



Mathematics 1

Diocese of Greensburg Curriculum

Unit	Standards	Content	Skills
<p>Number Concepts</p>	<p>CCSS: Mathematics CCSS: Grade 1</p> <hr/> <p>Number & Operations in Base Ten 1.NBT.A. Extend the counting sequence.</p> <p>1.NBT.A.1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.</p> <p>1.NBT.B. Understand place value.</p> <p>1.NBT.B.2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:</p> <p>1.NBT.B.2a. 10 can be thought of as a bundle of ten ones — called a “ten.”</p> <p>1.NBT.B.2b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.</p> <p>1.NBT.B.2c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).</p> <p>1.NBT.B.3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.</p> <p>Mathematical Practice MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.</p>	<ul style="list-style-type: none">• Number recognition 1-120• Counting 1-120<ul style="list-style-type: none">◦ Oral counting up to 120• Number words• Comparing numbers• Ordinal Numbers• Estimation• Vocabulary (See Attachment) <p>Grade 1 Vocabulary.docx</p>	<p>The students will be able to: Number recognition 1-120</p> <ul style="list-style-type: none">• Write and identify numbers in and out of sequence <p>Counting 1-120</p> <ul style="list-style-type: none">• Count numbers orally up to 120• Count by 2's, 5's, and 10's• Count by evens and odds <p>Number words</p> <ul style="list-style-type: none">• Read, write and identify number words• Match number word to a number and group of objects <p>Comparing numbers</p> <ul style="list-style-type: none">• Identify greater than, less than, equal to• Practice one to one correspondence <p>Ordinal numbers</p> <ul style="list-style-type: none">• Identify the position first through tenth <p>Reasonable Estimates</p>

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	<p>MP.4. Model with mathematics.</p> <p>MP.6. Attend to precision.</p> <p>MP.7. Look for and make use of structure.</p> <p>MP.8. Look for and express regularity in repeated reasoning.</p> <p>NCTM: Mathematics NCTM: Pre-K - 2</p> <hr/> <p>Number & Operations Understand numbers, ways of representing numbers, relationships among numbers, and number systems</p> <p>count with understanding and recognize "how many" in sets of objects;</p> <p>develop a sense of whole numbers and represent and use them in flexible ways, including relating, composing, and decomposing numbers;</p> <p>connect number words and numerals to the quantities they represent, using various physical models and representations;</p> <p>Compute fluently and make reasonable estimates</p> <p>use a variety of methods and tools to compute, including objects, mental computation, estimation, paper and pencil, and calculators.</p> <p>© Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.</p>		<ul style="list-style-type: none"> • Check answers using a variety of methods (mental math, estimation, etc)
<p>Problem Solving</p>	<p>CCSS: Mathematics</p>	<ul style="list-style-type: none"> • Patterns to Solve Problems • Model with Mathematics 	<p>The students will be able to:</p>

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	<p>CCSS: Grade 1</p> <hr/> <p>Mathematical Practice MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.</p> <p>MP.1. Make sense of problems and persevere in solving them.</p> <p>MP.6. Attend to precision.</p> <p>MP.7. Look for and make use of structure.</p> <p>MP.8. Look for and express regularity in repeated reasoning.</p> <p>NCTM: Mathematics NCTM: Pre-K - 2</p> <hr/> <p>Process Standards Problem Solving</p> <p>Build new mathematical knowledge through problem solving</p> <p>Solve problems that arise in mathematics and in other contexts</p> <p>Apply and adapt a variety of appropriate strategies to solve problems</p> <p>Monitor and reflect on the process of mathematical problem solving</p> <p>Reasoning and Proof</p> <p>Develop and evaluate mathematical arguments and proofs</p> <p>Select and use various types of reasoning and methods of proof</p> <p>Communication</p>	<ul style="list-style-type: none"> • Interpret Information from a Table or Graph • Problem Solving Strategies <ul style="list-style-type: none"> ○ Draw Picture ○ Make a Table ○ Make a Graph • Addition and Subtraction Stories • Addition and Subtraction Number Sentences • Use of Reasoning 	<ul style="list-style-type: none"> • Identify what is known • Understand what is being asked • Identify what is unknown • Decide which strategy would work best • Prove that an answer is correct by checking their work

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	<p>Communicate their mathematical thinking coherently and clearly to peers, teachers, and others</p> <p>Analyze and evaluate the mathematical thinking and strategies of others;</p> <p>Use the language of mathematics to express mathematical ideas precisely.</p> <p>Connections</p> <p>Recognize and use connections among mathematical ideas</p> <p>Understand how mathematical ideas interconnect and build on one another to produce a coherent whole</p> <p>Recognize and apply mathematics in contexts outside of mathematics</p> <p>© Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.</p>		
<p>Addition & Subtraction (Within 10)</p>	<p>CCSS: Mathematics CCSS: Grade 1</p> <hr/> <p>Operations & Algebraic Thinking 1.OA.A. Represent and solve problems involving addition and subtraction.</p> <p>1.OA.A.1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.OA.A.2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using</p>	<ul style="list-style-type: none"> • Addition <ul style="list-style-type: none"> ○ Addition sentences ○ Ways to make numbers to 20 ○ Vertical and horizontal addition ○ Doubles and doubles plus one • Subtraction <ul style="list-style-type: none"> ○ Subtraction sentences ○ Vertical and horizontal subtraction ○ Doubles to subtract 	<p>The students will be able to: Addition</p> <ul style="list-style-type: none"> • Model addition • Add zero • Count on • Join sets • Use number line to add or count on • Use concrete objects to solve "putting together" addition problems • Explore the basics of the Commutative Property of Addition (add in any order)

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	<p>objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.OA.B. Understand and apply properties of operations and the relationship between addition and subtraction.</p> <p>1.OA.B.3. Apply properties of operations as strategies to add and subtract.</p> <p>1.OA.B.4. Understand subtraction as an unknown-addend problem.</p> <p>1.OA.C. Add and subtract within 20.</p> <p>1.OA.C.5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p> <p>1.OA.C.6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).</p> <p>1.OA.D. Work with addition and subtraction equations.</p> <p>1.OA.D.7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.</p>	<ul style="list-style-type: none"> Addition and subtraction stories <p>Grade 1 Vocabulary.docx</p>	<p>Subtraction</p> <ul style="list-style-type: none"> Model subtraction Subtract zero and all Compare pictorial groups to understand subtraction Model and compare groups to show the meaning of subtraction <ul style="list-style-type: none"> Decomposing numbers Model and record all the ways to take apart numbers within 20 Count back Subtract from numbers up to 20 Use number line to subtract or count on Relate addition to subtraction <p>Addition and subtraction stories</p> <ul style="list-style-type: none"> Read and interpret stories Understand addition and subtraction vocabulary to solve stories

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	<p>1.OA.D.8. Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers.</p> <p>Number & Operations in Base Ten 1.NBT.C. Use place value understanding and properties of operations to add and subtract.</p> <p>1.NBT.C.4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, 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. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.</p> <p>1.NBT.C.5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.</p> <p>1.NBT.C.6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), 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.</p> <p>NCTM: Mathematics NCTM: Pre-K - 2</p> <hr/> <p>Number & Operations Understand numbers, ways of representing numbers, relationships among numbers, and number systems</p>		

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	<p>develop a sense of whole numbers and represent and use them in flexible ways, including relating, composing, and decomposing numbers;</p> <p>Understand meanings of operations and how they relate to one another</p> <p>understand various meanings of addition and subtraction of whole numbers and the relationship between the two operations;</p> <p>understand the effects of adding and subtracting whole numbers;</p> <p>Compute fluently and make reasonable estimates</p> <p>develop and use strategies for whole-number computations, with a focus on addition and subtraction;</p> <p>develop fluency with basic number combinations for addition and subtraction;</p> <p>use a variety of methods and tools to compute, including objects, mental computation, estimation, paper and pencil, and calculators.</p> <p>Algebra</p> <p>Represent and analyze mathematical situations and structures using algebraic symbols</p> <p>illustrate general principles and properties of operations, such as commutativity, using specific numbers;</p> <p>use concrete, pictorial, and verbal representations to develop an understanding of invented and conventional symbolic notations.</p> <p>Use mathematical models to represent and understand quantitative relationships</p>		

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	<p>model situations that involve the addition and subtraction of whole numbers, using objects, pictures, and symbols.</p> <p>© Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.</p>		
<p>Data, Graphs & Probability</p>	<p>CCSS: Mathematics CCSS: Grade 1</p> <hr/> <p>Measurement & Data 1.MD.C. Represent and interpret data.</p> <p>1.MD.C.4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.</p> <p>Mathematical Practice MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.</p> <p>MP.1. Make sense of problems and persevere in solving them.</p> <p>MP.5. Use appropriate tools strategically.</p> <p>MP.6. Attend to precision.</p> <p>MP.8. Look for and express regularity in repeated reasoning.</p> <hr/> <p>NCTM: Mathematics NCTM: Pre-K - 2</p> <hr/> <p>Data Analysis & Probability</p>	<ul style="list-style-type: none"> • Sort and classify objects • Tally marks <ul style="list-style-type: none"> ○ Tally charts ○ One-to-one correspondence for tally and object • Tables • Graphs <ul style="list-style-type: none"> ○ Picture graphs ○ Pictographs ○ Bar graphs • Probability <ul style="list-style-type: none"> ○ Likelihood of an occurrence (certain, possible, impossible) 	<p>The students will be able to: Sort and classify</p> <ul style="list-style-type: none"> • Group objects by attributes <p>Tally marks</p> <ul style="list-style-type: none"> • Use a one to one correspondence for tally and object • Use tally marks to create graphs and tables • Analyze and compare data in a tally chart <p>Tables</p> <ul style="list-style-type: none"> • Create a table from information that is given • Read tables • Use a table to answer questions <p>Graphs</p> <ul style="list-style-type: none"> • Create, read and interpret picture graphs • Create, read and interpret pictographs • Differentiate between picture and pictographs

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	<p>Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them</p> <p>pose questions and gather data about themselves and their surroundings;</p> <p>sort and classify objects according to their attributes and organize data about the objects;</p> <p>represent data using concrete objects, pictures, and graphs.</p> <p>Select and use appropriate statistical methods to analyze data</p> <p>describe parts of the data and the set of data as a whole to determine what the data show.</p> <p>Develop and evaluate inferences and predictions that are based on data</p> <p>discuss events related to students' experiences as likely or unlikely.</p> <p>© Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.</p>		<ul style="list-style-type: none"> • Create, read and interpret bar graphs • Analyze and compare data shown in a bar graph <p>Probability</p> <ul style="list-style-type: none"> • Identify the likeness of occurrence as certain, possible or impossible
<p>Number Patterns & Place Value</p>	<p>CCSS: Mathematics CCSS: Grade 1</p> <hr/> <p>Number & Operations in Base Ten 1.NBT.A. Extend the counting sequence.</p> <p>1.NBT.A.1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.</p> <p>1.NBT.B. Understand place value.</p> <p>1.NBT.B.2. Understand that the two digits of a two-digit number represent amounts of tens</p>	<ul style="list-style-type: none"> • Patterns • Sort and Classify • Skip counting • Ordinal numbers • Place Value • Compare numbers 	<p>The students will be able to: Patterns</p> <ul style="list-style-type: none"> • Draw and identify shapes, numbers, objects • Create AAB, ABB, ABC • Extend and grow patterns <p>Sort and Classify</p> <ul style="list-style-type: none"> • Size, number and other properties

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	<p>and ones. Understand the following as special cases:</p> <p>1.NBT.B.2a. 10 can be thought of as a bundle of ten ones — called a “ten.”</p> <p>1.NBT.B.2b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.</p> <p>1.NBT.B.2c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).</p> <p>1.NBT.B.3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.</p> <p>1.NBT.C. Use place value understanding and properties of operations to add and subtract.</p> <p>1.NBT.C.4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, 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. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.</p> <p>1.NBT.C.5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.</p> <p>1.NBT.C.6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of</p>		<p>Skip counting</p> <ul style="list-style-type: none"> • Skip count by 2, 5, 10 • Recognize patterns in skip counting • Identify even and odd numbers <p>Ordinal numbers</p> <ul style="list-style-type: none"> • Identify the position first through tenth <p>Place Value</p> <ul style="list-style-type: none"> • Identify place value for ones, tens, hundreds • Compare number using greater than, less than and equal to

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	<p>operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.</p> <p>Mathematical Practice MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.</p> <p>MP.6. Attend to precision.</p> <p>NCTM: Mathematics NCTM: Pre-K - 2</p> <hr/> <p>Number & Operations Understand numbers, ways of representing numbers, relationships among numbers, and number systems</p> <p>develop understanding of the relative position and magnitude of whole numbers and of ordinal and cardinal numbers and their connections;</p> <p>develop a sense of whole numbers and represent and use them in flexible ways, including relating, composing, and decomposing numbers;</p> <p>Algebra Understand patterns, relations, and functions</p> <p>sort, classify, and order objects by size, number, and other properties;</p> <p>recognize, describe, and extend patterns such as sequences of sounds and shapes or simple numeric patterns and translate from one representation to another;</p> <p>analyze how both repeating and growing patterns are generated.</p>		

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<p>Addition & Subtraction (Within 20)</p>	<p>CCSS: Mathematics CCSS: Grade 1</p> <hr/> <p>Operations & Algebraic Thinking 1.OA.A. Represent and solve problems involving addition and subtraction.</p> <p>1.OA.A.1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.OA.A.2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.OA.B. Understand and apply properties of operations and the relationship between addition and subtraction.</p> <p>1.OA.B.3. Apply properties of operations as strategies to add and subtract.</p> <p>1.OA.B.4. Understand subtraction as an unknown-addend problem.</p> <p>1.OA.C. Add and subtract within 20.</p> <p>1.OA.C.5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p>	<ul style="list-style-type: none"> • Addition <ul style="list-style-type: none"> ○ Addition sentences ○ Ways to make numbers to 20 ○ Vertical and horizontal addition ○ Doubles and doubles plus one • Subtraction <ul style="list-style-type: none"> ○ Subtraction sentences ○ Vertical and horizontal subtraction ○ Doubles to subtract • Addition and subtraction stories 	<p>The students will be able to:</p> <p>Addition</p> <ul style="list-style-type: none"> • Model addition • Add zero • Count on • Join sets • Use number line to add or count on • Use concrete objects to solve "putting together" addition problems • Explore the basics of the Commutative Property of Addition (add in any order) <p>Subtraction</p> <ul style="list-style-type: none"> • Model subtraction • Subtract zero and all • Compare pictorial groups to understand subtraction • Model and compare groups to show the meaning of subtraction <ul style="list-style-type: none"> ○ Decomposing numbers • Model and record all the ways to take apart numbers within 20 • Count back • Subtract from numbers up to 20 • Use number line to subtract or count on • Relate addition to subtraction <p>Addition and subtraction stories</p>

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	<p>1.OA.C.6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).</p> <p>1.OA.D. Work with addition and subtraction equations.</p> <p>1.OA.D.7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.</p> <p>1.OA.D.8. Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers.</p> <p>Number & Operations in Base Ten</p> <p>1.NBT.C. Use place value understanding and properties of operations to add and subtract.</p> <p>1.NBT.C.6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), 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.</p> <p>© Copyright 2010. National Governors Association Center for Best Practices and</p>		<ul style="list-style-type: none"> • Read and interpret stories • Understand addition and subtraction vocabulary to solve stories

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<p>Geometry</p>	<p>CCSS: Mathematics CCSS: Grade 1</p> <hr/> <p>Geometry 1.G.A. Reason with shapes and their attributes.</p> <p>1.G.A.1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size) ; build and draw shapes to possess defining attributes.</p> <p>1.G.A.2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.</p> <p>1.G.A.3. Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.</p> <p>Mathematical Practice MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.</p>	<ul style="list-style-type: none"> • Two-dimensional figures <ul style="list-style-type: none"> ○ Rectangle ○ Square ○ Circle ○ Triangle ○ Hexagon ○ Trapezoid ○ Rhombus ○ Sides and corners (vertices) ○ Open and closed shapes • Three-dimensional figures <ul style="list-style-type: none"> ○ Sphere ○ Cone ○ Cube ○ Cylinder ○ Pyramid ○ Rectangular prism ○ Triangular Prism • Faces and corners <ul style="list-style-type: none"> ○ Vertices ○ Faces ○ Corners • Transformations <ul style="list-style-type: none"> ○ Symmetry ○ Compare shapes ○ Slides, flips, and turns 	<p>The students will be able to:</p> <p>Two-dimensional figures</p> <ul style="list-style-type: none"> • Identify two-dimensional figures • Identify attributes of two-dimensional figure • Use objects to compose new two-dimensional figures/shapes • Relate two-dimensional figures to real life • Partition circles and rectangles into two equal shares • Identify open and closed figures <p>Three-dimensional figures</p> <ul style="list-style-type: none"> • Identify three-dimensional figures • Identify attributes of three-dimensional figures • Compose a new figure/shape by combining three-dimensional figures/shapes • Identify two-dimensional shapes on three-dimensional shapes • Relate three-dimensional figures to real world <p>Faces and corners</p> <ul style="list-style-type: none"> • Use defining attributes to sort shapes <p>Transformations</p> <ul style="list-style-type: none"> • Draw a line of symmetry

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	<p>MP.1. Make sense of problems and persevere in solving them.</p> <p>MP.4. Model with mathematics.</p> <p>MP.7. Look for and make use of structure.</p> <p>NCTM: Mathematics NCTM: Pre-K - 2</p> <hr/> <p>Geometry Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships</p> <p>recognize, name, build, draw, compare, and sort two- and three-dimensional shapes;</p> <p>describe attributes and parts of two- and three-dimensional shapes;</p> <p>investigate and predict the results of putting together and taking apart two- and three-dimensional shapes.</p> <p>Apply transformations and use symmetry to analyze mathematical situations</p> <p>recognize and apply slides, flips, and turns;</p> <p>recognize and create shapes that have symmetry.</p> <p>Use visualization, spatial reasoning, and geometric modeling to solve problems</p> <p>create mental images of geometric shapes using spatial memory and spatial visualization</p> <p>recognize and represent shapes from different perspectives;</p> <p>recognize geometric shapes and structures in the environment and specify their location.</p>		<ul style="list-style-type: none"> • Compare figures based on their size and shape • Identify slides, flips, and turns of various shapes

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<p>Measurement</p>	<p>CCSS: Mathematics CCSS: Grade 1</p> <hr/> <p>Measurement & Data 1.MD.A. Measure lengths indirectly and by iterating length units.</p> <p>1.MD.A.1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.</p> <p>1.MD.A.2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.</p> <p>Mathematical Practice MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.</p> <p>MP.6. Attend to precision.</p> <hr/> <p>NCTM: Mathematics NCTM: Pre-K - 2</p> <hr/> <p>Measurement Understand measurable attributes of objects and the units, systems, and processes of measurement</p>	<ul style="list-style-type: none"> • Compare <ul style="list-style-type: none"> ○ Length ○ Weight ○ Volume ○ Temperature ○ Area • Measure <ul style="list-style-type: none"> ○ Inches ○ Feet ○ Yards ○ Volume ○ Heavier ○ Lighter ○ Long(er) ○ Short(er) 	<p>The students will be able to:</p> <p>Compare</p> <ul style="list-style-type: none"> • Use standard and nonstandard units of measurement to measure length, weight, volume, area and temperature • Identify measurement tools correctly and use appropriately when comparing sizes of various objects <p>Measure</p> <ul style="list-style-type: none"> • Identify measurement tools correctly and use them appropriately when determining the length, weight, volume, area and temperature of objects

Unit	Standards	Content	Skills
	<p>recognize the attributes of length, volume, weight, area, and time;</p> <p>compare and order objects according to these attributes;</p> <p>understand how to measure using nonstandard and standard units;</p> <p>select an appropriate unit and tool for the attribute being measured.</p> <p>Apply appropriate techniques, tools, and formulas to determine measurements</p> <p>measure with multiple copies of units of the same size, such as paper clips laid end to end;</p> <p>use tools to measure;</p> <p>develop common referents for measures to make comparisons and estimates.</p> <p>© Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.</p>		
<p>Money</p>	<p>CCSS: Mathematics CCSS: Grade 1</p> <hr/> <p>Operations & Algebraic Thinking 1.OA.A. Represent and solve problems involving addition and subtraction.</p> <p>1.OA.A.2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>Mathematical Practice</p>	<p>Topics:</p> <ul style="list-style-type: none"> • Coin identification and value <ul style="list-style-type: none"> ○ Penny, nickel, dime, quarter • Counting mixed coins • Bill identification <ul style="list-style-type: none"> ○ One, five, and ten-dollar bills • Trading coins <ul style="list-style-type: none"> ○ 5 pennies = 1 nickel ○ 5 nickels = 1 quarter 	<p>The students will be able to:</p> <p>Coin identification</p> <ul style="list-style-type: none"> • Count variety of mixed coins <p>Bill identification</p> <ul style="list-style-type: none"> • Identify one, five, and ten-dollar bills <p>Trading coins</p>

Unit	Standards	Content	Skills
	<p>MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.</p> <p>MP.1. Make sense of problems and persevere in solving them.</p> <p>MP.2. Reason abstractly and quantitatively.</p> <p>MP.4. Model with mathematics.</p> <p>MP.5. Use appropriate tools strategically.</p> <p>MP.6. Attend to precision.</p> <p>© Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.</p>	<ul style="list-style-type: none"> ○ 4 quarters = 1 dollar ○ 100 pennies = 1 dollar ○ 10 dimes = 1 dollar 	<ul style="list-style-type: none"> • Trade coins (i.e. 5 pennies for 1 nickel)
<p>Time</p>	<p>CCSS: Mathematics CCSS: Grade 1</p> <hr/> <p>Measurement & Data 1.MD.B. Tell and write time.</p> <p>1.MD.B.3. Tell and write time in hours and half-hours using analog and digital clocks.</p> <p>Mathematical Practice MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.</p> <p>MP.6. Attend to precision.</p>	<p>Topics:</p> <ul style="list-style-type: none"> • Ordering events <ul style="list-style-type: none"> ○ Before/after ○ First, next, last ○ Morning, noon, evening • Time <ul style="list-style-type: none"> ○ Hour and half hour on digital and analog clocks ○ Terminology: half past, 30 minutes after ○ elapsed time 	<p>The students will be able to:</p> <p>Ordering Events</p> <ul style="list-style-type: none"> • Put events in order using time order words (i.e. before/after, first, next, last, etc.) <p>Time</p> <ul style="list-style-type: none"> • Identify hours and half hours on digital and analog clocks. • Use terminology half past and 30 minutes after

Unit	Standards	Content	Skills
	<p>NCTM: Mathematics NCTM: Pre-K - 2</p> <hr/> <p>Measurement Understand measurable attributes of objects and the units, systems, and processes of measurement</p> <p>recognize the attributes of length, volume, weight, area, and time;</p> <p>compare and order objects according to these attributes;</p> <p>Apply appropriate techniques, tools, and formulas to determine measurements</p> <p>use tools to measure;</p> <p>© Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.</p>	<ul style="list-style-type: none"> • Calendar <ul style="list-style-type: none"> ○ Days of week ○ Months of year ○ Seasons 	<ul style="list-style-type: none"> • Identify the amount of time that has past (elapsed time) <p>Calendar</p> <ul style="list-style-type: none"> • Name the days of the week in order • Name the months of the year in order • Name the seasons and understand when they occur during a calendar year • Read the date on a calendar
<p>Fractions</p>	<p>CCSS: Mathematics CCSS: Grade 1</p> <hr/> <p>Geometry 1.G.A. Reason with shapes and their attributes.</p> <p>1.G.A.3. Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.</p> <p>Mathematical Practice MP.The Standards for Mathematical Practice describe varieties of expertise</p>	<p>Topics:</p> <ul style="list-style-type: none"> • Equal parts <ul style="list-style-type: none"> ○ Symmetry ○ Halves/halves of a whole • Half, one third, one fourth • Identify parts of a whole or set 	<p>The students will be able to:</p> <p>Equal parts</p> <ul style="list-style-type: none"> • Identify equal parts • Divide into equal parts • Draw lines of symmetry <p>Fractions</p> <ul style="list-style-type: none"> • Identify and create one half, one third, and one fourth <p>Parts of a Whole (Set)</p>

Unit	Standards	Content	Skills
	<p>that mathematics educators at all levels should seek to develop in their students.</p> <p>MP.4. Model with mathematics.</p> <p>MP.5. Use appropriate tools strategically.</p> <p>MP.6. Attend to precision.</p> <p>NCTM: Mathematics NCTM: Pre-K - 2</p> <hr/> <p>Number & Operations Understand numbers, ways of representing numbers, relationships among numbers, and number systems</p> <p>develop a sense of whole numbers and represent and use them in flexible ways, including relating, composing, and decomposing numbers;</p> <p>understand and represent commonly used fractions, such as $\frac{1}{4}$, $\frac{1}{3}$, and $\frac{1}{2}$.</p> <p>© Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.</p>		<ul style="list-style-type: none"> Identify non-unit fractions in relation to a whole
<p>Double Digit Addition & Subtraction w/o Regrouping</p>	<p>CCSS: Mathematics CCSS: Grade 1</p> <hr/> <p>Operations & Algebraic Thinking 1.OA.A. Represent and solve problems involving addition and subtraction.</p> <p>1.OA.A.1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects,</p>	<p>Topics:</p> <ul style="list-style-type: none"> Add and subtract tens <ul style="list-style-type: none"> 1 group of 10 ones is equal to one group of 10 Add two digit numbers <ul style="list-style-type: none"> Ones Tens Place value Sums(s) 	<p>The students will be able to:</p> <p>Add and subtract tens</p> <ul style="list-style-type: none"> Count on or back from ten/by tens to add or subtract Add and subtract within 20 Make tens to add one and two-digit numbers <p>Add two digit numbers</p>

Unit	Standards	Content	Skills
	<p>drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.OA.A.2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.</p> <p>1.OA.B. Understand and apply properties of operations and the relationship between addition and subtraction.</p> <p>1.OA.B.3. Apply properties of operations as strategies to add and subtract.</p> <p>1.OA.B.4. Understand subtraction as an unknown-addend problem.</p> <p>1.OA.C. Add and subtract within 20.</p> <p>1.OA.C.5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p> <p>1.OA.C.6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).</p> <p>1.OA.D. Work with addition and subtraction equations.</p> <p>1.OA.D.7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or</p>	<ul style="list-style-type: none"> • Subtract two digit numbers <ul style="list-style-type: none"> ○ Ones ○ Tens ○ Difference(s) • Hundreds chart <p>Grade 1 Vocabulary.docx</p>	<ul style="list-style-type: none"> • Add two digit numbers up to ten without regrouping • Make tens to add two-digit numbers • Apply knowledge of place value to add two-digit numbers <p>Subtract two digit numbers</p> <ul style="list-style-type: none"> • Subtract two digit numbers without regrouping • Make tens to subtract two-digit numbers • Apply knowledge of place value to subtract two-digit numbers without regrouping <p>Hundreds chart</p> <ul style="list-style-type: none"> • Use a hundreds chart to find sums and differences

Unit	Standards	Content	Skills
	<p>false. For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.</p> <p>1.OA.D.8. Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers.</p> <p>Number & Operations in Base Ten</p> <p>1.NBT.B. Understand place value.</p> <p>1.NBT.B.2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:</p> <p>1.NBT.C. Use place value understanding and properties of operations to add and subtract.</p> <p>1.NBT.C.4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, 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. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.</p> <p>1.NBT.C.5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.</p> <p>1.NBT.C.6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between</p>		

Unit	Standards	Content	Skills
	<p>addition and subtraction; relate the strategy to a written method and explain the reasoning used.</p> <p>Mathematical Practice MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.</p> <p>MP.1. Make sense of problems and persevere in solving them.</p> <p>MP.2. Reason abstractly and quantitatively.</p> <p>MP.3. Construct viable arguments and critique the reasoning of others.</p> <p>MP.4. Model with mathematics.</p> <p>MP.6. Attend to precision.</p> <p>NCTM: Mathematics NCTM: Pre-K - 2</p> <hr/> <p>Number & Operations Understand meanings of operations and how they relate to one another</p> <p>understand various meanings of addition and subtraction of whole numbers and the relationship between the two operations;</p> <p>understand the effects of adding and subtracting whole numbers;</p> <p>understand situations that entail multiplication and division, such as equal groupings of objects and sharing equally.</p> <p>Compute fluently and make reasonable estimates</p> <p>develop and use strategies for whole-number computations, with a focus on addition and subtraction;</p>		

Unit	Standards	Content	Skills
	<p>develop fluency with basic number combinations for addition and subtraction;</p> <p>use a variety of methods and tools to compute, including objects, mental computation, estimation, paper and pencil, and calculators.</p> <p>Algebra</p> <p>Represent and analyze mathematical situations and structures using algebraic symbols</p> <p>illustrate general principles and properties of operations, such as commutativity, using specific numbers;</p> <p>use concrete, pictorial, and verbal representations to develop an understanding of invented and conventional symbolic notations.</p> <p>Use mathematical models to represent and understand quantitative relationships</p> <p>model situations that involve the addition and subtraction of whole numbers, using objects, pictures, and symbols.</p> <p>© Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.</p>		