

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>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>
<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>4. Sounds Around (p.26) - In Part B, students create “sound maps”. In part C, they use bar graphs to display sound-level data.</p> <p>16. Pass The Plants, Please (p.77) - 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>35. Loving It Too Much (p.147) - 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>36 Pollution Search (p. 153) – In Part A, students identify and categorize forms of pollution and create a data collection chart.</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>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>50. 400-Acre Wood (p.217) - Students allocate portions of a 400-acre plot to various uses and calculate revenue and costs associated with these.</p> <p>66. Germinating Giants (p.279) - Students measure and compare attributes of leaves, seeds, circumference, and height of trees.</p> <p>84. The Global Climate (p.363) - Using data collected from Mauna Loa, students will graph changes in atmospheric levels of carbon dioxide (CO₂) over a 46-year period, and identify possible reasons for those changes.</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 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>16. Pass The Plants, Please (p.77) - 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>35. Loving It Too Much (p.147) - 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>36 Pollution Search (p. 153) – In Part A, students identify and categorize forms of pollution and create a data collection chart.</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>50. 400-Acre Wood (p.217) - Students allocate portions of a 400-acre plot to various uses and calculate revenue and costs associated with these.</p> <p>66. Germinating Giants (p.279) - Students measure and compare attributes of leaves, seeds, circumference, and height of trees.</p> <p>84. The Global Climate (p.363) - Using data collected from Mauna Loa, students will graph changes in atmospheric levels of carbon dioxide (CO₂) over a 46-year period, and identify possible reasons for those changes.</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>

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.	66. Germinating Giants (p.279) - 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>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>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>
GLE 0706.5.2 Select, create, and use appropriate graphical representations of data.	<p>4. Sounds Around (p.26) - In Part B, students create “sound maps”. In part C, they use bar graphs to display sound-level data.</p> <p>16. Pass The Plants, Please (p.77) - 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>35. Loving It Too Much (p.147) - 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>36 Pollution Search (p. 153) – In Part A, students identify and categorize forms of pollution and create a data collection chart.</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>50. 400-Acre Wood (p.217) - 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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