## CURRICULUM ROAD MAP


MATH (K-8)

| K - 8th Grade |  | Mathematics Curriculum + Materials/Resources |  |
| :---: | :---: | :---: | :---: |
| K - Ist Grade | 2nd - 3rd Grade | 4th - 5th Grade | 6th - 8th Grade |
| Montessori Math Sequence presentations and follow-up works with autodidactic, hands-on materials for mastery-based learning <br> Daily Math Warm-Up (CCSS) incremental instruction and weekly practice for mastery-based learning <br> Freckle Math <br> online differentiated math levels for individual student growth <br> Fact Practice + Xtra Math <br> students master addition, subtraction, multiplication, and division facts <br> Beatles Math Songs <br> math facts, prime/composite numbers, areal perimeter/volume, angles, etc. | Montessori Math Sequence presentations and follow-up works with autodidactic, hands-on materials for mastery-based learning <br> Common Core Math Units <br> Weekly math lessons on a single Common Core math standard. Units include "I can" statements, follow-up work with manipulatives, task cards, and a formative assessment. <br> All grade-level standards are covered. <br> Spiral Math Levels <br> incremental instruction and weekly practice for mastery-based learning <br> Fact Practice + Xtra Math <br> students master addition, subtraction, multiplication, and division facts <br> Freckle Math or MAP Accelerator online differentiated math levels for individual student growth <br> Beatles Math Songs <br> math facts, prime/composite numbers, areal perimeter/volume, angles, etc. | Common Core Math Units <br> Weekly math lessons on a single Common Core math standard. Units include "I can" statements, follow-up work with manipulatives, task cards, and a formative assessment. <br> All grade-level standards are covered. <br> MAP Accelerator <br> online differentiated math levels for individual student growth <br> Montessori Math Materials <br> hands-on experiences for mastery-based learning <br> Spiral Math Levels incremental instruction and weekly practice for mastery-based learning <br> Fact Practice + Xtra Math <br> students master addition, subtraction, multiplication, and division facts <br> Beatles Math Songs <br> math facts, prime/composite numbers, areal perimeter/volume, angles, etc. | "Big Ideas" Math Curriculum <br> Common Big Ideas Math programs use a Universal Design for Learning to create a fun and innovative program that uses hands-on activities and scaffolded instruction. This allows for balanced lessons with built-in Learning targets and success criteria help to focus student learning and make learning visible to teachers and students. Explorations help students develop a growth mindset by engaging them in productive struggle, leading to conceptual understanding. With a strong emphasis on problem solving in the classroom, students can transfer their mathematical knowledge to new concepts and apply their understanding to reallife situations. <br> MAP Accelerator <br> online differentiated math levels for individual student growth <br> Algebra I Course <br> online course for advanced 8th graders, participating students receive high school credit |



OPERATIONS \& ALGEBRAIC THINKING
KINDERGARTEN MATH COMMON CORE STANDARDS

## NUMBER \& OPERATIONS IN BASE TEN

| CCSS Domain | Content Standard | Learning Activity and/or Montessori Material(s) | When? How Often? | Evaluation/Assessment |
| :---: | :---: | :---: | :---: | :---: |
| Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. <br> [K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5] | 1) Represent addition and subtraction with objects, fingers, or claps. | Addition Strip Board, table top rods, addition boxes with objects | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation O Formative Assessment O Standardized Assessment |
|  | 2) Represent addition and subtraction with drawings. | Spiral Math, explicit instruction, math groups | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> O Formative Assessment <br> O Standardized Assessment |
|  | 3) Represent addition and subtraction with equations. | Spiral Math, explicit instruction, math groups | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> O Formative Assessment <br> O Standardized Assessment |
|  | 4) Add within 10 by using objects or drawings. | Addition boxes unifix cubes snake game | O Fall O Winter O Spring <br> X Ongoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> O Standardized Assessment |
|  | 5) Subtract within 10 by using objects or drawings. | Math Grops Explicit instruction Subtraction Boxes | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> O Standardized Assessment |
|  | 6) Decompose numbers to 10 into pairs in more than one way. | Snake Game, red and blue tabletop rods | O Fall O Winter O Spring <br> x Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> O Standardized Assessment |
|  | 7) Find missing addends to make 10 by using objects or drawings. | Red and Blue Tabletop Rods, Subtraction Strip Board | O Fall O Winter O Spring <br> x Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> O Formative Assessment <br> O Standardized Assessment |
|  | 8) Fluently add and subtract within 5 . | Subtraction Boxes/addition boxes | O Fall O Winter O Spring <br> $\times$ Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> O Formative Assessment <br> O Standardized Assessment |
| Work with numbers 11-19 to gain foundations for place value. <br> [K.NBT.1] | 1) Combine a group of 10 objects with a group of up to 9 objects and write the number sentence. | Teen Board, hanging teens, ten frames | O Fall O Winter O Spring <br> x Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> O Formative Assessment <br> O Standardized Assessment |
|  | 2) Separate a group of 11 to 19 objects into 10 and ones, and write the number sentence. | Teen Board, hanging teens, ten frames | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> O Formative Assessment <br> O Standardized Assessment |
|  | 3) Write the missing number in a sentence that represents composition or decomposition of 11-19. <br> (i.e. $10+==14$ ) | Teen Board, Spiral Math | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> O Formative Assessment <br> O Standardized Assessment |

# WALDEN GREEN MONTESSORI <br> KINDERGARTEN MATH COMMON CORE STANDARDS 

CURRICULUM ROAD MAP
GEOMETRY
MEASUREMENT \& DATA

| CCSS Domain | Content Standard | Learning Activity andor Montessori Material(s) | When? How Often? | Evaluation/Assessment |
| :---: | :---: | :---: | :---: | :---: |
| Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). <br> [K.G.1, K.G.2, K.G.3] | 1) Identify squares, circles, triangles, rectangles, and hexagons. | Constructive Triangle Boxes | $\begin{aligned} & \text { O Fall O Winter O Spring } \\ & \text { X Ongoing Practice and Review } \\ & \text { O Other: } \end{aligned}$ | O Classroom Observation X Formative Assesment O Standardized Assessment |
|  | 2) Identify cubes, cones, cylinders, and spheres. | Geometric Solids | O Fall O Winter O Spring <br> X Ongoing Practice and Review O Other: | o Classroom Observation X Sormaitive Assessment O Standardized Assessment |
|  | 3) Describe relative positions of shapes using terms such as above, below, beside, in front of, behind, and next to. | Math Levels | O Fall O Winter O Spring X Ongoing Practice and Review O Other: | X Classroom Observation O Formative Assessment O Standardized Assessment |
|  | 4) Understand that a shape can have any orientation or size. | Pink Tower, Brown Stair, Knobless Cylinders | OFall O Winter O Spring XO noging Otheactice and Review | XClassroom Observation O Formative Assessment O Standardized Assessment |
|  | 5) Identify shapes as flat or solid. | Geometric Solids, Geometric Cabinet, spiral math | O Fall O Winter O Spring X Ongoing Practice and Review O Other: | X Classroom Observation X Formative Assessment O Standardized Assessment |
| Analyze, compare, create, and compose shapes. <br> [K.G.4, K.G.5] | 1) Analyze and compare two-dimensional shapes. | Geometric Cabinet | $\begin{aligned} & \text { O Fall O Winter O Spring } \\ & \text { X Ongoing Practice and Review } \\ & \text { O Other: } \end{aligned}$ | X Classrooon Observation OFormative Assessment O Standardized Assessment |
|  | 2) Analyze and compare threedimensional shapes. | Geometric Solids | O Fall O Winter O Spring $\times$ Ongoing Practice and Review O Other: | XClassroom Observation O Formative Assessment O Standardized Assessment |
|  | 3) Build simple models of flat shapes. | Constructive Triangles | O Fall O Winter O Spring X Ongoing Practice and Review O Other: | X Classrooon Observation OFormative Assessment O Standardized Assessment |
|  | 4) Draw simple two-dimensional shapes. | Metal Insets | O Fall O Winter O Spring XOngoing Practice and Review o other: | XClassroom Observation O Formative Assessment O Standardized Assessment |
|  | 5) Build simple models of solid shapes. | Binomial and Trinomial Cubes | $\begin{aligned} & \text { O Fall O Winter O Spring } \\ & \text { X Ongoing Practice and Review } \\ & \text { O Other: } \end{aligned}$ | X Classrooon Observation OFormative Assessment O Standardized Assessment |
|  | 6) Put simple flat shapes together to form larger shapes. | Constructive Triangles | O Fall O Winter O Spring <br> X Ongoing Practice and Review o Other: | X Classroom Observation O Formative Assessment O Standardized Assessment |
| Describe and compare measurable attributes. <br> [K.MD.1, K.MD.2] | 1) Describe measurable attributes of objects, such as length or weight. | Spiral Math | $\begin{aligned} & \text { O Fall O Winter O Spring } \\ & \text { X Ongoing Practice and Review } \\ & \text { O Other: } \end{aligned}$ | XClassroom Observation O Formative Assessment O Standardized Assessment |
|  | 2) Directly compare objects to see which is taller/shorter. | Red Rods | X Fall O Winter O Spring O Ongoing Practice and Review O Other: | XClassroom Observation O Formative Assessment O Standardized Assessment |
|  | 3) Directly compare objects to see which is longer/shorter. | Red Rods,Red/blue rods | X Fall O Winter O Spring Ongoing Practice and Review O Other: | XClassroom Observation O Formative Assessment O Standardized Assessment |
|  | 4) Directly compare objects to see which is heavier/lighter. | Math Levels, weights/measures | O Fall O Winter O Spring <br> $X$ Ongoing Practice and Review <br> O Other: | X Classroom Observation Formative Assessment O Standardized Assessment |
| Classify objects and count the number of objects in each category. <br> [K.MD.3] | 1) Given a group of mixed objects, classify objects into given categories. | Object Counting | O Fall O Winter O Spring <br> X Ongoing Practice and Review O Other: | X Classroom Observation O Formative Assessment O Standardized Assessment |
|  | 2) For a group of mixed objects, count objects in a given category. | Object Counting | O Fall O Winter O Spring $X$ Ongoing Practice and Review O Other: | X Classroom Observation O Formative Assessment O Standardized Assessment |
|  | 3) Tell which category has the most/least objects. | Object Counting | O Fall O Winter O Spring × Ongoing Practice and Review O Other: | XClassroom Observation O Formative Assessment O Standardized Assessment |
|  | 4) Given a group of mixed objects, sort the categories by count. | Object Counting | O Fall O Winter O Spring × Ongoing Practice and Review O Other: | X Classroom Observation O Formative Assessment O Standardized Assessment |


| WEEKS | SKILLS COVERED | ccss | TEKS |
| :---: | :---: | :---: | :---: |
| 1-3 | Number writing, adding to 8 and 9, number bonds, before/after, addition ( $+1,+2$ ) |  | $\begin{aligned} & \text { K.28 } \\ & \begin{array}{c} \text { K.22 } \\ \text { K.20 } \end{array} \end{aligned}$ |
| WEEKS | SKILLS COVERED | ccss | TEKS |
| 4-6 | Numbers to 10 : number writing, counting, quantity identification, ten frames, more/less |  | $\begin{aligned} & \text { K.2. } \\ & \text { K.2. } \\ & \text { K.20 } \\ & \text { K.2. } \end{aligned}$ |
| WEEKS | SKILLS COVERED | CCSS | TEKS |
| 7-9 | Numbers to 10 : number writing, counting, quantity identification ten frames, one and two more | К.СС.в. | $\begin{aligned} & \begin{array}{c} \text { K.2B } \\ k .2 C \\ k .20 \\ k .2 F \end{array} \end{aligned}$ |
| WEEKS | SKILLS COVERED | CCSS | TEKS |
| 10-12 | Number writing to 20, addition to 5, quantity identification, before/after, number words |  |  |
| WEEKS | SKILLS COVERED | CCSS | TEKS |
| 13-15 | Number writing, adding to 6 and 7, ordering numbers, before/after skip counting by 10 s |  |  |


| WEEKS | SKILLS COVERED | CCSS | TEKS |
| :---: | :---: | :---: | :---: |
| 16-18 | Date, addition with pictures, number bonds, before/after, addition fact fluency | K.CC.A2. <br> K.C.C.A. <br> K.C.A. <br> K.A. <br> K.A.A. <br> K.OA. | $\begin{aligned} & \text { K. } 2 \mathrm{BE} \\ & \mathrm{~K} .2 \mathrm{~F} \\ & \mathrm{~K} .21 \\ & \mathrm{~K} .5 \end{aligned}$ |
| WEEKS | SKILLS COVERED | CCSS | TEKS |
| 19-21 | Date, addition with pictures, number bonds, counting back, heavier/lighter | $\begin{aligned} & \text { K.CC.A2 } \\ & \text { K.CC.A.I } \\ & \text { K.C.A. } \\ & \text { K.OA.A.I } \\ & \text { K.OA.A. } \\ & \text { K.MD.A.2 } \end{aligned}$ | $\begin{aligned} & \mathrm{K} .2 \mathrm{BB} \\ & \mathrm{~K} .2 \mathrm{~F} \\ & \text { K.21 } \\ & \mathrm{K} .5 \\ & \mathrm{~K} .7 \mathrm{~A} \end{aligned}$ |
| WEEKS | SKILLS COVERED | CCSS | TEKS |
| 22-24 | Date, ten frames (teens), tallies, shapes, number bonds | K.NBT.A. <br> K.CC.A. 5 <br> K.OA.A. 3 <br> K.G.A. 2 | $\begin{aligned} & \mathrm{K} .2 \mathrm{~A} \\ & 1.2 \mathrm{~B} \\ & \mathrm{~K} .2 \mathrm{C} \\ & \mathrm{~K} .21 \\ & \mathrm{~K} .6 \mathrm{~A} \end{aligned}$ |
| WEEKS | SKILLS COVERED | CCSS | TEKS |
| 25-27 | Date, subtraction, ten partners, shapes, number patterns | K.OA.A.I <br> K.CC.A. 4 <br> K.OA.A. 2 <br> K.G.A. 2 <br> K.G.A. 4 <br> K.CC.A.1-2 | $\begin{aligned} & \mathrm{K} .3 \mathrm{~A} \\ & \mathrm{K.21} \\ & \mathrm{K.6D} \\ & \mathrm{K.5} \end{aligned}$ |
| WEEKS | SKILLS COVERED | CCSS | TEKS |
| 28-30 | Date, addition stories, measurement, coin identification, greater than/less than | K.OA.A. 2 K.MD.A. 2 CC.A. 7 | $\begin{aligned} & \text { K.3B } \\ & \text { K.7B } \\ & \text { K.4 } \\ & \text { K.2H } \end{aligned}$ |


| WEEKS | SKILLS COVERED | CCSS | TEKS |
| :---: | :---: | :---: | :---: |
| 31-33 | Date, ten partners addition and subtraction, subtraction number stories, addition fact fluency |  | $\begin{aligned} & \text { K.2 } \\ & \text { K.3A } \\ & k .3 B \end{aligned}$ |
| WEEKS | SKILLS COVERED | CCSS | TEKS |
| 34-36 | Date, ten to teen, geometry, subtraction fact fluency |  |  |


| WALDEN GREEN MONTESSORI |  | CURRICULUM ROAD MAP |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 1ST GRADE MATH COMMON CORE STANDARDS |  | OPERATIONS \& ALGEBRAIC THINKING |  |  |
| CCSS Domain | Content Standard | Learning Activity and/or Montessori Material(s) | When? How Often? | Evaluation/Assessment |
| Represent and solve problems involving addition and subtraction.[1.OA.1, 1.OA.2] | 1) Add and subtract within 20 to solve word problems about combining or separating. | Addition and Subtraction, Strip Boards, Finger Boards, Boxes | O Fall O Winter O Spring XOngoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 2) Add and subtract within 20 to solve word problems about comparing. | Spiral Math, Comparing Bead Bars | O Fall O Winter O Spring <br> X Ongoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 3) Use objects or drawings to represent word problems. | Spiral Math, Freckle | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | O Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 4) Use equations to represent word problems. | Spiral Math, Freckle | O Fall X Winter X Spring <br> O Ongoing Practice and Review O Other: | O Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 5) Add three numbers with sums to 20 to solve word problems. | Snake Game, Bead Bars, Spiral Math, Freckle | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | O Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
| Understand and apply properties of operations and the relationship between addition and subtraction. <br> [1.OA.3, 1.OA.4] | 1) Apply the commutative property for addition. | Addition Strip Board, Spiral Math, Bead Bars, Freckle | O Fall O Winter O Spring <br> x Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 2) Apply the associative property when adding three numbers. | Bead Bars, Spiral Math, Number Line, 100 Board, Freckle | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 3) Relate subtraction to finding a missing addend. | Red and Blue Rods, Bead Bars, Ten Frames, Spiral Math | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
| Add and subtract within 20. <br> [1.OA.5, 1.OA.6] | 1) Relate counting on or back to adding or subtracting 1 or 2. | Tabletop Rods, Bead Bars, Number Lines, 100 Board | X Fall O Winter O Spring <br> O Ongoing Practice and Review <br> O Other: | O Classroom Observation <br> X Formative Assessment <br> O Standardized Assessment |
|  | 2) Relate counting on or back to adding or subtracting 3 . | Tabletop Rods, Bead Bars, Number Lines, 100 Board | X Fall O Winter O Spring <br> O Ongoing Practice and Review O Other: | O Classroom Observation <br> X Formative Assessment <br> O Standardized Assessment |
|  | 3) Add fluently within 10. | Bead Bars, Spiral Math, Finger Boards, Freckle | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | O Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 4) Subtract fluently within 10. | Bead Bars, Spiral Math, Finger Boards, Freckle | O Fall O Winter O Spring <br> X Ongoing Practice and Review O Other: | O Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 5) Find sums greater than 10 by decomposing to make 10. | Snake Game, Golden Beads, Stamp Game | O Fall $\times$ Winter $\times$ Spring <br> O Ongoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 6) Subtract from numbers greater than 10 by decomposing to make 10 . | Snake Game, Golden Beads, 100 Board | O Fall X Winter X Spring <br> O Ongoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 7) Subtract by recalling addition facts. | Bead Bars, Spiral Math | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 8) Add within 20 (using various strategies). | Addition Strip Board, 100 Board, Number Lines | O Fall O Winter O Spring <br> x Ongoing Practice and Review <br> O Other: | O Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 9) Subtract within 20 (using various strategies). | 100 Board, Number Lines | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | O Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
| Work with addition and subtraction equations.[1.OA.7, 1.0A.8] | 1) Determine if equations involving addition and/or subtraction are true or false. | Spiral Math, Bead Bars, Finger Boards | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 2) Find a missing number in an addition equation. | Snake Game, Red and Blue Rods, Ten Frames, Spiral Math | O Fall O Winter O Spring <br> x Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 3) Find a missing number in a subtraction equation. | Snake Game, Red and Blue Rods, Number Lines, Spiral Math | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |


| CCSS Domain | Content Standard | Learning Activity and/or Montessori Material(s) | When? How Often? | Evaluation/Assessment |
| :---: | :---: | :---: | :---: | :---: |
| Extend the counting sequence. <br> [1.NBT.1] | 1) Count to 120, starting at any number less than 120. | Number Lines, Spiral Math, Freckle | O Fall O Winter O Spring <br> x Ongoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 2) Read and write numbers to 120 . | Number of the Day, Spiral Math, Golden Beads | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 3) Represent a number of objects to 120 with a written numeral. | Number of the Day, Spiral Math, Golden Beads | O Fall O Winter O Spring <br> X Ongoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
| Understand place value. <br> [1.NBT.2, 1.NBT.3] | 1) Understand that the two digits of a twodigit number represent amounts of tens and ones. | Golden Beads, Spiral Math, Freckle | O Fall O Winter O Spring <br> X Ongoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 2) Understand how to represent numbers from 11 to 19 as a 10 and ones. | Golden Beads, Spiral Math, Freckle | O Fall O Winter O Spring <br> X Ongoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 3) Understand that $10,20,30,40,50,60$, $70,80,90$ refer to tens with no ones. | Golden Beads, Ten Board, 100 Board | O Fall O Winter O Spring <br> X Ongoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 4) Compare numbers to 20 using the symbols >, $=$, and <. | Montessori Math Levels, Spiral Math, Freckle | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | O Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 5) Compare two 2 -digit numbers using the symbols >, =, and <. | Montessori Math Levels, Spiral Math, Freckle | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | O Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
| Use place value understanding and properties of operations to add and subtract. <br> [1.NBT.4, 1.NBT.5, 1.NBT.6] | 1) Add within 100 using models or drawings. | 100 Board, Golden Beads, Stamp Game | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 2) Add a two-digit number and a one-digit number. | 100 Board, Golden Beads, Stamp Game | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 3) Add a two-digit number and a multiple of 10 . | 100 Board, Golden Beads, Stamp Game | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 4) Add two two-digit numbers, with or without composing a ten. | Golden Beads, Stamp Game | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 5) Mentally find 10 more or 10 less than any two-digit number. | Golden Beads, Stamp Game, Number of the Day, Spiral Math 100 Board | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 6) Subtract with multiples of 10 using models or drawings. | Golden Beads, Stamp Game, Number of the Day, Spiral Math, 100 Board | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 7) Subtract with multiples of 10 using place value. | Golden Beads, Stamp Game, Number of the Day, Spiral Math, 100 Board | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 8) Subtract with multiples of 10 by relating to addition. | Golden Beads, Stamp Game, Number of the Day, Spiral Math, 100 | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |

1ST GRADE MATH COMMON CORE STANDARDS
MEASUREMENT \& DATA

| CCSS Domain | Content Standard | Learning Activity and/or Montessori Material(s) | When? How Often? | Evaluation/Assessment |
| :---: | :---: | :---: | :---: | :---: |
| Reason with shapes and their attributes. <br> [1.G.1, 1.G.2, 1.G.3] | 1) Sort shapes by a defining attribute such as the number of sides. | Geometric Cabinet, Sorting Shape Cards, Spiral Math | O Fall X Winter $\times$ Spring <br> O Ongoing Practice and Review 0 Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 2) Draw shapes with a given defining attribute. | Geometric Cabinet, Metal Insets, Spiral Math | O Fall X Winter X Spring <br> O Ongoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 3) Combine 2 D shapes (rectangles, squares, trapezoids, triangles, half-circles, and quartercircles) to create a composite shape | Constructive Triangle Boxes, Spiral Math | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 4) Combine $3 D$ shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape. | Geometric Solids, Spiral Math | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 5) Partition circles and rectangles into two and four equal shares. | Fraction Circles/Insets, Spiral Math | O Fall $X$ Winter $X$ Spring <br> O Ongoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 6) Describe shares of wholes using the words halves, fourths, and quarters. | Fractions Circles/Insets, Spiral Math | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
| Measure lengths indirectly and by iterating length units. <br> [1.MD.1, 1.MD.2] | 1) Order three objects by length. | Red Rods, Spiral Math | O Fall O Winter O Spring X Ongoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 2) Compare the lengths of two objects indirectly by using a third object. | Red Rods, Spiral Math | O Fall O Winter O Spring <br> X Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 3) Repeat a short object end-to-end to measure a longer object. | Red Rods, Spiral Math, Classroom objects | O Fall O Winter $X$ Spring <br> O Ongoing Practice and Review O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 4) When measuring, know that there cannot be gaps or overlaps. | Red Rods, Classroom objects | O Fall O Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
| Tell and write time.[1.MD.3] | 1) Tell and write time in hours using analog clocks. | Clock Work Materials, Spiral Math | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 2) Tell and write time in half-hours using analog clocks. | Clock Work Materials and Lessons w/ Bead Bars, Spiral Math | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 3) Tell and write time in hours and halfhours using digital clocks. | Clock Work Materials and Lessons, Spiral Math | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
| Represent and interpret data.[1.MD.4] | 1) Organize and represent data with up to three categories. | Spiral Math, Freckle, Classroom Shelf Work | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |
|  | 2) Interpret data with up to three categories. | Spiral Math, Freckle, Classroom Shelf Work | O Fall X Winter X Spring <br> O Ongoing Practice and Review <br> O Other: | X Classroom Observation <br> X Formative Assessment <br> X Standardized Assessment |



| Walden Green Montessori + Math Pacing Guide |  |  |  |
| :---: | :---: | :---: | :---: |
| 2ND Grade |  | 3RD Grade |  |
| CYCLE | FOCUS (+ Montessori level, Freckle/Map-a, Spiral, FAct Practice) | CYCLE | FOCUS (+ Montessori level, Freckle/map-a, Spiral, Fact Practice) |
| First 2 Weeks | Using Spiral Data, place students in 4 Montessori Math Groups Students work on each level for 2 weeks before advancing | First 2 Weeks | Using Spiral Data, place students in 4 Montessori Math Groups Students work on each level for 2 weeks before advancing |
|  | 2.NBT. I - Place Value |  | 3.NBT. I - Rounding Whole Numbers |
| 1.1 | 2.NBT. 2 - Counting \& SKIP Counting | 1.1 | 3.NBT. 2 - Adding \& Subtracting |
| 1.2 | 2.NBT. 3 - Reading \& Writing Numbers to 1000 | 1.2 | 3.NBT. 3 - Multiply by Multiples of 10 |
| 1.3 | 2.NBT. 4 - Comparing Numbers | 1.3 | Review and Test of NBT Domain |
| 1.4 | 2.NBT. 5 - Adding and Subtracting Whole Numbers | 1.4 | 3.OA. I - Interpret Multiplication Products |
| 1.5 | 2.NBT. 6 - Adding Two-Digit Numbers | 1.5 | 3.OA. 2 - Equal Groups Division |
| 1.6 | 2.NBT.7-Adding and Subtracting Within 1000 | 1.6 | 3.OA. 3 - Multiplication \& Division Strategies \& Word Problems |
| 1.7 | 2.NBT. 8 - Mentally Add and Subtract I00 or IO | 1.7 | 3.OA.4 - Multiplication and Division Equations |
| 1.8 | 2.NBT. 9 - Explain Addition and Subtraction Strategies | 1.8 | 3.OA. 5 - Properties of Operations |
| 2.1 | Review and Test of NBT Domain | 2.1 | 3.OA. 6 - Division as an Unknown-Factor Problem |
| 2.2 | 2.OA. I - Addition and Subtraction Word Problems | 2.2 | 3.OA.7-Multiply and Divide within 100 |
| 2.3 | 2.OA. 2 - Adding and Subtracting Within 20 | 2.3 | 3.OA. 8 - Two-Step Word Problems, Equations \& Estimation |
| 2.4 | 2.OA. 3 - Even and Odd Numbers | 2.4 | 3.OA. 9 - Arithmetic Patterns |
| 2.5 | 2.OA. 4 - Arrays \& Repeated Addition | 2.5 | Review and Test of OA Domain |
| 2.6 | Review and Test of OA Domain | 2.6 | 3.NF.I - EQUAL PARTS, FRACTIONS |
| 2.7 | 2.MD.I - Measuring Lengths | 2.7 | 3.NF. 2 - Fractions on Number Lines |
| 2.8 | 2.MD. 2 - Different Measurement Units | 2.8 | 3.NF. 3 - Equivalent Fractions \& Comparing Fractions |
| 3.1 | 2.MD. 3 - Estimate Lengths (IN., FT., CM, \& M) | 3.1 | Review and Test of Fractions Domain |
| 3.2 | 2.MD. 4 - Differences in Lengths | 3.2 | 3.MD. I - Telling Time to the Minute \& Elapsed Time |
| 3.3 | 2.MD. 5 - Word Problems Involving Length | 3.3 | 3.MD. 2 -Volume \& MAss |
| 3.4 | 2.MD. 6 - Number Lines | 3.4 | 3.MD. 3 - Bar Graphs \& (Picture) Pictographs |
| 3.5 | 2.MD. 7 - TIME | 3.5 | 3.MD. 4 - Measurement \& Line Plots |
| 3.6 | 2.MD. 8 - MONEY | 3.6 | 3.MD. 5 - Recognize Area \& Unit Squares |
| 3.7 | 2.MD. 9 - Line Plots | 3.7 | 3.MD. 6 - Measure Areas Using Unit Squares |
| 3.8 | 2.MD. 10 - Picture Graphs and Bar Graphs | 3.8 | 3.MD. 7 - Area: Multiplication, Addition \& Tiling |
| ACE Term: Week I | Review and Test of Measurement and Data Domain | ACE Term: Week I | 3.MD. 8 - Perimeter of Polygons |
| ACE Term: Week 2 | 2.G.I - SHAPES | ACE Term: Week 2 | Review and Test of Measurement and Data Domain |
| ACE Term: Week 3 | 2.G.2-Partition Rectangles | ACE Term: Week 3 | 3.G.I - Identify \& Classify Shapes |
| ACE Term: Week 4 | 2.G.3-Fractions \& Equal Shares | ACE Term: Week 4 | 3.G.2 - Partition Shapes |
| ACE Term: Week 5-6 | Review and Test of Geometry Domain | ACE Term: Week 5-6 | Review and Test of Geometry Domain |


| LEVEL | COMMON CORE STANDARD | SPIRAL CURRICULUM ALIGNMENT <br> $\sim$ |
| :---: | :---: | :--- |
| I.I 2ND YEAR MATH ~ |  |  |


|  |  | Spiral Curriculum Alignment <br> ~ 3RD Year Math ~ |
| :---: | :---: | :---: |
| LEVEL | Common Core Standard | New Skill (in combination With all other previous skills) |
| 1.1 | 3.NBT.A.I | ROUNDING TO THE NEAREST 10 AND 100 |
| 1.2 | 3.NBT.A. 2 | ADDING AND SUBTRACTING NUMBERS TO I,000 USING DIFFERENT STRATEGIES |
| 1.3 | 3.NBT.A. 2 | ADDITION AND SUBTRACTION PRACTICE (CONTINUED) |
| 1.4 | 3.NBT.A. 3 | MULTIPLICATIONWITH MULTIPLIES OF 10 |
| 1.5 | 3.OA.A.I | MULTIPLICATION STRATEGIES |
| 1.6 | 3.OA.A.I, 3.OA.A. 2 | MULTIPLICATION AND DIVISION STRATEGIES |
| 1.7 | 3.OA.A. 3 | PROBLEM SOLVING WITH MULTIPLICATION AND DIVISION |
| 1.8 | 3.OA.A.4, 3.OA.A. 6 | FINDING THE UNKNOWN NUMBER |
| 2.1 | 3.OA.A.I, 3.OA.A. 2 | MULTIPLICATION AND DIVISION (EXTRA PRACTICE) |
| 2.2 | 3.OA.D. 8 | MULTI-STEP PROBLEM SOLVING |
| 2.3 | 3.OA.D. 8 | MULTI-STEP PROBLEM SOLVING (MORE PRACTICE) |
| 2.4 | 3.MD.C.5(A,B), 3.MD.C. 6 | AREA OFA RECTANGLE (COUNTING SQUARE UNITS) |
| 2.5 | 3.MD.C.7(A,B) | AREA OF A RECTANGLE (USING MULTIPLICATION) |
| 2.6 | 3.MD.D. 8 | AREA OFA RECTANGLE (PROBLEM SOLVING) |
| 2.7 | 3.MD.C.7.D | AREA OFTWO RECTANGULAR FIGURES |
| 2.8 | 3.MD.B. 3 | DATA AND GRAPHS (PICTURE GRAPHS) |
| 2.9 | 3.MD.B. 3 | DATA AND GRAPHS (BAR GRAPHS) |
| 3.1 | 3.G.A.I | CLASSIFYING SHAPES |
| 3.2 | 3.G.A. 2 | PARTITION SHAPES AND NAME FRACTIONS |
| 3.3 | 3.NF.A.I, 3.NF.A.2(A,B) | FRACTIONS ON A NUMBER LINE |
| 3.4 | 3.NF.A.I, 3.NF.A.2(A,B) | PROBLEM SOLVING WITH FRACTIONS USING A NUMBER LINE |
| 3.5 | 3.NF.A. 3 (A,B) | IDENTIFY EQUIVALENT FRACTIONS |
| 3.6 | 3.NF.A. 3 (A,B) | EQUIVALENT FRACTIONS (CONTINUED) |
| 3.7 | 3.NF.A.3.C | WHOLE NUMBERSAS FRACTIONS |
| 3.8 | 3.NF.A.3.D | COMPARING FRACTIONSWITH SAME DENOMINATOR OR NUMERATOR |
| 3.9 | 3.NF.A.3.D | COMPARING FRACTIONS PROBLEM SOLVING |
| 4.1 | 3.MD.A.I | ELAPSED TIME |
| 4.2 | 3.MD.A.I | ELAPSED TIME PROBLEM SOLVING |
| 4.3 | 3.MD.A. 2 | MEASURING LIQUIDVOLUME AND MASS (INCLUDES PROBLEM SOLVING) |
| 4.4 | 3.MD.D. 8 | FINDING THE PERIMETER (W/ UNKNOWN SIDES) |
| 4.5 | 3.MD.B. 4 | MEASUREMENT OF LENGTH; LINE PLOTS |

Walden Green Montessori + Math Pacing Guide

4TH Grade

## CYCLE

First 2 Weeks

| I.I |
| :--- |
| I .2 |
| I .3 |
| I .4 |
| I .5 |
| I .6 |
| 1.7 |
| 1.8 |
| 2.1 |
| 2.2 |
| 2.3 |
| 2.4 |
| 2.5 |
| 2.6 |
| 2.7 |
| 2.8 |
| 3.1 |
| 3.2 |
| 3.3 |
| 3.4 |
| 3.5 |
| 3.6 |
| 3.7 |
| 3.8 |
| A |

ACE Term: Week I
ACE Term: Week 2
ACE Term: Week 3
ACE Term: Week 4
ACE Term: Week 5-6

FOCUS (+ MONTESSORI LEVEL, MAP-A, WEEKLY SPIRAL, FACT PRACTICE) Using Spiral Data, place students in 4 Montessori Math Groups Students work on each level for 2 weeks before advancing

| USING SPIRAL DATA, PLACE STUDENTS IN 4 Montessori math Grour Students work on each level for 2 WEEKS berore advancin | First 2 Weeks |
| :---: | :---: |
| 4.NBT.I - Place Value |  |
| 4.NBT. 2 - Reading,Writing, and Comparing Numbers | 1.1 |
| 4.NBT. 3 - Rounding | 1.2 |

## 5th Grade

| Focus (+ Montessori Level, MAP-A,Weekly Spiral, fact Practice) |
| :---: |
| Using Spiral Data, place students in 4 Montessori Math Groups Students work on each level for 2 weeks before advancing |
| 5.NBT.I - Place Value |
| 5.NBT.2-Multiplying and Dividing by Powers of 10 |
| 5.NBT. 3 - Read, Write and Compare Decimals |
| 5.NBT. 4 - Rounding Decimals |
| 5.NBT. 5 - Multiplying Whole Numbers |
| 5.NBT. 6 - Dividing Whole Numbers |
| 5.NBT. 7 - Add, SUBTRACt, Multiply \& Divide Decimals |
| Review and Test of NBT Domain |
| 5.OA.I - Order of Operations |
| 5.OA. 2 - NUMERICAL EXPRESSIONS |
| 5.OA. 3 - Numerical Patterns, Ordered Pairs \& Graphing |
| Review and Test of OA Domain |
| 5.NF.I - Adding and Subtracting Fractions |
| 5.NF. 2 - Adding \& Subtracting Fractions Word Problems |
| 5.NF. 3 - Fractions as Division |
| 5.NF. 4 - Multiplying Fractions |
| 5.NF. 5 - Multiplication as Scaling |
| 5.NF.6-Fraction Word Problems |
| 5.NF. 7 - Dividing Fractions |
| Review and Test of NF Domain |
| 5.MD.I - Measurement Conversions |
| 5.MD. 2 - LINE PLOTS |
| 5.MD.3/4 -Volume |
| 5.MD. 5 -Volume Word Problems |
| Review and Test of Measurement and Data Domain |
| 5.G.I - Coordinate Graphing |
| 5.G.2-Graphing Real-World Problems |
| 5.G.3-Identify \& Classify Shapes |
| 5.G.4-Classifying Two-Dimensional Shapes |
| Review and Test of Geometry Domain |

Common Core State Standards for

| Standard Code | Standard | Grade 6 |
| :---: | :---: | :---: |
| Ratios and Proportional Relationships |  |  |
| 6.RP.A. 1 | Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. | $\begin{aligned} & \hline 3.1,3.2,3.3,3.4,3.5, \\ & 3.6,4.4 \\ & \hline \end{aligned}$ |
| 6.RP.A. 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. | 3.5, 3.6 |
| 6.RP.A. 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. | $\begin{aligned} & \text { 3.1, 3.2, 3.3, 3.4, 3.5, } \\ & 3.6,4.4,6.4 \end{aligned}$ |
|  | a. Make tables of equivalent ratios relating quantities with wholenumber measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. | $\begin{aligned} & \hline 3.3,3.4, ~ 3.5, ~ 3.6, ~ 4.4, \\ & 6.4 \end{aligned}$ |
|  | b. Solve unit rate problems including those involving unit pricing and constant speed. | 3.5, 3.6 |
|  | 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. | 4.4 |
|  | d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. | 3.6, 7.1, 7.7 |
| The Number System |  |  |
| 6.NS.A. 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. | 2.2, 2.3 |
| 6.NS.B. 2 | Fluently divide multi-digit numbers using the standard algorithm. | 2.6, 2.7, 7.1, 7.3, 7.7 |
| 6.NS.B. 3 | Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. | $\begin{aligned} & \text { 2.4, 2.5, 2.7, 5.3, 6.2, } \\ & \text { 7.6, 8.8, 9.2, 9.3 } \end{aligned}$ |
| 6.NS.B. 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. | 1.4, 1.5, 5.5 |
| 6.NS.C. 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. | $\begin{aligned} & \text { 8.1, 8.2, 8.3, 8.4, 8.5, } \\ & \text { 8.7, 8.8 } \end{aligned}$ |

Boldface indicates a lesson in which the standard is a primary focus.

Common Core State Standards for
Mathematical Content Correlated to Grade 6

| Standard | Standard | Grade 6 |
| :---: | :---: | :---: |
|  | Evaluate expressions at specific values of their variables. Include Perform arithmetice from formulas used those involving wholenumber exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). | $\begin{aligned} & 5.1,5.2,5.3,5.4,6.1, \\ & 6.2,6.3,6.4,7.1,7.2, \\ & 7.3,7.5,7.7,8.7,8.8 \end{aligned}$ |
| 6.EE.A. 3 | Apply the properties of operations to generate equivalent expressions. | 5.3, 5.4, 5.5 |
| 6.EE.A. 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). | 5.3, 5.4, 5.5 |
| 6.E.E. 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. | $\begin{aligned} & \text { 6.1, 6.2, 6.3, 6.4, 7.1, } \\ & 7.2,7.3,7.7,8.7,8.8 \end{aligned}$ |
| 6.EE.B. 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. | $\begin{aligned} & \text { 6.1, 6.2, 6.3, 6.4, 7.1, }, \\ & 7.2,7.3,7.5,7.7,8.7, \\ & 8.8 \end{aligned}$ |
| 6.EE.B. 7 | Solve real-world and mathematical problems by writing and solving equations of the form $x+p=q$ and $p x=q$ for cases in which $p, q$ and $x$ are all non-negative rational numbers. | $\begin{aligned} & \begin{array}{l} 6.1,6.2,6.3, ~ 6.4, ~ 7.1, ~ \\ 7.2,7.7 \end{array} \end{aligned}$ |
| 6.EE.B. 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. | 8.7, 8.8 |
| 6.EE.C. 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. | 6.4 |
| Geometry |  |  |
| 6.G.A. 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. | $\begin{aligned} & \text { 7.1, 7.2, 7.3, 7.5, 7.6, } \\ & 8.6 \end{aligned}$ |
| 6.G.A. 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 $V=I w h$ 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. | 7.7 |

Common Core State Standards for

| Standard Code | Standard | Grade 7 |
| :---: | :---: | :---: |
| Ratios and Proportional Relationships |  |  |
| 7.RP.A. 1 | Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. | 5.1, 5.2, 5.3, 5.5 |
| 7.RP.A. 2 | Recognize and represent proportional relationships between quantities. |  |
|  | a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. | 5.3, 5.5 |
|  | b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. | 5.2, 5.3, 5.5 |
|  | c. Represent proportional relationships by equations. | 5.5 |
|  | d. Explain what a point $(x, y)$ on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0,0)$ and $(1, r)$ where $r$ is the unit rate. | 5.5 |
| 7.RP.A. 3 | Use proportional relationships to solve multistep ratio and percent problems. | 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 6.2, 6.3, 6.4, 6.5, 6.6, 8.1, 8.2, 9.3, 10.2 10.5, 10.6 |
| The Number System |  |  |
| 7.N. . A. 1 | Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on horizontal or vertical number line diagram. |  |
|  | a. Describe situations in which opposite quantities combine to make 0 . | 1.2, 1.3 |
|  |  | 1.2, 1.3, 1.4, 1.5 |
|  | Understand subtraction of rational numbers as adding the additive inverse, $p-q=p+(-q)$. Show that the distance between two rational numbers on the number line is the absolute value difference, and apply this principle in real-world contexts. | 1.4, 1.5 |
|  | d. Apply properties of operations as strategies to add and subtract rational numbers. | 1.2, 1.3, 1.4, 1.5 |

Boldface indicates a lesson in which the standard is a primary focus.

[^0]Common Core State Standards for

| Standard | Standard | Grade 7 |
| :---: | :---: | :---: |
|  | b. Solve word problems leading to inequalities of the form $p x+q>r$ or $p x+q<r$, where $p, q$, and $r$ are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. | 4.4, 4.5, 4.6, 4.7 |
| Geometry |  |  |
| 7.G.A. 1 | Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. | 5.6, 9.4, 10.3 |
| 7.G.A. 2 | Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle. | 9.4 |
| 7.G.A. 3 | Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids. | 10.6 |
| 7.G.B. 4 | Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle. | 9.1, 9.2, 9.3 |
| 7.G.B. 5 | Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. | 9.5 |
| 7.G.B. 6 | Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. | $\begin{array}{\|l\|} \hline 9.3, ~ 10.1, ~ 10.3, ~ 10.4, ~ \\ 10.5 \end{array}$ |
| Statistics and Probability |  |  |
| 7.SP.A. 1 | Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences $\qquad$ | 8.1, 8.2, 8.4 |
| 7.SP.A. 2 | Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. | 8.1, 8.2, 8.4 |
| 7.SP.B. 3 | Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. | 8.3 |
| 7.SP.B. 4 | Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. | 8.4 |

Boldface indicates a lesson in which the standard is a primary focus.
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## Mathematical Content Correlated to Grade 7

| Standard Code | Standard | Grade 7 |
| :---: | :---: | :---: |
| 7.SP.C. 5 | Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around $1 / 2$ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. | 7.1, 7.2, 7.3, 7.4 |
| 7.SP.C. 6 | Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. | 7.1, 7.2 |
| 7.SP.C. 7 | Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. |  |
|  | a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. | 7.2, 7.3 |
|  | b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. | 7.1, 7.2 |
| 7.SP.C. 8 | Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. |  |
|  | a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. | 7.3, 7.4 |
|  | b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event. | 7.3 |
|  | c. Design and use a simulation to generate frequencies for compound events. | 7.4 |

Common Core State Standards for

| Standard Code | Standard | Grade 8 |
| :---: | :---: | :---: |
| The Number System |  |  |
| 8.NS.A. 1 | Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number. | 9.4, 9.5 |
| 8.NS.A. 2 | Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $\pi^{2}$ ). | 9.5 |
| Expressions and Equations |  |  |
| 8.EE.A. 1 | Know and apply the properties of integer exponents to generate equivalent numerical expressions. | $\begin{aligned} & 8.2,8.3,8.4,8.5, \\ & 8.6,8.7 \end{aligned}$ |
| 8.EE.A. 2 | Use square root and cube root symbols to represent solutions to equations of the form $x^{2}=p$ and $x^{3}=p$, where $p$ is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational. | $\begin{array}{\|l} \hline 9.1,9.2,9.3,9.5, \\ 9.6,10.1,10.2, \\ 10.3 \end{array}$ |
| 8.EE.A. 3 | Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. | 8.5, 8.6, 8.7 |
| 8.EE.A. 4 | Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology. | 8.5, 8.6, 8.7 |
| 8.EE.B. 5 | Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. | 4.3, 7.2, 7.3 |
| 8.EE.B. 6 | Use similar triangles to explain why the slope $m$ is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y=m x$ for a line through the origin and the equation $y=m x+b$ for a line intercepting the vertical axis at $b$. | 4.2, 4.3, 4.4 |

Boldface indicates a lesson in which the standard is a primary focus.

Common Core State Standards for

| Standard Code | Standard | Grade 8 |
| :---: | :---: | :---: |
| 8.F.B. 4 | Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two $(x, y)$ values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values. | $\begin{aligned} & \text { 4.6, 4.7, 5.1, 5.2, } \\ & 5.3,5.4,6.2,7.2, \\ & \text { 7.3, 7.4 } \end{aligned}$ |
| 8.F.B. 5 | Describe qualitatively the functional relationship between tw quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally. | 7.5 |
| Geometry |  |  |
| 8.G.A. 1 | Verify experimentally the properties of rotations, reflections, and translations: |  |
|  | a. Lines are taken to lines, and line segments to line segments of the same length. | $\begin{array}{\|l\|l\|l\|} \hline 2.1, ~ 2.2, ~ 2.3, ~ 2.4, ~ \\ 3.1 \end{array}$ |
|  | b. Angles are taken to angles of the same measure. | $\begin{aligned} & \hline 2.1,2.2,2.3,2.4, \\ & 3.1 \end{aligned}$ |
|  | c. Parallel lines are taken to parallel lines. | $\begin{array}{\|l} \hline 2.1,2.2,2.3,2.4, \\ 3.1 \end{array}$ |
| 8.G.A. 2 | Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them. | 2.4, 2.6 |
| 8.G.A. 3 | Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates | $\begin{aligned} & \text { 2.1, 2.2, 2.3, 2.4, } \\ & 2.5,2.6 \\ & \hline \end{aligned}$ |
| 8.G.A. 4 | Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that <br> exhibits the similarity between them. | 2.6, 3.4, 4.2 |

Boldface indicates a lesson in which the standard is a primary focus.


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