

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>44. Water Wonders (p.188) - 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>66. Germinating Giants (p.279) - 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>6 Picture This! (p. 34) - In Part B, students group pictures of plants and animals as though for a zoo or museum exhibit.</p> <p>12 Invasive Species (p. 59) - As an Enrichment, students solve a math problem involving projected population growth in a nutria population.</p> <p>27. Every Tree For Itself (p.117) - Students record and compare results of the simulation for rounds conducted according to different scenarios.</p> <p>37 Reduce, Reuse, Recycle (p.159) - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.</p> <p>48. Field, Forest and Stream (p.203) - Students measure and compare light, moisture, temperature, and wind at various locations.</p> <p>41 How Plants Grow (p. 179) - In the Variation, students grow, measure, and compare plants growing with versus without light, water, soil, or space.</p> <p>80 Nothing Succeeds Like Succession (p.345) - 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>6 Picture This! (p. 34) - In Part B, students group pictures of plants and animals as though for a zoo or museum exhibit.</p> <p>12 Invasive Species (p. 59) - As an Enrichment, students solve a math problem involving projected population growth in a nutria population.</p> <p>22 Trees as Habitats (p.102) - Students organize their data into tables and graphs to summarize their findings.</p> <p>27. Every Tree For Itself (p.117) - Students record and compare results of the simulation for rounds conducted according to different scenarios.</p> <p>37 Reduce, Reuse, Recycle (p.159) - Students create tables, charts, and graphs of volumes, weights, quantities, and types of solid waste collected.</p> <p>38 Every Drop Counts (p.163) - Students record and graph data on water use.</p> <p>41. How Plants Grow (p. 179) - In the Variation, students grow, measure, and compare plants growing with versus without light, water, soil, or space.</p> <p>47. Are Vacant Lots Vacant? (p.200) - Students sketch and tally the plants and animals they observe.</p> <p>48. Field, Forest and Stream (p.203) - Students measure and compare light, moisture, temperature, and wind at various locations.</p> <p>70. Soil Stories (p.297) - 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>80 Nothing Succeeds Like Succession (p.345) - Students collect data over time regarding types of plants, growth rate, changes in plant density, species composition, etc.</p> <p>85 In the Driver's Seat (p.370) - 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 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

Learning Expectations	PLT Correlations
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.	67. How Big Is Your Tree? (p.284) - Students use string or “hand-spans” to measure the distance around a tree trunk or join arms to reach around larger trunks. 70. Soil Stories (p.297) - 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

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

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