

Mathematical Processes Standard

Students use mathematical processes and knowledge to solve problems. They apply the mathematical processes as they learn content from the other mathematical standards.

Grade K Indicators	Grade 1 Indicators	Grade 2 Indicators
<p><u>Problem Solving</u> 1. Apply and adapt a variety of appropriate strategies to solve problems:</p> <ul style="list-style-type: none"> • create a mathematical model • draw a picture • act it out • look for a pattern <p><u>Reasoning and Proof</u> 1. Use models and logic to make conclusions. 2. Reason inductively by identifying patterns.</p> <p><u>Communication</u> 1. Use developmentally appropriate mathematical vocabulary. 2. Respond to instructions orally, and visually as appropriate; e.g., tell, share, describe, demonstrate.</p> <p><u>Connections</u> 1. Use learning from one area of mathematics to understand another. 2. Relate new and prior knowledge to make sense of new concepts being learned.</p> <p><u>Representation</u> 1. Select an appropriate representation of a mathematical idea or situation:</p> <ul style="list-style-type: none"> • physical model/manipulative • picture/drawing • numerical • geometric <p><u>Reflection</u> 1. Reflect on mathematical concepts that have been learned using drawings, pictures and/or words: e.g., as a class group discussion and activity, create a simple classroom chart to show what has been</p>	<p><u>Problem Solving</u> 1. Apply and adapt a variety of appropriate strategies to solve problems: draw a picture</p> <ul style="list-style-type: none"> • create a mathematical model • draw a picture • act it out • look for a pattern • guess and check <p><u>Reasoning and Proof</u> 1. Use models and logic to make conclusions. 2. Adjust models as needed. 3. Reason inductively by identifying patterns.</p> <p><u>Communication</u> 1. Use developmentally appropriate mathematical vocabulary. 2. Respond to instructions orally, and visually as appropriate; e.g., tell, share, describe, demonstrate, compare. 3. Respond clearly with sufficient detail so that thinking can be understood.</p> <p><u>Connections</u> 1. Use learning from one area of mathematics to understand another. 2. Relate new and prior knowledge to make sense of new concepts being learned. 3. Make connections between mathematics and everyday life.</p> <p><u>Representation</u> 1. Select an appropriate representation of a mathematical idea or situation:</p> <ul style="list-style-type: none"> • physical model/manipulative • picture/drawing • numerical 	<p><u>Problem Solving</u> 1. Apply and adapt a variety of appropriate strategies to solve problems:</p> <ul style="list-style-type: none"> • create a mathematical model • draw a picture • act it out • look for a pattern • guess and check • make an organized list <p><u>Reasoning and Proof</u> 1. Use models and logic to make conclusions. 2. Adjust models as needed. 3. Reason inductively by identifying patterns. 4. Evaluate and analyze the mathematical thinking and strategies of others orally.</p> <p><u>Communication</u> 1. Use developmentally appropriate mathematical vocabulary. 2. Respond to instructions orally, visually and in writing as appropriate; e.g., tell, share, describe, demonstrate, compare, discuss, write. 3. Respond clearly with sufficient detail so that thinking can be understood. 4. Present thinking in a logical and organized in manner and explain to others how a problem was solved.</p> <p><u>Connections</u> 1. Use learning from one area of mathematics to understand another. 2. Relate new and prior knowledge to make sense of new concepts being learned. 3. Make connections between mathematics and everyday life. 4. Apply a strategy or reference system that draws on previous learning in another context.</p>

Grade K Indicators	Grade 1 Indicators	Grade 2 Indicators
<p>learned.</p>	<ul style="list-style-type: none"> • geometric • graphical <p>2. Understand that more than one representation can be used to appropriately represent the same mathematical idea or situation.</p> <p><u>Reflection</u></p> <p>1. Reflect on mathematical concepts that have been learned using drawings, pictures and/or words: e.g., as a class group discussion and activity, create a simple classroom chart to show what has been learned.</p> <p>2. In a math journal reflect on mathematical concepts that have been learned using drawings, pictures and/or words given writing prompts such as:</p> <ul style="list-style-type: none"> • What did you do in math today? • What did you learn in math today? • What are some of the math words you used today? 	<p><u>Representation</u></p> <p>1. Select an appropriate representation of a mathematical idea or situation:</p> <ul style="list-style-type: none"> • physical model/manipulative • picture/drawing/diagram • numerical • geometric • graphical • table/chart <p>2. Understand that more than one representation can be used to appropriately represent the same mathematical idea or situation.</p> <p>3. Use multiple representations, as required; e.g., table/chart, graph.</p> <p><u>Reflection</u></p> <p>1. Reflect on mathematical concepts that have been learned using drawings, pictures and/or words: e.g., as a class group discussion and activity, create a simple chart to show what has been learned.</p> <p>2. In a math journal reflect on mathematical concepts that have been learned using drawings, pictures and/or words given writing prompts such as:</p> <ul style="list-style-type: none"> • What did you do in math today? • What did you learn in math today? • Was what you learned easy or difficult? • What did you like or dislike about today's lesson? • What are some of the math words you used today?

Numbers, Number Sense and Operations Standard

Students demonstrate number sense, including an understanding of number systems and operations and how they relate to one another. Students compute fluently and make reasonable estimates using paper and pencil, technology-supported and mental methods.

Grade K Indicators	Grade 1 Indicators	Grade 2 Indicators
<ol style="list-style-type: none"> 1. Represent whole numbers 0 - 20 using physical models; e.g. base 10 blocks, dice, playing cards, dominos, straws, any common objects. 2. Count <u>forward</u> and <u>backward</u> 0 - 20. 3. Read and write <u>numerals</u> 0 - 20. 4. Count the number of objects in sets of 20 or fewer using one-to-one correspondence. 5. <u>Compare</u> the number of objects in two given sets as <u>more</u> or <u>less</u>. 6. Compare and <u>order</u> numbers 0 - 20 7. Use <u>ordinal numbers</u> to identify and order objects up to 10 items. 8. Classify numbers as <u>odd</u> or <u>even</u> by determining if a set of objects can be <u>shared equally</u> between two people (1 - 10). 9. Model, represent and explain <u>addition</u> as <u>counting on</u> and <u>combining sets</u> using manipulatives, a number line, and drawing pictures. 10. Model and use commutative properties for addition using manipulatives. 11. Represent and use numbers in flexible ways, including relating, composing, and decomposing numbers; e.g., 5 marbles can be 2 red and 3 green or 1 red and 4 green. 12. Model, represent and explain <u>subtraction</u> as <u>take-away</u> using manipulatives, a number line and drawing pictures. 	<ol style="list-style-type: none"> 1. Represent whole numbers 0-100 and describe their <u>place value</u> using physical <u>models</u>, <u>numerals</u>, <u>words</u>, and <u>expanded notation</u>. 2. Count forward and backward from 0 - 100, and count forward or backward starting at any number between 1 and 100. (Write numbers that come <u>before</u>, <u>after</u> or <u>in between</u> two given numbers) 3. Read and write <u>numerals</u> 0 - 100. 4. <u>Compare</u> and order numerals 0 -100, using mathematical language: <u>greater than</u>, <u>less than</u>, <u>equal to</u>. 5. Identify <u>patterns</u> on a 100's chart and orally <u>skip count</u> by 10's, 5's and 2's, starting from 0 up to 100. 6. Use <u>ordinal numbers</u> to identify and order objects up to 30 items. 7. Recognize and classify numbers as <u>even</u> or <u>odd</u> by determining if a set of objects can be <u>shared equally</u> between two people (0 - 20). 8. Model, represent and explain <u>addition</u> as <u>counting on</u> and <u>combining sets</u> using manipulatives, a number line, drawing pictures and a calculator. 9. Use <u>strategies</u> for learning the basic addition facts for <u>sums</u> to 12; e.g., counting on, adding one more, adding two more, <u>doubles</u>, doubles plus or minus 1, making 10, adding zero, and missing <u>addends</u>. 10. Model and use the commutative property for addition using manipulatives. 11. Model, represent and explain <u>subtraction</u> as <u>comparison</u> and <u>take-away</u> using manipulatives, a number line, drawing pictures and a calculator. 	<ol style="list-style-type: none"> 1. Represent whole numbers 100-1,000 and describe their place value using physical <u>models</u>, <u>numerals</u>, <u>words</u>, and <u>expanded notation</u>. 2. <u>Compare</u> and <u>order</u> numerals to 100 to 1,000, using mathematical language and symbols: <u>greater than</u>, <u>less than</u>, <u>equal to</u>, $>$, $<$, $=$. 3. Recognize and classify numbers as <u>even</u> or <u>odd</u>: (0-100). 4. Identify patterns on a 100's chart and orally <u>skip count</u> by 10's, 5's and 2's starting from any single digit number: e.g. 1, 11, 21, 31..., 5, 15, 25, 35... 1, 6, 11, 16 ..., 2, 7, 12, 17... 5. <u>Round</u> 2-digit and 3-digit numbers to the nearest 10 and 100. 6. Model, represent and explain <u>addition</u> and <u>subtraction</u> using manipulatives, a number line, drawing pictures and a calculator. 7. Use strategies for learning the basic addition and subtraction facts for <u>sums</u> to 18; e.g., counting on or counting backwards, one more or one less, two more or two less, doubles, doubles plus or minus 1, making 10, adding zero, missing <u>addends</u>. 8. Demonstrate fluency with addition and subtraction facts, sums to 18. 9. Add and subtract 2-digit numbers with and without <u>re grouping</u>. 10. Model and use the <u>commutative property</u> of addition using number sentences.

Grade K Indicators	Grade 1 Indicators	Grade 2 Indicators
<p>13. <u>Estimate</u> and solve meaningful problems involving addition and subtraction through the use of manipulatives, pictures and drawings.</p> <p>14. Use a variety of methods and tools to compute; e.g., objects, mental computation, estimation, paper and pencil, and calculators.</p> <p>15. Explore <u>fact family</u> relationships for addition and subtraction sums to 10.</p> <p>16. Construct multiple sets of objects each containing the same number of objects.</p> <p>17. Demonstrate <u>joining</u> multiple groups of objects, each containing the same number of objects; e.g., combining 3 bags of candy, each containing 2 pieces.</p> <p>18. Demonstrate division by sharing a small set of objects into groups of equal size; e.g., sharing 6 stickers <u>equally</u> among 3 children.</p> <p>19. Represent commonly used <u>fractions</u> physical models and pictures: $1/2$, $1/3$, $1/4$</p> <p>20. Identify and state the value of a <u>penny</u>, <u>nickel</u>, <u>dime</u>, and <u>quarter</u>.</p> <p>21. Show different coin exchanges for the same amount using pennies, nickels, and dimes; e.g., show \$.10 as 10 pennies, 2 nickels, or a dime.</p>	<p>12. Use strategies for learning the basic subtraction facts for sums to 12; e.g., counting back, counting up from the number being subtracted, one less, two less.</p> <p>13. Explain the relationship between operations such as subtraction is the inverse of addition; e.g., <u>fact families</u> to 12.</p> <p>14. Add and subtract <u>2-digit numbers</u> - no regrouping; e.g., using base 10 blocks, dimes and pennies, paper and pencil.</p> <p>15. <u>Estimate</u> and solve problems involving addition and subtraction through the use manipulatives, pictures, drawings, and conventional <u>symbols</u>.</p> <p>16. Model, and represent multiplication as combining <u>equal groups</u>.</p> <p>17. Model and represent division as <u>sharing equally</u>.</p> <p>18. Use a variety of methods and tools to compute, including objects, mental computation, estimation, paper and pencil, and calculators.</p> <p>19. Represent commonly used <u>fractions</u> using physical models, pictures and words: <u>halves</u> ($1/2$, $2/2$), <u>thirds</u> ($1/3$, $2/3$, $3/3$), <u>fourths</u> ($1/4$, $2/4$, $3/4$, $4/4$).</p> <p>20. Compare halves, thirds, and fourths, using physical models.</p> <p>21. Identify and state the value of a <u>penny</u>, <u>nickel</u>, <u>dime</u>, <u>quarter</u>, <u>half dollar</u>, and <u>dollar</u>.</p> <p>22. Count coin sets with values up to \$1.00 using 1 or 2 different types of coins, consisting of pennies, nickels, dimes or quarters.</p> <p>23. Show different coin exchanges for the same amount; e.g., show \$.35 as a quarter and a dime, 3 dimes and 1 nickel, or 7 nickels.</p>	<p>11. Explain the relationship between operations such as subtraction is the inverse of addition; e.g., <u>fact families</u> to 18.</p> <p>12. Model, and represent <u>multiplication</u> as <u>combining equal groups</u> and as <u>repeated addition</u>.</p> <p>13. Model and represent <u>division</u> as <u>sharing equally</u>, and as <u>repeated subtraction</u>.</p> <p>14. Estimate the results of whole number addition and subtraction problems, using <u>rounding</u> and <u>front end estimation</u>, and judge the reasonableness.</p> <p>15. Use a variety of methods and tools to compute, including objects, mental computation, estimation, paper and pencil, and calculators.</p> <p>16. Represent commonly used <u>fractions</u> using physical models, pictures, numerals and words: <u>halves</u>, <u>thirds</u>, <u>fourths</u>, <u>sixths</u>, <u>eighths</u>.</p> <p>17. Identify and illustrate fractions as parts of a <u>whole</u>, and parts of a <u>set</u> of objects.</p> <p>18. Compare and describe commonly used fractions using models: halves, thirds, fourths, eighths.</p> <p>19. Count coin sets using any combination of coins consisting of <u>pennies</u>, <u>nickels</u>, <u>dimes</u>, <u>quarters</u> and <u>half dollars</u>, and write the values using a <u>cent sign</u> and in decimal form using a <u>dollar sign</u>.</p> <p>20. Count money sets consisting of coins and bills up to \$5.00.</p> <p>21. Make <u>change</u> using coins and a dollar bill.</p>

Measurement

Students estimate and measure to a required degree of accuracy and precision by selecting and using appropriate units, tools and technologies.

Kindergarten Indicators	Grade 1	Grade 2
<p>1. Understand and use non-standard <u>units</u> to measure length; e.g., hand spans, paper clips</p> <p>2. Understand and use standard units to measure length; <u>inches</u> and <u>centimeters</u>.</p> <p>3. Explain the need for standard units of measure.</p> <p>4. Recognize the attributes of <u>length</u>, <u>capacity</u>, <u>weight</u>, and <u>time</u>.</p> <p>5. Explore measuring length, weight, and capacity using uniform objects; e.g., paper clips for length, small cups to fill a large container with rice, beans or sand, blocks of a uniform size to balance an object on a scale.</p> <p>6. Select an appropriate unit and tool for the attribute being measured.</p> <p>7. Compare and order objects of different lengths, areas, weights and capacities; and use relative terms, such as <u>longer</u>, <u>shorter</u>, <u>bigger</u>, <u>smaller</u>, <u>heavier</u>, <u>lighter</u>, <u>more</u> and <u>less</u>.</p> <p>8. Order events based on time; e.g., activities that take a long or short time; what we do first, next, last, what we did or plan to do <u>yesterday</u>, <u>today</u>, <u>tomorrow</u>.</p> <p>9. Identify units of time (day, week, month, and year) and compare <u>calendar</u> elements; e.g., weeks are longer than days.</p> <p>10. Tell time to the <u>hour</u> using digital and analog clocks.</p>	<p>1. Estimate and measure <u>length</u> using non-standard <u>units</u>; e.g., student foot, paper clips.</p> <p>2. Estimate and measure length using standard units; e.g., <u>inches</u>, <u>feet</u>, <u>centimeters</u>.</p> <p>3. Recognize and explain the need for standard units and tools for measuring length and weight; e.g., <u>rulers</u> and <u>balance scales</u>.</p> <p>4. Recognize the attributes of <u>length</u>, <u>capacity</u>, <u>weight</u>, and <u>time</u>.</p> <p>5. Estimate and measure weight using non-standard units; e.g., blocks of uniform size, a book.</p> <p>6. Estimate and measure capacity using non-standard units; e.g., small paper cups,</p> <p>7. Select an appropriate unit and tool for the attribute being measured.</p> <p>8. Relate the number of units required to the size of units; e.g., a smaller unit requires more, a larger unit requires less.</p> <p>9. Recognize the reasonableness of a measurement.</p> <p>10. Order a <u>sequence</u> of events with respect to time; e.g., seasons of the year; morning, afternoon and night.</p> <p>11. Tell time to the <u>hour</u> and <u>half-hour</u> using digital and analog clocks.</p>	<p>1. Identify and select appropriate <u>customary</u> and <u>metric</u> units for measuring <u>length</u>; <u>inches</u>, <u>feet</u>, <u>yards</u>, <u>centimeters</u>, <u>meters</u> and recognize the abbreviations.</p> <p>2. Use inches and centimeters to measure length; e.g., use a ruler to measure common objects, and to draw line segments using inches, half inches, and centimeters.</p> <p>3. Identify and select appropriate units of measure for customary and metric <u>capacity</u>; <u>cups</u>, <u>pints</u>, <u>quarts</u>, <u>liters</u> and recognize the abbreviations.</p> <p>4. Use cups and liters to measure capacity; e.g., use a measuring cup to place 2 cups of rice in a bowl.</p> <p>5. Identify and select appropriate customary and metric units for measuring weight; <u>ounces</u>, <u>pounds</u>, <u>grams</u> and recognize the abbreviations.</p> <p>6. Use pounds and grams to measure weight; e.g., use a scale to weigh 50 grams of candy or 1 lb. of candy.</p> <p>7. Establish personal or common referents for units of measure to make estimates and comparisons; e.g., the width of a pinky finger is about a cm, a large bottle of pop is 2 liters, a small paper clip is weighs about one gram.</p> <p>8. Estimate the length, capacity and weight of common objects using customary units and metric units.</p> <p>9. Tell time to <u>5 minute intervals</u> and to the <u>quarter hr.</u> using digital and analog clocks.</p> <p>10. Read and record <u>temperatures</u> in both <u>Fahrenheit</u> and <u>Celsius</u> degrees.</p>

Geometry and Spatial Sense Standard

Students identify, classify, compare and analyze characteristics, properties and relationships of one-, two- and three-dimensional geometric figures and objects. Students use spatial reasoning, properties of geometric objects, and transformations to analyze mathematical situations and solve problems.

Grade K Indicators	Grade 1 Indicators	Grade 2 Indicators
<p>1. Identify and draw <u>geometric shapes</u>; e.g. <u>circle, square, rectangle, and triangle</u>.</p> <p>2. Cover <u>two-dimensional</u> pictures or figures using paper shapes or tangrams.</p> <p>3. Identify objects that are <u>solid shapes</u>; e.g., <u>cylinders, cones, spheres, rectangular prisms</u>.</p> <p>4. Build <u>three-dimensional</u> objects using blocks.</p> <p>5. <u>Compare and sort two-dimensional shapes</u> according to their attributes, then explain reasoning for the groupings and comparisons.</p> <p>6. Name, describe, and demonstrate the relative <u>position of objects</u> as: <u>over, under, inside, outside, on, beside, between, above, below, on top of, upside-down, behind, in back of, in front of</u>.</p> <p>7. Investigate and predict the results of putting together and taking apart two-dimensional shapes.</p>	<p>1. Recognize <u>two-dimensional geometric shapes</u> in the environment; <u>circle, square, rectangle, triangles, or parallelogram</u>.</p> <p>2. Recognize <u>three-dimensional</u> structures in the environment; e.g., <u>cylinders, cones, spheres, cubes, rectangular prisms</u>.</p> <p>3. Copy figures and draw simple two-dimensional shapes from memory.</p> <p>4. Cover two-dimensional pictures or figures using paper shapes or <u>tangrams</u>.</p> <p>5. Describe two-dimensional shapes using attributes such as number of <u>sides</u> and number of <u>corners</u>.</p> <p>6. Build three-dimensional objects using blocks.</p> <p>7. Compare and sort two and three-dimensional shapes according to their <u>attributes</u>, then explain reasoning for the groupings and comparisons.</p> <p>8. Create new shapes by combining or cutting apart existing shapes.</p> <p>9. Identify the shapes of the <u>faces</u> of three-dimensional objects.</p> <p>10. Extend and use <u>location words</u> to include distance (<u>near, far, close to</u>) and directional words (<u>left, right</u>).</p>	<p>1. Identify and describe <u>two-dimensional shapes</u>; <u>circle, square, rectangle, triangle, parallelogram, rhombus, and trapezoid</u>.</p> <p>2. Identify <u>three-dimensional</u> objects as <u>cylinders, cones, spheres, cubes, rectangular prisms, pyramids</u>.</p> <p>3. Identify, compare, and sort <u>three-dimensional</u> objects according to the shape of the faces, the number of <u>faces</u>, number of <u>edges</u>, or number of <u>vertices</u>.</p> <p>4. Investigate and predict the results of putting together and taking apart two and three-dimensional shapes.</p> <p>5. Build a <u>three-dimensional model</u> based on an <u>illustration</u> or actual object using items such as legos, Lincoln logs, or wooden blocks.</p> <p>6. Recognize and apply <u>flips, slides and turns</u>.</p> <p>7. Recognize and create shapes that have <u>symmetry</u>.</p> <p>8. Identify two-dimensional shapes as <u>congruent</u> (same shape and same size), or <u>similar</u> (same shape, different size).</p>

Patterns, Functions and Algebra Standard

Students use patterns, relations and functions to model, represent and analyze problem situations that involve variable quantities, Students analyze, model and solve problems using various representations such as tables, graphs and equations.

Grade K Indicators	Grade 1 Indicators	Grade 2 Indicators
<p>1. Identify, extend and copy <u>sequences</u> of sounds, shapes, motions and simple number patterns.</p> <p>2. Describe orally the <u>pattern</u> of a given sequence.</p> <p>3. Identify what <u>attribute</u> was used to sort a group of items already sorted; e.g., buttons, stickers, seashells.</p> <p>4. Model problem situations using objects, or pictures.</p>	<p>1. Analyze, describe, and extend sequences of sounds, shapes or simple number patterns; e.g., AABBBabAABB...; $\square\square\blacklozenge\square\square\blacklozenge\dots$ (Pattern blocks, attribute shapes); 1,3,1,3,...</p> <p>2. Describe orally the basic unit or general plan of a <u>repeating</u> or <u>growing pattern</u>.</p> <p>3. <u>Sort</u>, <u>classify</u>, and <u>order</u> objects by shape, size, number, and other properties and describe the <u>attributes</u> used; e.g., buttons, stickers, seashells.</p> <p>4. Identify and write a short sentence to describe the attribute that was used to sort a group of items that have already been sorted.</p> <p>5. Solve open sentences by representing an expression in more than one way using the commutative property; e.g., $4 + 5 = 5 + 4$ or the number of blue blocks plus red blocks is the same as the number of red blocks plus the number of blue blocks ($r + b = b + r$).</p> <p>6. Describe orally and model a problem situation using objects, pictures, or number sentences.</p>	<p>1. Extend simple number patterns, both <u>repeating and growing patterns</u>.</p> <p>2. Use patterns to make generalizations and predictions; e.g., determine a <u>missing element</u> in a pattern.</p> <p>3. Create new patterns with consistent <u>rules</u> or <u>plans</u>.</p> <p>4. Describe the rule or general plan of existing patterns.</p> <p>5. Model a problem situation using objects, pictures, numbers and other symbols.</p> <p>6. Understand <u>equivalence</u> and extend the concept to situations involving symbols; e.g., $4 + 5 = 9$ and $9 = 4 + 5$, and $4 + 5 = 3 + 6 = \Delta + \square$.</p> <p>7. Use symbols to represent <u>unknown quantities</u> and identify values for <u>symbols</u> in an <u>expression</u> or <u>equation</u> using addition and subtraction; e.g., $7 + \square = 10$; $\Delta - 2 = 5$.</p> <p>8. Describe <u>qualitative change</u>; e.g., a student growing taller.</p> <p>9. Describe <u>quantitative change</u>; e.g., a student growing two inches in one year.</p>

Data Analysis and Probability Standard

Students pose questions and collect, organize, represent, interpret and analyze data to answer those questions. Students develop and evaluate inferences, predictions and arguments that are based on data.

Grade K Indicators	Grade 1 Indicators	Grade 2 Indicators
<p>1. Collect and sort <u>data</u> about everyday situations and familiar objects; e.g., data collected from simple <u>surveys</u> (favorite colors, cookies, holidays, holidays), and data collected over a period of time (daily weather).</p> <p>2. Represent data in a floor or table graph using objects and pictures; e.g., <u>bar graphs</u> and <u>picture graphs</u>.</p> <p>3. <u>Sort</u> and <u>classify</u> objects by <u>attributes</u> such as size, color or shape and organize data into categories in a simple table or chart.</p> <p>4. Read and interpret information on charts and graphs; e.g., select categories that have the <u>most</u> or <u>fewest</u> objects, identify <u>main idea</u>, draw conclusions and make predictions.</p> <p>6. Read <u>time lines</u> to displaying a <u>sequence</u> of events.</p> <p>7. Discuss the probability of events related to students' experiences as <u>likely</u> or <u>unlikely</u>; e.g., sledding during the month of July, swimming during the month of July.</p>	<p>1. Collect data about everyday situations and familiar objects and organize into <u>tables</u> and <u>charts</u> using <u>tally marks</u>; e.g., data collected from <u>surveys</u> (favorite pets, favorite foods) and data collected over a period of time.</p> <p>2. Identify <u>multiple categories</u> for sorting objects and data.</p> <p>3. Display collected data in <u>bar graphs</u> and <u>picture graphs</u> with intervals of 1.</p> <p>4. Read and interpret information on <u>charts</u> and <u>graphs</u>; e.g. answer questions about the number of objects represented in a <u>picture graph</u>, <u>bar graph</u> or <u>table</u>; how many more in a category compared to another, or how many altogether in two categories.</p> <p>5. Construct a question that can be answered by using information from a graph.</p> <p>6. Read and use <u>time lines</u> to display a <u>sequence</u> of events.</p> <p>7. Discuss and describe the likelihood of simple events as <u>possible/impossible</u> and <u>more likely/less likely</u>; e.g., when using spinners or number cubes in classroom activities.</p>	<p>1. Pose questions and collect data through <u>observations</u>, <u>interviews</u> and <u>surveys</u>.</p> <p>2. Organize data into <u>tables</u> and <u>charts</u> using <u>tally marks</u>.</p> <p>3. Display collected data in picture graphs with units of 1 or 2 and <u>bar graphs</u> and <u>line plots</u> with intervals of 1 or 2.</p> <p>4. Recognize that data may vary from one <u>population</u> to another; e.g., favorite foods or favorite TV shows of parents and students.</p> <p>5. Read, interpret, compare, and make predictions from data represented in <u>charts</u>, <u>tables</u>, <u>bar graphs</u>, <u>picture graphs</u> and <u>line plots</u>.</p> <p>6. Write sentences to describe and compare categories of data represented in a chart or graph, and make statements about the data as a whole.</p> <p>7. Read, use and construct <u>time lines</u> to display a <u>sequence</u> of events.</p> <p>8. Identify <u>untrue</u> or <u>inappropriate</u> statements about a given set of data.</p> <p>9. List some of the possible <u>outcomes</u> of a simple experiment, and predict whether given outcomes are <u>more</u>, <u>less</u>, or <u>equally likely</u> to occur.</p> <p>10. Use physical models and pictures to represent possible <u>arrangements</u> of 2 or 3 objects.</p>