* **5. NBT.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 & explain by using equations, rectangular arrays, and/or area models.*
* **5.NBT.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.
 | Lesson 3- Read and Write DecimalsLesson 1 – Understand Place ValueLesson 2- Understand Powers of TenLesson 4 – Compare and Round DecimalsLesson 5 – Multiply Whole NumbersLesson 6 – Divide Whole numbersLesson 7- Add and Subtract Decimals | Teachers will use a variety of visible learning in the classroom every day. For example, teachers will use: classroom discussion, learning goals, planning and prediction, response to intervention, reciprocal teaching, interventions for students with learning needs, elaboration and organization, evaluate and reflection, and deliberate practice.  |

 **Neshoba Central Elementary School**

**5th Grade Math Pacing Guide for 2nd Nine Weeks**

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| **Domain** | **Major Clusters/Common Core Standards**  | I Ready Alignment | Visible Learning |
| **Number and Operations in Base Ten** | * **5. NBT.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.
 | Lesson 8 – Multiply DecimalsLesson 9 – Divide DecimalsLesson 12- Fractions as DivisionLesson 19 – Evaluate and Write expressionsLesson 29 – Graph Points in the Coordinate Plane Lesson 20 – Analyze Patterns and Relationships | Teachers will use a variety of visible learning in the classroom every day. For example, teachers will use: classroom discussion, learning goals, planning and prediction, response to intervention, reciprocal teaching, interventions for students with learning needs, elaboration and organization, evaluate and reflection, and deliberate practice.  |
| **Number and Operations - Fractions****Operations and Algebraic Thinking****--** **Geometry*****-Graph on a coordinate plane (first quadrant).***  | * **5. NF.3** - Interpret a fraction as division of the numerator by the denominator. 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.

**Write and interpret numerical expressions.*** **5.OA.1** - Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
* order of operations
* **5. OA.2** – Write simple expressions that record calculations with numbers; 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 × (18,932 + 921) is there times as large as 18,932 + 921, without having to calculate the indicated sum or product.*

**Graph points on the coordinate plane to solve real-world and mathematical problems.*** **5. G.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*-axes and *x*-coordinate, *y*-axes and *y*-coordinate).
* **5. G.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.

**Analyze patterns and relationships.*** **5. OA.3** – Generate two numerical patterns using two given rules. Identify relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns; graph the ordered pairs on a coordinate plane.
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**Neshoba Central Elementary School**

**5th Grade Math Pacing Guide for 3rd Nine Weeks**

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| **Domain** | **Major Clusters/Common Core Standards** | **I Ready Alignment** | **Visible Learning** |
|  | **Number and Operations - Fractions*****-Multiply and divide fractions.*** | **Use equivalent fractions as a strategy to add/ subtract fractions.*** **5. NF.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
* simplified form
* improper fractions
* mixed numbers

**5. NF.2** - Solve word problems involving addition/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 & assess the reasonableness of answers.***Apply and extend previous understandings of multiplication and division to multiply and divide fractions**.* **5. NF.4** – Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
* fraction **×** whole number
* fraction × fraction
* applied to area
1. Interpret the product () × *q* as *a* parts of a partition of *q* into *b* equal parts. *For example, use a visual fraction model to show () × 4 =* . *In general,* () × ( ) = .
2. 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.
* **5. NF.6** - Solve real world problems involving multiplication of fractions and mixed numbers by using visual fraction models or equations to represent the problem. (Use all **NF** Standards.)
* **5. NF.5** – Interpret multiplication as scaling (resizing).
1. 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.
2. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number; explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number.
* **5. NF.7** – Apply and extend previous understanding of division to divide *unit fractions* by whole numbers and whole numbers by *unit fractions*. **Note**: Division of a fraction by a fraction is not a requirement at grade 5.
* whole numbers/unit fractions or unit fractions/whole numbers
1. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.
2. Interpret division of a whole number by a unit fraction, and compute such quotients.
3. 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 models and equations to represent the problem.

**Represent and interpret data**.* **5. MD.2** – Make a line plot (using fractions) to display a data set of measurements in fractions of a unit - ½, ¼, ⅛. Use operations on fractions to solve problems using information from the line plots.

**Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.*** **5. MD.3** – Concepts of volume measurement – Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

**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.**b***.* A solid figure that can be packed without gaps or overlaps  using *n* unit cubes is said to have a volume of *n* cubic units.* **5. MD.4** – Measure volumes by counting *unit cubes*, using cubic cm, cubic in, cubic ft and improvised units.
* **5. MD.5** – Relate volume to the operations of multiplication and addition and solve real world problems involving volume.
1. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base.
2. Apply the formulas V = l × w × h and V = b × h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of real world and mathematical problems.
3. 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.

**Convert *like measurement units* within a given measurement system.*** **5. MD.1** - Convert among different-sized standard measurement units within a given (the same) measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions to solve multi-step real world problems.
 | Lesson 10- Add and Subtract FractionsLesson 11 – Add and Subtract Fractions Using word problems Lesson 13- Understand Products of FractionsLesson 14- Multiply Fractions using an area modelLesson 16 – Multiply Fractions in Word ProblemsLesson 15- Understand Multiplication as ScalingLesson 17- Understand Division with Unit FractionsLesson 23- Make Line Plots and Interpret DataLesson 24- Understand VolumeLesson 25 – Find Volume Using Unit CubesLesson 26 – Volume of composite figures.Lesson 21 – Convert Measurement UnitsLesson 22 – Solve word problems involving conversions | Teachers will use a variety of visible learning in the classroom every day. For example, teachers will use: classroom discussion, learning goals, planning and prediction, response to intervention, reciprocal teaching, interventions for students with learning needs, elaboration and organization, evaluate and reflection, and deliberate practice. |

**Neshoba Central Elementary School**

**5th Grade Math Pacing Guide for 4th Nine Weeks**

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| **Domain** | **Major Clusters/Common Core Standards** | **I Ready Alignment** | **Visible Learning** |
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| ***-Classify two-dimensional figures by sorting into different subcategories.*** | .**Convert *like measurement units* within a given measurement system.*** **5. MD.1** - Convert among different-sized standard measurement units within a given (the same) measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions to solve multi-step real world problems.

**Classify two-dimensional figures into categories based on their properties.*** **5.G.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.*
* **5. G.4** – Classify two-dimensional figures in a hierarchy based on properties.
 | Lesson 28 – Understand Coordinate PlaneLesson 29 – Graph Points in the Coordinate Plane Lesson 20 – Analyze Patterns and RelationshipsLesson 30 – Classify Two Dimensional FiguresLesson 31 – Understand Properties of Two Dimensional Figures | Teachers will use a variety of visible learning in the classroom every day. For example, teachers will use: classroom discussion, learning goals, planning and prediction, response to intervention, reciprocal teaching, interventions for students with learning needs, elaboration and organization, evaluate and reflection, and deliberate practice. |