

# PLT Correlations: MATH GRADE K (revised 8/09)

## Content Standard 1: Mathematical Processes

Learning Expectations	PLT Correlations
<p>GLE 0006.1.1 Use mathematical language, symbols, and definitions while developing mathematical reasoning.</p> <p>GLE 0006.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.</p> <p>GLE 0006.1.3 Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.</p> <p>GLE 0006.1.4 Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.</p> <p>GLE 0006.1.5 Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.</p> <p>GLE 0006.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.</p> <p>GLE 0006.1.7 Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.</p> <p>GLE 0006.1.8 Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.</p>	

## Content Standard 2: Numbers and Operations

Learning Expectations	PLT Correlations
<p>GLE 0006.2.1 Count objects in a set and use numbers, including written numerals to 25.</p> <p>GLE 0006.2.2 Create, represent and recognize a set with a given number of objects.</p> <p>GLE 0006.2.3 Recognize, compare and order sets of numerals by using both cardinal and ordinal meanings.</p> <p>GLE 0006.2.4 Understand addition as “putting together” and subtraction as “breaking apart.”</p> <p>GLE 0006.2.5 Model the numbers 1 through 10 as sums or differences of different sets of whole numbers (composing and decomposing numbers).</p>	

## Content Standard 3: Algebra

Learning Expectations	PLT Correlations
GLE 0006.3.1 Identify, duplicate, and extend simple number patterns and sequential and growing patterns.	
GLE 0006.3.2 Recognize attributes (such as color, shape, size) and patterns (such as repeated pairs, bilateral symmetry).	<p><b>1. The Shape of Things p.17</b> - In Part B, students take a walk and look for their assigned shapes.</p> <p><b>4. Sounds Around, p.26</b> - In Part A, students listen to and imitate sounds, comparing their loudness.</p> <p><b>6. Picture This! p.34</b> - In Part A, students sort pictures of plants and animals into groups.</p> <p><b>21. Adopt A Tree p.97</b> - In Part A, students compare their “adopted tree” to others.</p> <p><b>37. Reduce, Reuse, Recycle (p.159)</b> – Students sort and quantify solid waste according to various attributes.</p> <p><b>64. Looking at Leaves, p.273</b> - Students explore leaf attributes such as color, shape, size, and bilateral symmetry.</p>
GLE 0006.3.3 Describe qualitative change.	

## Content Standard 4: Geometry and Measurement

Learning Expectations	PLT Correlations
GLE 0006.4.1 Interpret and describe the physical world with geometric ideas and vocabulary.	<p><b>1. The Shape of Things p.17</b> - In Part B, students take a walk and look for their assigned shapes.</p> <p><b>64. Looking at Leaves, p.273</b> - Students explore leaf attributes such as shape, size, and bilateral symmetry.</p>
GLE 0006.4.2 Use positional terms to specify locations with simple relationships.	
GLE 0006.4.3 Compare and order measurable attributes of objects directly (by comparing them with each other) and indirectly (by comparing both with a third object).	<p><b>41. How Plants Grow, p.179</b> - In the Variation, students grow, measure, and compare two plants growing with versus without light, water, soil, or space.</p> <p><b>48. Field, Forest and Stream (p.203)</b> - Students measure and compare light and temperature at various locations.</p> <p><b>67. How Big Is Your Tree?, p.284</b> - Students use string or “hand-spans” to measure the</p>

distance around a tree trunk or join arms to reach around larger trunks.

## Content Standard 5: Data, Probability and Statistics

Learning Expectations	PLT Correlations
GLE 0006.5.1 Sort objects and use one or more attributes to solve problems.	<p><b>1. The Shape of Things, p.17</b> - In Part B, students take a walk and look for their assigned shapes.</p> <p><b>6. Picture This, p.34</b> - In Part A, students sort pictures of plants and animals into groups.</p> <p><b>13. We All Need Trees (p.65)</b> - In Part A, students classify tree products as wood, food, or paper.</p> <p><b>16. Pass the Plants, Please, p.77</b> - In Part A, students sort plant-derived foods into plant-part categories.</p> <p><b>21. Adopt A Tree, p.97</b> - In Part A, students compare their “adopted tree” to other trees.</p> <p><b>22. Trees as Habitats (p.102)</b> - Students organize their data into tables and graphs to summarize their findings.</p> <p><b>25. Birds and Worms, p.111</b> - Students gather and sort colored objects representing worms or bugs to discover the value of protective coloration.</p> <p><b>27. Every Tree for Itself, p.117</b> - Students gather and sort “tokens” by color to simulate competition by trees for soil resources.</p> <p><b>37. Reduce, Reuse, Recycle (p.159)</b> – Students sort and quantify solid waste according to various attributes.</p> <p><b>47. Are Vacant Lots Vacant? (p.200)</b> - Students sketch and tally the plants and animals they observe.</p> <p><b>64. Looking at Leaves, p.273</b> - Students explore leaf attributes such as color, shape, size, and bilateral symmetry.</p>
GLE 0006.5.2 Re-sort objects using new attributes.	<p><b>6. Picture This, p.34</b> - In Part B, students regroup pictures of plants and animals as though for a zoo or museum exhibit.</p>



# PLT Correlations: MATH GRADE 1

## Content Standard 1: Mathematical Processes

Learning Expectations	PLT Correlations
GLE 0106.1.1 Use mathematical language, symbols, and definitions while developing mathematical reasoning.	
GLE 0106.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.	
GLE 0106.1.3 Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.	
GLE 0106.1.4 Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.	
GLE 0106.1.5 Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.	
GLE 0106.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.	
GLE 0106.1.7 Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.	
GLE 0106.1.8 Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.	

## Content Standard 2: Number and Operations

Learning Expectations	PLT Correlations
GLE 0106.2.1 Understand and use number notation and place value to 100.	
GLE 0106.2.2 Compare and order whole numbers to 100.	
GLE 0106.2.3 Develop strategies for learning basic addition facts and related subtraction facts.	
GLE 0106.2.4 Use multiple representations (including groups of ten) to model two-digit addition and subtraction.	

## Content Standard 3: Algebra

Learning Expectations	PLT Correlations
GLE 0106.3.1 Identify, describe, and extend simple number patterns to develop strategies for adding and subtracting whole numbers.	
GLE 0106.3.2 Understand that addition and subtraction are inverse operations.	
GLE 0106.3.3 Extend the strategies for basic facts to include other properties of number and operations.	

## Content Standard 4: Geometry and Measurement

Learning Expectations	PLT Correlations
GLE 0106.4.1 Recognize, describe, and draw geometric figures. GLE 0106.4.2 Compose and decompose geometric shapes.	<b>1. The Shape of Things, p.17</b> - In Part B, students take a walk and look for their assigned shapes.
GLE 0106.4.3 Use non-standard units in linear measurement.	<b>41. How Plants Grow, p.179</b> - In the Variation, students grow, measure, and compare two plants growing with versus without light, water, soil, or space. <b>67. How Big Is Your Tree?, p.284</b> - Students use string or “hand-spans” to measure the distance around a tree trunk or join arms to reach around larger trunks.

## Content Standard 5: Data, Probability and Statistics

Learning Expectations	PLT Correlations
GLE 0106.5.1 Use various representations to display and compare data.	<p><b>4. Sounds Around, p.26</b> - In Part A, students listen to and imitate sounds, comparing their loudness.</p> <p><b>6 Picture This, p.34</b> - In Part A, students sort pictures of plants and animals into groups.</p> <p><b>16 Pass the Plants, Please, p.77</b> - In Part A, students sort plant-derived foods into plant-part categories.</p> <p><b>21 Adopt A Tree, p.97</b> - In Part A, students compare their “adopted tree” to other trees.</p> <p><b>22. Trees as Habitats (p.102)</b> - Students organize their data into tables and graphs to summarize their findings.</p> <p><b>25 Birds and Worms, p.111</b> - Students gather and sort colored objects representing worms or bugs to discover the value of protective coloration.</p> <p><b>27 Every Tree for Itself, p.117</b> - Students gather and sort “tokens” by color to simulate competition by trees for soil resources.</p> <p><b>37. Reduce, Reuse, Recycle (p.159)</b> – Students sort and quantify solid waste according to various attributes.</p> <p><b>41 How Plants Grow, p.179</b> - In the Variation, students grow, measure, and compare two plants growing with versus without light, water, soil, or space.</p> <p><b>47. Are Vacant Lots Vacant? (p.200)</b> - Students sketch and tally the plants and animals they observe.</p> <p><b>48. Field, Forest and Stream (p.203)</b> - Students measure and compare light, moisture, temperature, and wind at various locations.</p> <p><b>64 Looking at Leaves, p.273</b> - Students explore leaf attributes such as color, shape, size, and bilateral symmetry.</p>



## PLT Correlations: MATH GRADE 2 (revised 5/2010)

### Content Standard 1: Mathematical Processes

Learning Expectations	PLT Correlations
<p>GLE 0206.1.1 Use mathematical language, symbols, and definitions while developing mathematical reasoning.</p> <p>GLE 0206.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.</p> <p>GLE 0206.1.3 Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.</p> <p>GLE 0206.1.4 Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.</p>	
<p>GLE 0206.1.5 Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.</p>	<p><b>32. A Forest of Many Uses (p.135)</b> - Students classify forest uses into 3 categories.</p>
<p>GLE 0206.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.</p> <p>GLE 0206.1.7 Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.</p> <p>GLE 0206.1.8 Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.</p>	

## Content Standard 2: Number and Operations

Learning Expectations	PLT Correlations
GLE 0206.2.1 Understand and use place value concepts to 1000.	
GLE 0206.2.2 Understand and use the base-ten numeration system.	
GLE 0206.2.3 Use efficient and accurate strategies to develop fluency with multi-digit addition and subtraction.	
GLE 0206.2.4 Develop an initial understanding of multiplication.	

## Content Standard 3: Algebra

Learning Expectations	PLT Correlations
GLE 0206.3.1 Develop pattern recognition.	
GLE 0206.3.2 Extend knowledge of the properties of numbers and operations to multiplication.	
GLE 0206.3.3 Solve simple arithmetic problems using various methods.	
GLE 0206.3.4 Describe quantitative change.	

## Content Standard 4: Geometry and Measurement

Learning Expectations	PLT Correlations
GLE 0206.4.1 Recognize, classify, and transform 2- and 3-dimensional geometric figures.	<b>1. The Shape of Things, p.17</b> - In Part B, students take a walk and look for their assigned shapes.
GLE 0206.4.2 Understand the meaning and process of linear measurement.	<b>67. How Big Is Your Tree?, p.284</b> - Students use string or “hand-spans” to measure the distance around a tree trunk or join arms to reach around larger trunks.
GLE 0206.4.3 Add, subtract, compare, compute and estimate linear measurements.	
GLE 0206.4.4 Compose and decompose polygons to make other polygons.	

## Content Standard 5: Data, Probability and Statistics

Learning Expectations	PLT Correlations
<p>GLE 0206.5.1 Use and understand various representations to depict and analyze data measurements.</p>	<p><b>4. Sounds Around, p.26</b> - In Part A, students listen to and imitate sounds, comparing their loudness.</p> <p><b>6. Picture This, p.34</b> - In Part A, students sort pictures of plants and animals into groups.</p> <p><b>13. We All Need Trees (p.65)</b> - In Part A, students classify tree products as wood, food, or paper.</p> <p><b>16. Pass the Plants, Please, p.77</b> - In Part A, students sort plant-derived foods into plant-part categories.</p> <p><b>21. Adopt A Tree, p.97</b> - In Part A, students compare their “adopted tree” to other trees.</p> <p><b>22. Trees as Habitats (p.102)</b> - Students organize their data into tables and graphs to summarize their findings.</p> <p><b>25. Birds and Worms, p.111</b> - Students gather and sort colored objects representing worms or bugs to discover the value of protective coloration.</p> <p><b>27. Every Tree for Itself, p.117</b> - Students gather and sort “tokens” by color to simulate competition by trees for soil resources.</p> <p><b>36. Pollution Search (p.153)</b> - In Part A, students identify and categorize forms of pollution and create a data collection chart.</p> <p><b>37. Reduce, Reuse, Recycle (p.159)</b> – Students sort and quantify solid waste according to various attributes.</p> <p><b>41. How Plants Grow, p.179</b> - In the Variation, students grow, measure, and compare two plants growing with versus without light, water, soil, or space.</p> <p><b>47. Are Vacant Lots Vacant? (p.200)</b> - Students sketch and tally the plants and animals they observe.</p> <p><b>48. Field, Forest and Stream (p.203)</b> - Students measure and compare light, moisture, temperature, and wind at various locations.</p> <p><b>64. Looking at Leaves, p.273</b> - Students explore leaf attributes such as color, shape, size, and bilateral symmetry.</p>
<p>GLE 0206.5.2 Determine whether an event is likely or unlikely.</p>	

# PLT Correlations: MATH GRADE 3 (revised 5/2010)

## Content Standard 1: Mathematical Processes

Learning Expectations	PLT Correlations
<p>GLE 0306.1.1 Use mathematical language, symbols, and definitions while developing mathematical reasoning.</p> <p>GLE 0306.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.</p> <p>GLE 0306.1.3 Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.</p> <p>GLE 0306.1.4 Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.</p>	
<p>GLE 0306.1.5 Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.</p>	<p><b>12. Invasive Species (p. 59)</b> - As an <b>Enrichment</b>, students solve a math problem involving projected population growth in a nutria population.</p> <p><b>25. Birds and Worms (p. 111)</b> - Students create bar graphs for their results.</p> <p><b>27. Every Tree For Itself (p.117)</b> - Students record and compare results of the simulation for rounds conducted according to different scenarios.</p> <p><b>32. A Forest of Many Uses (p.135)</b> - Students categorize forest uses into three types: wildlife, recreation, or products.</p> <p><b>37. Reduce, Reuse, Recycle (p.159)</b> - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.</p> <p><b>48. Field, Forest and Stream (p.203)</b> - Students measure and compare light, moisture, temperature, and wind at various locations.</p> <p><b>73. Waste Watchers (p.314)</b> - Students learn how to read an electric meter and apply this skill to measure their energy use over a one-week period. They examine the data for all students in the class in terms of the range and average.</p> <p><b>77. Trees, in Trouble (p.332)</b> Students measure and graph the effects of crowding, acid, and fertilizer on seedling height and radish diameter.</p>

	<p><b>80. Nothing Succeeds Like Succession (p.345)</b> - Students collect data over time regarding types of plants, growth rate, changes in plant density, species composition, etc.</p>
<p>GLE 0306.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.</p>	
<p>GLE 0306.1.7 Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.</p>	<p><b>12. Invasive Species (p. 59)</b> - As an <b>Enrichment</b>, students solve a math problem involving projected population growth in a nutria population.  <b>22. Trees as Habitats (p.102)</b> - Students organize their data into tables and graphs to summarize their findings.  <b>25. Birds and Worms (p. 111)</b> - Students create bar graphs for their results.  <b>27. Every Tree For Itself (p.117)</b> - Students record and compare results of the simulation for rounds conducted according to different scenarios.  <b>32. A Forest of Many Uses (p.135)</b> - Students categorize forest uses into three types: wildlife, recreation, or products.  <b>37. Reduce, Reuse, Recycle (p.159)</b> - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.  <b>48. Field, Forest and Stream (p.203)</b> - Students measure and compare light, moisture, temperature, and wind at various locations.  <b>73. Waste Watchers (p.314)</b> - Students learn how to read an electric meter and apply this skill to measure their energy use over a one-week period. They examine the data for all students in the class in terms of the range and average.  <b>77. Trees, in Trouble (p.332)</b> Students measure and graph the effects of crowding, acid, and fertilizer on seedling height and radish diameter.  <b>80. Nothing Succeeds Like Succession (p.345)</b> - Students collect data over time regarding types of plants, growth rate, changes in plant density, species composition, etc.</p>
<p>GLE 0306.1.8 Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.</p>	

## Content Standard 2: Number and Operations

Learning Expectations	PLT Correlations
GLE 0306.2.1 Understand the place value of whole numbers to ten-thousands place including expanded notation for all arithmetic operations.	
GLE 0306.2.2 Develop understanding of multiplication and related division facts through multiple strategies and representations.	
GLE 0306.2.3 Relate multiplication and division as inverse operations.	
GLE 0306.2.4 Solve multiplication and division problems using various representations.	
GLE 0306.2.5 Understand the meaning and uses of fractions.	
GLE 0306.2.6 Use various strategies and models to compare and order fractions and identify equivalent fractions.	
GLE 0306.2.7 Add and subtract fractions with like denominators using various models.	

## Content Standard 3: Algebra

Learning Expectations	PLT Correlations
GLE 0306.3.1 Develop meaning for and apply the commutative, associative, and distributive properties using various representations.	

GLE 0306.3.2	Develop understanding that a letter or a symbol can represent an unknown quantity in a simple mathematical expression/equation.	
GLE 0306.3.3	Describe and analyze patterns and relationships in contexts.	
GLE 0306.3.4	Create and represent patterns using words, tables, graphs, and symbols.	

Content Standard 4: Geometry and Measurement		
Learning Expectations	PLT Correlations	
GLE 0306.4.1 Describe, compare, and analyze properties of polygons.	<b>1. The Shape of Things (p.17)</b> - In Part B, students take a walk and look for their assigned shapes.	
GLE 0306.4.2 Understand and apply the concepts of congruence and symmetry.		
GLE 0306.4.3 Understand and use attributes of 2- and 3-dimensional figures to solve problems.		
GLE 0306.4.4 Use appropriate units, strategies and tools to solve problems involving perimeter.	<b>67. How Big Is Your Tree? (p.284)</b> - Students use string or “hand-spans” to measure the distance around a tree trunk or join arms to reach around larger trunks.	
GLE 0306.4.5 Solve measurement problems involving fractional parts of linear units and capacity units.		

## Content Standard 5: Data Analysis, Statistics and Probability

Learning Expectations	PLT Correlations
<p>GLE 0306.5.1 Organize, display, and analyze data using various representations to solve problems.</p>	<p><b>4. Sounds Around (p. 26)</b> - In Part B, students create “sound maps”. They estimate and record the distance for each sound, and then measure actual distances.</p> <p><b>13. We All Need Trees (p.65)</b> - In Part B, students classify actual objects as “made from trees” or not.</p> <p><b>22. Trees as Habitats (p.102)</b> - Students organize their data into tables and graphs to summarize their findings.</p> <p><b>25. Birds and Worms (p. 111)</b> - Students create bar graphs for their results.</p> <p><b>27. Every Tree For Itself (p.117)</b> - Students record and compare results of the simulation for rounds conducted according to different scenarios.</p> <p><b>37. Reduce, Reuse, Recycle (p.159)</b> - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.</p> <p><b>47. Are Vacant Lots Vacant? (p.200)</b> - Students sketch and tally the plants and animals they observe.</p> <p><b>73. Waste Watchers (p.314)</b> - Students learn how to read an electric meter and apply this skill to measure their energy use over a one-week period. They examine the data for all students in the class in terms of the range and average.</p> <p><b>77. Trees, in Trouble (p.332)</b> Students measure and graph the effects of crowding, acid, and fertilizer on seedling height and radish diameter.</p> <p><b>80. Nothing Succeeds Like Succession (p.345)</b> - Students collect data over time regarding types of plants, growth rate, changes in plant density, species composition, etc.</p>

# PLT Correlations: MATH GRADE 4 (revised 5/2010)

## Content Standard 1: Mathematical Processes

Learning Expectations	PLT Correlations
GLE 0406.1.1 Use mathematical language, symbols, and definitions while developing mathematical reasoning.	
GLE 0406.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.	
GLE 0406.1.3 Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.	
GLE 0406.1.4 Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.	<p><b>44. Water Wonders (p.188)</b> - In Part B, students explore the effect of the slope of the stream table on the speed of water poured or sprinkled on the surface.</p> <p><b>66. Germinating Giants (p.279)</b> - Students measure and compare attributes of leaves, seeds, circumference, and height of trees.</p>
GLE 0406.1.5 Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.	<p><b>6 Picture This! (p. 34)</b> - In Part B, students group pictures of plants and animals as though for a zoo or museum exhibit.</p> <p><b>12 Invasive Species (p. 59)</b> - As an <b>Enrichment</b>, students solve a math problem involving projected population growth in a nutria population.</p> <p><b>27. Every Tree For Itself (p.117)</b> - Students record and compare results of the simulation for rounds conducted according to different scenarios.</p> <p><b>37 Reduce, Reuse, Recycle (p.159)</b> - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.</p> <p><b>48. Field, Forest and Stream (p.203)</b> - Students measure and compare light, moisture, temperature, and wind at various locations.</p> <p><b>41 How Plants Grow (p. 179)</b> - In the Variation, students grow, measure, and compare plants growing with versus without light, water, soil, or space.</p> <p><b>80 Nothing Succeeds Like Succession (p.345)</b> - Students collect data over time regarding types of plants, growth rate, changes in plant density, species composition, etc.</p>

<p>GLE 0406.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.</p>	
<p>GLE 0406.1.7 Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.</p>	<p><b>6 Picture This! (p. 34)</b> - In Part B, students group pictures of plants and animals as though for a zoo or museum exhibit.</p> <p><b>12 Invasive Species (p. 59)</b> - As an <b>Enrichment</b>, students solve a math problem involving projected population growth in a nutria population.</p> <p><b>22 Trees as Habitats (p.102)</b> - Students organize their data into tables and graphs to summarize their findings.</p> <p><b>27. Every Tree For Itself (p.117)</b> - Students record and compare results of the simulation for rounds conducted according to different scenarios.</p> <p><b>37 Reduce, Reuse, Recycle (p.159)</b> - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.</p> <p><b>38 Every Drop Counts (p.163)</b> - Students record and graph data on water use.</p> <p><b>41. How Plants Grow (p. 179)</b> - In the Variation, students grow, measure, and compare plants growing with versus without light, water, soil, or space.</p> <p><b>47. Are Vacant Lots Vacant? (p.200)</b> - Students sketch and tally the plants and animals they observe.</p> <p><b>48. Field, Forest and Stream (p.203)</b> - Students measure and compare light, moisture, temperature, and wind at various locations.</p> <p><b>70. Soil Stories (p.297)</b> - In Part B, students measure the time it takes for a given amount of water to soak into the soil and the distance a nail can be pushed into that soil.</p> <p><b>80 Nothing Succeeds Like Succession (p.345)</b> - Students collect data over time regarding types of plants, growth rate, changes in plant density, species composition, etc.</p> <p><b>85 In the Driver's Seat (p.370)</b> - By simulating the distance they can travel using different vehicles, students visualize the meaning of mpg. As an <b>Enrichment</b>, they conduct a survey to determine the average occupancy of vehicles in their community.</p>
<p>GLE 0406.1.8 Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.</p>	

## Content Standard 2: Number and Operations

Learning Expectations	PLT Correlations
GLE 0406.2.1 Understand place value of numbers from hundredths to the hundred-thousands place.	
GLE 0406.2.2 Develop fluency with multiplication and single-digit division.	
GLE 0406.2.3 Identify prime and composite numbers.	
GLE 0406.2.4 Understand and use the connections between fractions and decimals.	
GLE 0406.2.5 Add and subtract fractions with like and unlike denominators.	
GLE 0406.2.6 Solve problems involving whole numbers, fractions, and/or decimals using all four arithmetic operations.	

## Content Standard 3: Algebra

Learning Expectations	PLT Correlations
GLE 0406.3.1 Extend understanding of a variable to equations involving whole numbers, fractions, decimals, and/or mixed numbers.	
GLE 0406.3.2 Use mathematical language and modeling to develop descriptions, rules and extensions of patterns.	

GLE 0406.3.3	Translate between different forms of representations of whole number relationships.	
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## Content Standard 4: Geometry and Measurement

<b>Learning Expectations</b>	<b>PLT Correlations</b>
GLE 0406.4.1 Understand and use the properties of lines, segments, angles, polygons, and circles.	
GLE 0406.4.2 Understand and use measures of length, area, capacity, and weight.	<b>67. How Big Is Your Tree?</b> (p.284) - Students use string or “hand-spans” to measure the distance around a tree trunk or join arms to reach around larger trunks. <b>70. Soil Stories (p.297)</b> - In Part B, students measure the time it takes for a given amount of water to soak into the soil and the distance a nail can be pushed into that soil.
GLE 0406.4.3 Solve problems that involve estimating and measuring length, area, capacity and weight.	
GLE 0406.4.4 Understand the representation of location and movement within the first quadrant of a coordinate system.	

## Content Standard 5: Data, Probability and Statistics

<b>Learning Expectations</b>	<b>PLT Correlations</b>
GLE 0406.5.1 Collect, record, arrange, present, and interpret data using tables and various representations.	<b>13. We All Need Trees (p.65)</b> - In Part B, students classify actual objects as “made from trees” or not. <b>22 Trees as Habitats (p.102)</b> - Students organize their data into tables and graphs to summarize their findings. <b>27. Every Tree For Itself (p.117)</b> - Students record and compare results of the simulation for rounds conducted according to different scenarios. <b>37 Reduce, Reuse, Recycle (p.159)</b> - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected. <b>38 Every Drop Counts (p.163)</b> - Students record and graph data on water use.

<p>GLE 0406.5.2 Use probability to describe chance events.</p>	<p><b>41 How Plants Grow (p. 179)</b> - In the Variation, students grow, measure, and compare plants growing with versus without light, water, soil, or space. <b>47 Are Vacant Lots Vacant? (p.200)</b> - Students sketch and tally the plants and animals they observe. <b>80 Nothing Succeeds Like Succession (p.345)</b> - Students collect data over time regarding types of plants, growth rate, changes in plant density, species composition, etc.</p>

# PLT Correlations: MATH GRADE 5 (revised 5/2010)

## Content Standard 1: Mathematical Processes

Learning Expectations	PLT Correlations
<p>GLE 0506.1.1 Use mathematical language, symbols, and definitions while developing mathematical reasoning.</p> <p>GLE 0506.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.</p> <p>GLE 0506.1.3 Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.</p> <p>GLE 0506.1.4 Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.</p>	
<p>GLE 0506.1.5 Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.</p>	<p><b>12 Invasive Species (p. 59)</b> - As an <b>Enrichment</b>, students solve a math problem involving projected population growth in a nutria population.</p> <p><b>16 Pass the Plants, Please (p.77)</b> - In Part A, students sort plant-derived foods into plant-part categories. In Part B, they create daily bar graphs for the plant-part items in their lunch.</p> <p><b>36 Pollution Search (p. 153)</b> – In Part A, students identify and categorize forms of pollution and create a data collection chart.</p> <p><b>37 Reduce, Reuse, Recycle (p.159)</b> - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.</p> <p><b>41 How Plants Grow (p. 179)</b> - In the Variation, students grow, measure, and compare plants growing with versus without light, water, soil, or space.</p> <p><b>73. Waste Watchers (p.314)</b> - Students learn how to read an electric meter and apply this skill to measure their energy use over a one-week period. They examine the data for all students in the class in terms of the range and average.</p>

	<p><b>77 Trees, in Trouble (p.332)</b> Students measure and graph the effects of crowding, acid, and fertilizer on seedling height and radish diameter.</p>
<p>GLE 0506.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.</p>	
<p>GLE 0506.1.7 Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.</p>	<p><b>12 Invasive Species (p. 59)</b> - As an <b>Enrichment</b>, students solve a math problem involving projected population growth in a nutria population.</p> <p><b>16 Pass the Plants, Please (p.77)</b> - In Part A, students sort plant-derived foods into plant-part categories. In Part B, they create daily bar graphs for the plant-part items in their lunch.</p> <p><b>36 Pollution Search (p. 153)</b> – In Part A, students identify and categorize forms of pollution and create a data collection chart.</p> <p><b>37 Reduce, Reuse, Recycle (p.159)</b> - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.</p> <p><b>41 How Plants Grow (p. 179)</b> - In the Variation, students grow, measure, and compare plants growing with versus without light, water, soil, or space.</p> <p><b>67. How Big Is Your Tree?</b> (p.284) - Students use string or “hand-spans” to measure the distance around a tree trunk or join arms to reach around larger trunks.</p> <p><b>73. Waste Watchers (p.314)</b> - Students learn how to read an electric meter and apply this skill to measure their energy use over a one-week period. They examine the data for all students in the class in terms of the range and average.</p> <p><b>77 Trees, in Trouble (p.332)</b> Students measure and graph the effects of crowding, acid, and fertilizer on seedling height and radish diameter.</p>
<p>GLE 0506.1.8 Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.</p>	

## Content Standard 2: Number and Operations

Learning Expectations	PLT Correlations
<p>GLE 0506.2.1 Extend the understanding of place value through millions and millionths in various contexts and representations.</p> <p>GLE 0506.2.2 Write natural numbers (to 50) as a product of prime factors and understand that this is unique (apart from order).</p> <p>GLE 0506.2.3 Develop fluency with division of whole numbers. Understand the relationship of divisor, dividend, and quotient in terms of multiplication and division.</p> <p>GLE 0506.2.4 Develop fluency with addition and subtraction of proper and improper fractions and mixed numbers; explain and model the algorithm.</p>	
<p>GLE 0506.2.5 Develop fluency in solving multi-step problems using whole numbers, fractions, mixed numbers, and decimals.</p>	

## Content Standard 3: Algebra

Learning Expectations	PLT Correlations
<p>GLE 0506.3.1 Understand and use order of operations.</p> <p>GLE 0506.3.2 Develop and apply the concept of variable.</p> <p>GLE 0506.3.3 Understand and apply the substitution property.</p> <p>GLE 0506.3.4 Solve single-step linear equations and inequalities.</p>	

## Content Standard 4: Geometry and Measurement

Learning Expectations	PLT Correlations
<p>GLE 0506.4.1 Use basic formulas and visualization to find the area of geometric figures.</p> <p>GLE 0506.4.2 Describe polyhedral solids and analyze their properties, including volume and surface area.</p> <p>GLE 0506.4.3 Describe length/distance relationships using the first quadrant of the coordinate system.</p>	
<p>GLE 0506.4.4 Solve problems that require attention to both approximation and precision of measurement.</p>	

## Content Standard 5: Data, Probability and Statistics

Learning Expectations	PLT Correlations
<p>GLE 0506.5.1 Make, record, display and interpret data and graphs that include whole numbers, decimals, and fractions.</p>	<p><b>16 Pass the Plants, Please (p.77)</b> - In Part A, students sort plant-derived foods into plant-part categories. In Part B, they create daily bar graphs for the plant-part items in their lunch.</p> <p><b>36 Pollution Search (p. 153)</b> – In Part A, students identify and categorize forms of pollution and create a data collection chart.</p> <p><b>37 Reduce, Reuse, Recycle (p.159)</b> - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.</p> <p><b>41 How Plants Grow (p. 179)</b> - In the Variation, students grow, measure, and compare plants growing with versus without light, water, soil, or space.</p> <p><b>73. Waste Watchers (p.314)</b> - Students learn how to read an electric meter and apply this skill to measure their energy use over a one-week period. They examine the data for all students in the class in terms of the range and average.</p>

	<b>77 Trees, in Trouble (p.332)</b> Students measure and graph the effects of crowding, acid, and fertilizer on seedling height and radish diameter.
GLE 0506.5.2 Describe the shape and important features of a set of data using the measures of central tendency.	

# PLT Correlations: MATH GRADE 6

Content Standard 1: Mathematical Processes	
Learning Expectations	PLT Correlations
<p>GLE 0606.1.1 Use mathematical language, symbols, and definitions while developing mathematical reasoning.</p> <p>GLE 0606.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.</p> <p>GLE 0606.1.3 Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.</p>	
<p>GLE 0606.1.4 Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.</p>	<p><b>29. Rain Reasons (p.123)</b> - Students design experiments to see how climatic factors influence the growth of plants.</p> <p><b>41. How Plants Grow (p.179)</b> - Students design and conduct tests to study plants' needs for light, water, and soil.</p> <p><b>77. Trees In Trouble (p.332)</b> - Students measure and graph the effects of crowding, acid, and fertilizer on seedling height and radish diameter.</p>
<p>GLE 0606.1.5 Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.</p>	<p><b>22. Trees as Habitats (p.102)</b> - Students organize their data into tables and graphs to summarize their findings.</p> <p><b>25. Birds and Worms (p.111)</b> - Students create bar graphs for their results.</p> <p><b>27. Every Tree For Itself (p.117)</b> - Students record and compare results of the simulation for rounds conducted according to different scenarios.</p> <p><b>29. Rain Reasons (p.123)</b> - Students design experiments to see how climatic factors influence the growth of plants.</p> <p><b>41. How Plants Grow (p.179)</b> - Students design and conduct tests to study plants' needs for light, water, and soil.</p> <p><b>77. Trees In Trouble (p.332)</b> - Students measure and graph the effects of crowding, acid, and fertilizer on seedling height and radish diameter.</p>
<p>GLE 0606.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.</p>	
<p>GLE 0606.1.7 Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.</p>	<p><b>22. Trees as Habitats (p.102)</b> - Students organize their data into tables and graphs to summarize their findings.</p> <p><b>25. Birds and Worms (p.111)</b> - Students create bar graphs for their results.</p> <p><b>27. Every Tree For Itself (p.117)</b> - Students record and compare results of the simulation for rounds conducted according to different scenarios.</p>

	<p><b>29. Rain Reasons (p.123)</b> - Students design experiments to see how climatic factors influence the growth of plants.</p> <p><b>41. How Plants Grow (p.179)</b> - Students design and conduct tests to study plants' needs for light, water, and soil.</p> <p><b>77. Trees In Trouble (p.332)</b> - Students measure and graph the effects of crowding, acid, and fertilizer on seedling height and radish diameter.</p>
<p>GLE 0606.1.8 Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.</p>	

Content Standard 2: Number and Operations	
Learning Expectations	PLT Correlations
<p>GLE 0606.2.1 Understand and explain the procedures for multiplication and division of fractions, mixed numbers, and decimals.</p> <p>GLE 0606.2.2 Solve multi-step mathematical, contextual and verbal problems using fractions, mixed numbers, and decimals.</p>	
<p>GLE 0606.2.3 Understand and use ratios, rates and percent.</p>	
<p>GLE 0606.2.4 Understand and convert between fraction, decimal, and percent forms of rational numbers.</p> <p>GLE 0606.2.5 Develop meaning for integers; represent and compare quantities with integers.</p>	

## Content Standard 3: Algebra

Learning Expectations	PLT Correlations
GLE 0606.3.1 Write and solve two-step equations and inequalities.	
GLE 0606.3.2 Interpret and represent algebraic relationships with variables in expressions, simple equations and inequalities.	
GLE 0606.3.3 Extend order of operations to include grouping symbols and exponents.	
GLE 0606.3.4 Use expressions, equations and formulas to solve problems.	
GLE 0606.3.5 Use multiple representations including symbolic algebra to model and/or solve contextual problems that involve linear relationships.	
GLE 0606.3.6 Understand and use the Cartesian coordinate system.	

## Content Standard 4: Geometry and Measurement

Learning Expectations	PLT Correlations
GLE 0606.4.1 Understand and use basic properties of triangles, quadrilaterals, and other polygons.	
GLE 0606.4.2 Use the concepts of translation, rotation, reflection, and symmetry to understand congruence in the plane.	
GLE 0606.4.3 Develop and use formulas to determine the circumference and area of circles, and the area of trapezoids, and develop strategies to find the area of composite shapes.	
GLE 0606.4.4 Develop and use formulas for surface area and volume of 3-dimensional figures.	

## Content Standard 5: Data Analysis, Statistics and Probability

Learning Expectations	PLT Correlations
GLE 0606.5.1 Understand the meaning of probability and how it is expressed.	
GLE 0606.5.2 Interpret representations of data from surveys and polls, and describe sample bias and how data representations can be misleading.	<b>22. Trees as Habitats (p.102)</b> - Students organize their data into tables and graphs to summarize their findings.

## PLT Correlations: MATH GRADE 7

Content Standard 1: Mathematical Processes	
Learning Expectations	PLT Correlations
<p>GLE 0706.1.1 Use mathematical language, symbols, and definitions while developing mathematical reasoning.</p> <p>GLE 0706.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.</p> <p>GLE 0706.1.3 Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.</p>	
<p>GLE 0706.1.4 Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.</p>	<p><b>44. Water Wonders (p.188)</b> - In Part B, students explore the effect of the slope of the stream table on the speed of water poured or sprinkled on the surface.</p> <p><b>66. Germinating Giants (p.279)</b> - Students measure and compare attributes of leaves, seeds, circumference, and height of trees.</p>
<p>GLE 0706.1.5 Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.</p>	<p><b>4. Sounds Around (p.26)</b> - In Part B, students create “sound maps”. In part C, they use bar graphs to display sound-level data.</p> <p><b>16. Pass The Plants, Please (p.77)</b> - In Part A, students sort plant-derived foods into plant-part categories. In Part B, they create daily bar graphs for the plant-part items in their lunch.</p> <p><b>35. Loving It Too Much (p.147)</b> - Students graph given data on changes in the US Population, national park area, and national park visits over time to identify patterns and trends.</p> <p><b>36 Pollution Search (p. 153)</b> – In Part A, students identify and categorize forms of pollution and create a data collection chart.</p> <p><b>37. Reduce, Reuse, Recycle (p.159)</b> - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.</p> <p><b>38. Every Drop Counts (p.163)</b> - Students record and graph data on water use.</p> <p><b>44. Water Wonders (p.188)</b> - In Part B, students explore the effect of the slope of the stream table on the speed of water poured or sprinkled on the surface.</p>

	<p><b>50. 400-Acre Wood (p.217)</b> - Students allocate portions of a 400-acre plot to various uses and calculate revenue and costs associated with these.</p> <p><b>66. Germinating Giants (p.279)</b> - Students measure and compare attributes of leaves, seeds, circumference, and height of trees.</p> <p><b>84. The Global Climate (p.363)</b> - Using data collected from Mauna Loa, students will graph changes in atmospheric levels of carbon dioxide (CO<sub>2</sub>) over a 46-year period, and identify possible reasons for those changes.</p> <p><b>85. In the Driver's Seat (p.370)</b> - By simulating the distance they can travel using different vehicles, students visualize the meaning of mpg. As an Enrichment, they conduct a survey to determine the average occupancy of vehicles in their community.</p>
<p>GLE 0706.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.</p>	
<p>GLE 0706.1.7 Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.</p>	<p><b>16. Pass The Plants, Please (p.77)</b> - In Part A, students sort plant-derived foods into plant-part categories. In Part B, they create daily bar graphs for the plant-part items in their lunch.</p> <p><b>35. Loving It Too Much (p.147)</b> - Students graph given data on changes in the US Population, national park area, and national park visits over time to identify patterns and trends.</p> <p><b>36 Pollution Search (p. 153)</b> – In Part A, students identify and categorize forms of pollution and create a data collection chart.</p> <p><b>37. Reduce, Reuse, Recycle (p.159)</b> - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.</p> <p><b>38. Every Drop Counts (p.163)</b> - Students record and graph data on water use.</p> <p><b>50. 400-Acre Wood (p.217)</b> - Students allocate portions of a 400-acre plot to various uses and calculate revenue and costs associated with these.</p> <p><b>66. Germinating Giants (p.279)</b> - Students measure and compare attributes of leaves, seeds, circumference, and height of trees.</p> <p><b>84. The Global Climate (p.363)</b> - Using data collected from Mauna Loa, students will graph changes in atmospheric levels of carbon dioxide (CO<sub>2</sub>) over a 46-year period, and identify possible reasons for those changes.</p> <p><b>85. In the Driver's Seat (p.370)</b> - By simulating the distance they can travel using different vehicles, students visualize the meaning of mpg. As an Enrichment, they conduct a survey to determine the average occupancy of vehicles in their community.</p>

GLE 0706.1.8	Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.	
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## Content Standard 2: Number and Operations

Learning Expectations	PLT Correlations	
GLE 0706.2.1	Extend understandings of addition, subtraction, multiplication and division to integers.	
GLE 0706.2.2	Understand and work with the properties of and operations on the system of rational numbers.	
GLE 0706.2.3	Develop an understanding of and apply proportionality.	
GLE 0706.2.4	Use ratios, rates and percents to solve single- and multi-step problems in various contexts.	
GLE 0706.2.5	Understand and work with squares, cubes, square roots and cube roots.	
GLE 0706.2.6	Introduce the concept of negative exponents.	
GLE 0706.2.7	Understand and use scientific notation.	

## Content Standard 3: Algebra

Learning Expectations	PLT Correlations	
GLE 0706.3.1	Recognize and generate equivalent forms for simple algebraic expressions.	

GLE 0706.3.2	Understand and compare various representations of relations and functions.	
GLE 0706.3.3	Understand the concept of function as a rule that assigns to a given input one and only one number (the output).	
GLE 0706.3.4	Use function notation where $f(x)$ represents the output that the function $f$ assigns to the input $x$ .	
GLE 0706.3.5	Understand and graph proportional relationships.	
GLE 0706.3.6	Conceptualize the meanings of slope using various interpretations, representations, and contexts.	
GLE 0706.3.7	Use mathematical models involving linear equations to analyze real-world phenomena.	
GLE 0706.3.8	Use a variety of strategies to efficiently solve linear equations and inequalities.	

Content Standard 4: Geometry and Measurement		
Learning Expectations	PLT Correlations	
GLE 0706.4.1	Understand the application of proportionality with similar triangles.	
GLE 0706.4.2	Apply proportionality to converting among different units of measurements to solve problems involving rates such as motion at a constant speed.	
GLE 0706.4.3	Understand and use scale factor to describe the relationships between length, area, and volume.	<b>66. Germinating Giants (p.279)</b> - Students measure and compare attributes of leaves, seeds, circumference, and height of trees.

GLE 0706.4.4 Understand and use ratios, derived quantities, and indirect measurements.

## Content Standard 5: Data Analysis, Statistics and Probability

Learning Expectations	PLT Correlations
GLE 0706.5.1 Collect, organize, and analyze both single- and two-variable data.	<p><b>37. Reduce, Reuse, Recycle (p.159)</b> - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.</p> <p><b>38. Every Drop Counts (p.163)</b> - Students record and graph data on water use.</p> <p><b>85. In the Driver’s Seat (p.370)</b> - By simulating the distance they can travel using different vehicles, students visualize the meaning of mpg. As an Enrichment, they conduct a survey to determine the average occupancy of vehicles in their community.</p>
GLE 0706.5.2 Select, create, and use appropriate graphical representations of data.	<p><b>4. Sounds Around (p.26)</b> - In Part B, students create “sound maps”. In part C, they use bar graphs to display sound-level data.</p> <p><b>16. Pass The Plants, Please (p.77)</b> - In Part A, students sort plant-derived foods into plant-part categories. In Part B, they create daily bar graphs for the plant-part items in their lunch.</p> <p><b>35. Loving It Too Much (p.147)</b> - Students graph given data on changes in the US Population, national park area, and national park visits over time to identify patterns and trends.</p> <p><b>36 Pollution Search (p. 153)</b> – In Part A, students identify and categorize forms of pollution and create a data collection chart.</p> <p><b>37. Reduce, Reuse, Recycle (p.159)</b> - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.</p> <p><b>38. Every Drop Counts (p.163)</b> - Students record and graph data on water use.</p> <p><b>50. 400-Acre Wood (p.217)</b> - Students allocate portions of a 400-acre plot to various uses and calculate revenue and costs associated with these.</p>
GLE 0706.5.3 Formulate questions and design studies to collect data about a characteristic shared by two populations, or different characteristics within one population.	

GLE 0706.5.4	Use descriptive statistics to summarize and compare data.	
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GLE 0706.5.5	Understand and apply basic concepts of probability.	
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## PLT Correlations: MATH GRADE 8

### Content Standard 1: Mathematical Processes

Learning Expectations	PLT Correlations
<p>GLE 0806.1.1 Use mathematical language, symbols, and definitions while developing mathematical reasoning.</p> <p>GLE 0806.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution.</p> <p>GLE 0806.1.3 Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas.</p> <p>GLE 0806.1.4 Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.</p>	
<p>GLE 0806.1.5 Use mathematical ideas and processes in different settings to formulate patterns, analyze graphs, set up and solve problems and interpret solutions.</p> <p>GLE 0806.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely.</p>	<p><b>73. Waste Watchers</b> (p.314) - Students learn how to read an electric meter and apply this skill to measure their energy use over a one-week period. They examine the data for all students in the class in terms of the range and average.</p> <p><b>50. 400-Acre Wood</b> (p.217) - Students allocate portions of a 400-acre plot to various uses and calculate revenue and costs associated with these.</p> <p><b>64. Looking at Leaves (p.273)</b> - Students explore leaf attributes such as color, shape, size, and bilateral symmetry.</p> <p><b>67. How Big Is Your Tree? (p.284)</b> - Students use string or “hand-spans” to measure the distance around a tree trunk or join arms to reach around larger trunks.</p>
<p>GLE 0806.1.7 Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.</p>	<p><b>12. Invasive Species</b> (p.59) - As an <b>Enrichment</b>, students solve a math problem involving projected population growth in a nutria population.</p> <p><b>73. Waste Watchers</b> (p.314) - Students learn how to read an electric meter and apply this skill to measure their energy use over a one-week period. They examine the data for all students in the class in terms of the range and average.</p>

	<p><b>50. 400-Acre Wood</b> (p.217) - Students allocate portions of a 400-acre plot to various uses and calculate revenue and costs associated with these.</p> <p><b>67. How Big Is Your Tree?</b> (p.284) - Students use string or “hand-spans” to measure the distance around a tree trunk or join arms to reach around larger trunks.</p>
<p>GLE 0806.1.8 Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts.</p>	

## Content Standard 2: Number and Operations

<b>Learning Expectations</b>	<b>PLT Correlations</b>
<p>GLE 0806.2.1 Extend understanding of the real number system to include irrational numbers.</p>	
<p>GLE 0806.2.2 Solve problems involving exponents and scientific notation using technology appropriately.</p>	
<p>GLE 0806.2.3 Solve real-world problems using rational and irrational numbers.</p>	
<p>GLE 0806.2.4 Understand and use the laws of exponents.</p>	

## Content Standard 3: Algebra

Learning Expectations	PLT Correlations
GLE 0806.3.1 Recognize and generate equivalent forms for algebraic expressions.	
GLE 0806.3.2 Represent, analyze, and solve problems involving linear equations and inequalities in one and two variables.	
GLE 0806.3.3 Solve systems of linear equations in two variables.	
GLE 0806.3.4 Translate among verbal, tabular, graphical and algebraic representations of linear functions.	
GLE 0806.3.5 Use slope to analyze situations and solve problems.	
GLE 0806.3.6 Compare and contrast linear and nonlinear functions.	

## Content Standard 4: Geometry and Measurement

Learning Expectations	PLT Correlations
<p>GLE 0806.4.1 Derive the Pythagorean theorem and understand its applications.</p> <p>GLE 0806.4.2 Understand the relationships among the angles formed by parallel lines cut by transversals.</p> <p>GLE 0806.4.3 Understand the necessary levels of accuracy and precision in measurement.</p>	
<p>GLE 0806.4.4 Understand both metric and customary units of measurement.</p> <p>GLE 0806.4.5 Use visualization to describe or identify intersections, cross-sections, and various views of geometric figures.</p>	<p><b>67. How Big Is Your Tree? (p.284)</b> - Students use string or “hand-spans” to measure the distance around a tree trunk or join arms to reach around larger trunks.</p>

## Content Standard 5: Data Analysis, Statistics and Probability

Learning Expectations	PLT Correlations
<p>GLE 0806.5.1 Explore probabilities for compound, independent and/or dependent events.</p>	
<p>GLE 0806.5.2 Select, create, and use appropriate graphical representations of data (including scatterplots with lines of best fit) to make and test conjectures.</p> <p>GLE 0806.5.3 Evaluate the use of statistics in media reports.</p>	<p><b>50. 400-Acre Wood (p.217)</b> - Students allocate portions of a 400-acre plot to various uses and calculate revenue and costs associated with these.</p>