

2011 -12 Pacing Guide

07 Mathematics / Mathematics 1st Term

Term	Standard
1	GPS.07.MA.M7A3 - Students will understand relationships between two variables.
1	GPS.07.MA.M7A3.a - Plot points on a coordinate plane.
1	GPS.07.MA.M7A3.c - Describe how change in one variable affects the other variable.
1	GPS.07.MA.M7D - Students will demonstrate understanding of data analysis by posing questions, collecting data, analyzing the data using measures of central tendency and variation, and using the data to answer the questions posed. Students will understand the role of probability in sampling.
1	GPS.07.MA.M7D1 - Students will pose questions, collect data, represent and analyze the data, and interpret results.
1	GPS.07.MA.M7D1.a - Formulate questions and collect data from a census of at least 30 objects and from samples of varying sizes.
1	GPS.07.MA.M7D1.b - Construct frequency distributions.
1	GPS.07.MA.M7D1.c - Analyze data using measures of central tendency (mean, median, and mode), including recognition of outliers.
1	GPS.07.MA.M7D1.d - Analyze data with respect to measures of variation (range, quartiles, interquartile range).
1	GPS.07.MA.M7D1.e - Compare measures of central tendency and variation from samples to those from a census. Observe that sample statistics are more likely to approximate the population parameters as sample size increases.
1	GPS.07.MA.M7D1.f - Analyze data using appropriate graphs, including pictographs, histograms, bar graphs, line graphs, circle graphs, and line plots introduced earlier, and using box-and-whisker plots and scatter plots.

07 Mathematics / Mathematics 2nd Term

Term	Standard
2	GPS.07.MA.M7A - Students will demonstrate an understanding of linear relations and fundamental algebraic concepts.
2	GPS.07.MA.M7A1 - Students will represent and evaluate quantities using algebraic expressions.
2	GPS.07.MA.M7A1.a - Translate verbal phrases to algebraic expressions.
2	GPS.07.MA.M7A1.b - Simplify and evaluate algebraic expressions, using commutative, associative, and distributive properties as appropriate.
2	GPS.07.MA.M7A1.c - Add and subtract linear expressions.
2	GPS.07.MA.M7A2 - Students will understand and apply linear equations in one variable.
2	GPS.07.MA.M7A2.a - Given a problem, define a variable, write an equation, solve the equation, and interpret the solution.
2	GPS.07.MA.M7A2.b - Use the addition and multiplication properties of equality to solve one- and two-step linear equations.
2	GPS.07.MA.M7A3 - Students will understand relationships between two variables.
2	GPS.07.MA.M7A3.a - Plot points on a coordinate plane.
2	GPS.07.MA.M7A3.b - Represent, describe, and analyze relations from tables, graphs, and formulas.
2	GPS.07.MA.M7A3.c - Describe how change in one variable affects the other variable.
2	GPS.07.MA.M7D - Students will demonstrate understanding of data analysis by posing

	questions, collecting data, analyzing the data using measures of central tendency and variation, and using the data to answer the questions posed. Students will understand the role of probability in sampling.
2	GPS.07.MA.M7D1 - Students will pose questions, collect data, represent and analyze the data, and interpret results.
2	GPS.07.MA.M7D1.g - Analyze and draw conclusions about data, including a description of the relationship between two variables.
2	GPS.07.MA.M7G - Students will further develop and apply their understanding of plane and solid geometric figures through the use of constructions and transformations. Students will explore the properties of similarity and further develop their understanding of 3-dimensional figures.
2	GPS.07.MA.M7G1 - Students will construct plane figures that meet given conditions.
2	GPS.07.MA.M7G1.a - Perform basic constructions using both compass and straight edge, and appropriate technology. Constructions should include copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.
2	GPS.07.MA.M7G1.b - Recognize that many constructions are based on the creation of congruent triangles.
2	GPS.07.MA.M7G2 - Students will demonstrate understanding of transformations.
2	GPS.07.MA.M7G2.a - Demonstrate understanding of translations, dilations, rotations, reflections, and relate symmetry to appropriate transformations.
2	GPS.07.MA.M7G2.b - Given a figure in the coordinate plane, determine the coordinates resulting from a translation, dilation, rotation, or reflection.
2	GPS.07.MA.M7N - Students will further develop their understanding of the concept of rational numbers and apply them to real world situations.
2	GPS.07.MA.M7N1 - Students will understand the meaning of positive and negative rational numbers and use them in computation.
2	GPS.07.MA.M7N1.a - Find the absolute value of a number and understand it as the distance from zero on a number line.
2	GPS.07.MA.M7N1.b - Compare and order rational numbers, including repeating decimals.
2	GPS.07.MA.M7N1.c - Add, subtract, multiply, and divide positive and negative rational numbers.
2	GPS.07.MA.M7N1.d - Solve problems using rational numbers.
07 Mathematics / Mathematics 3rd Term	
Term	Standard
3	GPS.07.MA.M7G4 - Students will further develop their understanding of three-dimensional figures.
3	GPS.07.MA.M7G4.a - Describe three-dimensional figures formed by translations and rotations of plane figures through space.
3	GPS.07.MA.M7G4.b - Sketch, model, and describe cross-sections of cones, cylinders, pyramids, and prisms.
3	GPS.07.MA.M7A3.a - Plot points on a coordinate plane.
3	GPS.07.MA.M7A3.b - Represent, describe, and analyze relations from tables, graphs, and formulas.
3	GPS.07.MA.M7A3.c - Describe how change in one variable affects the other variable.
3	GPS.07.MA.M7A3.d - Describe patterns in the graphs of proportional relationships, both direct ($y = kx$) and inverse ($y = k/x$).

3	GPS.07.MA.M7D - Students will demonstrate understanding of data analysis by posing questions, collecting data, analyzing the data using measures of central tendency and variation, and using the data to answer the questions posed. Students will understand the role of probability in sampling.
3	GPS.07.MA.M7D1 - Students will pose questions, collect data, represent and analyze the data, and interpret results.
3	GPS.07.MA.M7D1.a - Formulate questions and collect data from a census of at least 30 objects and from samples of varying sizes.
3	GPS.07.MA.M7D1.b - Construct frequency distributions.
3	GPS.07.MA.M7D1.c - Analyze data using measures of central tendency (mean, median, and mode), including recognition of outliers.
3	GPS.07.MA.M7D1.d - Analyze data with respect to measures of variation (range, quartiles, interquartile range).
3	GPS.07.MA.M7D1.e - Compare measures of central tendency and variation from samples to those from a census. Observe that sample statistics are more likely to approximate the population parameters as sample size increases.
3	GPS.07.MA.M7D1.f - Analyze data using appropriate graphs, including pictographs, histograms, bar graphs, line graphs, circle graphs, and line plots introduced earlier, and using box-and-whisker plots and scatter plots.
3	GPS.07.MA.M7D1.g - Analyze and draw conclusions about data, including a description of the relationship between two variables.
3	GPS.07.MA.M7G - Students will further develop and apply their understanding of plane and solid geometric figures through the use of constructions and transformations. Students will explore the properties of similarity and further develop their understanding of 3-dimensional figures.
3	GPS.07.MA.M7G1 - Students will construct plane figures that meet given conditions.
3	GPS.07.MA.M7G1.a - Perform basic constructions using both compass and straight edge, and appropriate technology. Constructions should include copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.
3	GPS.07.MA.M7G1.b - Recognize that many constructions are based on the creation of congruent triangles.
3	GPS.07.MA.M7G2 - Students will demonstrate understanding of transformations.
3	GPS.07.MA.M7G2.a - Demonstrate understanding of translations, dilations, rotations, reflections, and relate symmetry to appropriate transformations.
3	GPS.07.MA.M7G2.b - Given a figure in the coordinate plane, determine the coordinates resulting from a translation, dilation, rotation, or reflection.
3	GPS.07.MA.M7G3 - Students will use the properties of similarity and apply these concepts to geometric figures.
3	GPS.07.MA.M7G3.a - Understand the meaning of similarity, visually compare geometric figures for similarity, and describe similarities by listing corresponding parts.
3	GPS.07.MA.M7G3.b - Understand the relationships among scale factors, length ratios, and area ratios between similar figures. Use scale factors, length ratios, and area ratios to determine side lengths and areas of similar geometric figures.
3	GPS.07.MA.M7G3.c - Understand congruence of geometric figures as a special case of similarity: The figures have the same size and shape.
3	GPS.07.MA.M7A3 - Students will understand relationships between two variables.