

2011 -12 Pacing Guide

06 Mathematics / Mathematics 1st Term

Term	Standard
1	GPS.06.MA.M6N - Students will understand the meaning of the four arithmetic operations as related to positive rational numbers and will apply these concepts and associated skills in real world situations.
1	GPS.06.MA.M6N1 - Students will understand the meaning of the four arithmetic operations as related to positive rational numbers and will use these concepts to solve problems.
1	GPS.06.MA.M6N1.a - Apply factors and multiples.
1	GPS.06.MA.M6N1.b - Decompose numbers into their prime factorization (Fundamental Theorem of Arithmetic).
1	GPS.06.MA.M6N1.c - Determine the greatest common factor (GCF) and the least common multiple (LCM) for a set of numbers.
1	GPS.06.MA.M6D - Students will demonstrate understanding of data analysis by posing questions to be answered by collecting data. They will represent, investigate, and use data to answer those questions. Students will understand experimental and theoretical probability.
1	GPS.06.MA.M6D1 - Students will pose questions, collect data, represent and analyze the data, and interpret results.
1	GPS.06.MA.M6D1.a - Formulate questions that can be answered by data. Students should collect data by using samples from a larger population (surveys), or by conducting experiments.
1	GPS.06.MA.M6D1.b - Using data, construct frequency distributions, frequency tables, and graphs.
1	GPS.06.MA.M6D1.c - Choose appropriate graphs to be consistent with the nature of the data (categorical or numerical). Graphs should include pictographs, histograms, bar graphs, line graphs, circle graphs, and line plots.
1	GPS.06.MA.M6D1.d - Use tables and graphs to examine variation that occurs within a group and variation that occurs between groups.
1	GPS.06.MA.M6D1.e - Relate the data analysis to the context of the questions posed.

06 Mathematics / Mathematics 2nd Term

Term	Standard
2	GPS.06.MA.M6N - Students will understand the meaning of the four arithmetic operations as related to positive rational numbers and will apply these concepts and associated skills in real world situations.
2	GPS.06.MA.M6N1 - Students will understand the meaning of the four arithmetic operations as related to positive rational numbers and will use these concepts to solve problems.
2	GPS.06.MA.M6N1.a - Apply factors and multiples.
2	GPS.06.MA.M6N1.b - Decompose numbers into their prime factorization (Fundamental Theorem of Arithmetic).
2	GPS.06.MA.M6N1.c - Determine the greatest common factor (GCF) and the least common multiple (LCM) for a set of numbers.
2	GPS.06.MA.M6N1.d - Add and subtract fractions and mixed numbers with unlike denominators.
2	GPS.06.MA.M6N1.e - Multiply and divide fractions and mixed numbers.
2	GPS.06.MA.M6N1.f - Use fractions, decimals, and percents interchangeably.

2	GPS.06.MA.M6N1.g - Solve problems involving fractions, decimals, and percents.
2	GPS.06.MA.M6G - Students will further develop their understanding of plane and solid geometric figures, incorporating the use of appropriate technology and using this knowledge to solve authentic problems.
2	GPS.06.MA.M6G1 - Students will further develop their understanding of plane figures.
2	GPS.06.MA.M6G1.a - Determine and use lines of symmetry.
2	GPS.06.MA.M6G1.b - Investigate rotational symmetry, including degree of rotation.
2	GPS.06.MA.M6M2 - Students will use appropriate units of measure for finding length, perimeter, area, and volume and will express each quantity using the appropriate unit.
2	GPS.06.MA.M6M2.a - Measure length to the nearest half, fourth, eighth, and sixteenth of an inch.
2	GPS.06.MA.M6M2.b - Select and use units of appropriate size and type to measure length, perimeter, area, and volume.
2	GPS.06.MA.M6A - Students will investigate relationships between two quantities. They will write and solve proportions and simple one-step equations that result from problem situations.
2	GPS.06.MA.M6A1 - Students will understand the concept of ratio and use it to represent quantitative relationships.
2	GPS.06.MA.M6A2 - Students will consider relationships between varying quantities.
2	GPS.06.MA.M6A2.a - Analyze and describe patterns arising from mathematical rules, tables, and graphs.
2	GPS.06.MA.M6A2.c - Use proportions ($a/b = c/d$) to describe relationships and solve problems, including percent problems.
2	GPS.06.MA.M6A3 - Students will evaluate algebraic expressions, including those with exponents, and solve simple one-step equations using each of the four basic operations.
06 Mathematics / Mathematics 3rd Term	
Term	Standard
3	GPS.06.MA.M6M3.b - Compute the volumes of fundamental solid figures, using appropriate units of measure.
3	GPS.06.MA.M6M3.c - Estimate the volumes of simple geometric solids.
3	GPS.06.MA.M6M3.d - Solve application problems involving the volume of fundamental solid figures.
3	GPS.06.MA.M6M4 - Students will determine the surface area of solid figures (right rectangular prisms and cylinders).
3	GPS.06.MA.M6M4.a - Find the surface area of right rectangular prisms and cylinders using manipulatives and constructing nets.
3	GPS.06.MA.M6M4.b - Compute the surface area of right rectangular prisms and cylinders using formulae.
3	GPS.06.MA.M6M4.c - Estimate the surface areas of simple geometric solids.
3	GPS.06.MA.M6M4.d - Solve application problems involving surface area of right rectangular prisms and cylinders.
3	GPS.06.MA.M6G - Students will further develop their understanding of plane and solid geometric figures, incorporating the use of appropriate technology and using this knowledge to solve authentic problems.
3	GPS.06.MA.M6G1 - Students will further develop their understanding of plane figures.
3	GPS.06.MA.M6G1.c - Use the concepts of ratio, proportion, and scale factor to demonstrate the relationships between similar plane figures.
3	GPS.06.MA.M6G1.d - Interpret and sketch simple scale drawings.

3	GPS.06.MA.M6G1.e - Solve problems involving scale drawings.
3	GPS.06.MA.M6G2 - Students will further develop their understanding of solid figures.
3	GPS.06.MA.M6G2.a - Compare and contrast right prisms and pyramids.
3	GPS.06.MA.M6G2.b - Compare and contrast cylinders and cones.
3	GPS.06.MA.M6G2.c - Interpret and sketch front, back, top, bottom, and side views of solid figures.
3	GPS.06.MA.M6G2.d - Construct nets for prisms, cylinders, pyramids, and cones.
3	GPS.06.MA.M6M - Students will understand how to determine the volume and surface area of solid figures. They will understand and use the customary and metric systems of measurement to measure quantities efficiently and to represent volume and surface area appropriately.
3	GPS.06.MA.M6M1 - Students will convert from one unit to another within one system of measurement (customary or metric) by using proportional relationships.
3	GPS.06.MA.M6M2 - Students will use appropriate units of measure for finding length, perimeter, area, and volume and will express each quantity using the appropriate unit.
3	GPS.06.MA.M6M2.a - Measure length to the nearest half, fourth, eighth, and sixteenth of an inch.
3	GPS.06.MA.M6M2.b - Select and use units of appropriate size and type to measure length, perimeter, area, and volume.
3	GPS.06.MA.M6M2.c - Compare and contrast units of measure for perimeter, area, and volume.
3	GPS.06.MA.M6M3 - Students will determine the volume of fundamental solid figures (right rectangular prisms, cylinders, pyramids, and cones).
3	GPS.06.MA.M6M3.a - Determine the formula for finding the volume of fundamental solid figures.
3	GPS.06.MA.M6A1 - Students will understand the concept of ratio and use it to represent quantitative relationships.
3	GPS.06.MA.M6A2 - Students will consider relationships between varying quantities.
3	GPS.06.MA.M6A2.a - Analyze and describe patterns arising from mathematical rules, tables, and graphs.
3	GPS.06.MA.M6A2.b - Use manipulatives or draw pictures to solve problems involving proportional relationships.
3	GPS.06.MA.M6A2.c - Use proportions ($a/b = c/d$) to describe relationships and solve problems, including percent problems.
3	GPS.06.MA.M6A2.d - Describe proportional relationships mathematically using $y = kx$, where k is the constant of proportionality.
3	GPS.06.MA.M6A2.e - Graph proportional relationships in the form $y = kx$ and describe characteristics of the graphs.
3	GPS.06.MA.M6A2.f - In a proportional relationship expressed as $y = kx$, solve for one quantity given values of the other two. Given quantities may be whole numbers, decimals, or fractions. Solve problems using the relationship $y = kx$.
3	GPS.06.MA.M6A2.g - Use proportional reasoning ($a/b = c/d$ and $y = kx$) to solve problems.
3	GPS.06.MA.M6A3 - Students will evaluate algebraic expressions, including those with exponents, and solve simple one-step equations using each of the four basic operations.
06 Mathematics / Mathematics 4th Term	
Term	Standard
4	GPS.06.MA.M6D2.c - Discover that experimental probability approaches theoretical probability when the number of trials is large.

4	GPS.06.MA.M6D2 - Students will use experimental and simple theoretical probability and will understand the nature of sampling. They will also make predictions from investigations.
4	GPS.06.MA.M6D2.a - Predict the probability of a given event through trials/simulations (experimental probability), and represent the probability as a ratio.
4	GPS.06.MA.M6D2.b - Determine, and use a ratio to represent, the theoretical probability of a given event.