New York State Next Generation Mathematics Learning Standards

This document is intended to help educators identify the key changes that have occurred to the content standards for this grade level/course and to assist with designing curriculum and lessons aligned to the NYS Next Generation Mathematics Learning Standards. This document does not contain the comprehensive list of learning standards for the grade level/course. The complete list of standards for the grade level/course can be found at NYS Next Generation Mathematics Learning Standards.

Grade 6 Snapshot

Standards New to Grade 6

NY-6.G.5 Use area and volume models to explain perfect squares and perfect cubes.
NY-6.SP.1b Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population.
NY-6.SP.1c Understand that the method and sample size used to collect data for a particular question is intended to reduce the difference between a population and a sample taken from the population so valid inferences can be drawn about the population. Generate multiple samples (or simulated samples) of the same size to recognize the variation in estimates or predictions.
NY-6.SP.6 Understand that the probability of a chance event is a number between 0 and 1 inclusive, that expresses the likelihood of the even occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around ½ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
NY-6.SP.7 Approximate the probability of a simple event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.
NY-6.SP.8 Develop a probability model and use it to find probabilities of simple events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.
NY-6.SP.8a Develop a uniform probability model by assigning equal probability to all outcomes and use the model to determine probabilities of simple events.
NY-6.SP.8b Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.

Standards Moved from Grade 6

No standards moved.

Highlights/Instructional Considerations

NY-6.RP.2 Unit rates are limited to non-complex fractions.
NY-6.RP.3 Students may utilize a strategy of their choice when solving real-world and mathematical problems using ratio and rate reasoning.
NY-6.RP.3b Unit rate problems may include unit pricing and constant speed.
NY-6.RP.3c Percent problems involve finding a percent as a rate per 100**,** finding the whole given a part and the percent; also finding a part of a whole given the percent.
NY-6.RP.3d Conversions are not across different measurement systems.
NY-6.NS.1 Students may utilize a strategy of their choice when interpreting, computing and solving word problems that involve quotients of fractions, including any standard algorithm.
NY-6.NS.2 (and 3) Any standard algorithm may be used for the division of multi-digit numbers.
NY-6.EE.2b Added "difference" as one of the mathematical terms.
NY-6.EE.2c Order of operations, expressions may or may not include parentheses. Expressions may contain whole-number exponents. No nested grouping symbols.
NY-6.EE.7 All four single-step equations are included. See standards document for analogous arithmetical and algebraic solution examples.
NY-6.EE.8 Added $x \geq c$ and $x \leq c$. Compound inequalities could be introduced here.
NY-6.EE.9 Students will be given an equation (no longer need to write) and will need to analyze/identify the relationship between the independent and dependent variable.
NY-6.G.1 Replaced special quadrilaterals with trapezoids; using the inclusive definition of a trapezoid (parallelograms are therefore also included).
NY-6.G.4 Clarification of three dimensional figures for nets/surface area; right rectangular prisms, right rectangular pyramids, and right triangular prisms.
NY-6.SP.1b Data should be representative of the situation. This standard came from 7th grade NYS P-12 CCLS (7. SP.1).
NY-6.SP.1c Examples of obtaining representative samples include, but are not limited to, a simple random sample for a given population or a systematic random sample for an unknown population. Examples of unacceptable methods of sampling include, but are not limited to, online polls and convenience sampling. This standard came from 7th grade NYS P-12 CCLS (7. SP.2).
NY-6.SP.2 Students need to determine and justify the most appropriate graph to display a given set of data (histogram, dot plot). Students extend their knowledge of symmetric shapes to describe displayed data.
NY-6.SP.3 Measures of center are mean, median, and mode. Measure of variation is the range only.
NY-6.SP.4 Box plots is now an expectation for grade 7. Visual representation of quantitative data includes dot plots and histograms.
NY-6.SP.5c and 5d Measures of center include mean, median, and mode. Measure of variation is the range only. MAD has been removed and IQR is an expectation of grade 7. Role of outliers should be discussed, but no formula required.
NY-6.SP.6, 7, and 8 These standards came from 7th grade NYS P-12 CCLS (7. SP.5, 6, and 7). The focus at the grade 6 level is simple events. Compound events are introduced in grade 7.