Learning Services
Olathe Public Schools USD#233

Priority Standards

Math Priority Standards – Grade 8

Below is a table of the priority standards.

Priority Standards	Description
8.NS.2	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions *(e.g. π^2). For example, for the approximation of 68, show that $\sqrt{68}$ is between 8 and 9 and closer to 8.* -KSDE Flipbooks*
8.SP.1	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association. -KSDE Flipbooks*
8.EE.3	Read and write numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities *(e.g. use millimeters per year for seafloor spreading)*. Interpret scientific notation that has been generated by technology. -KSDE Flipbooks*
8.EE.5	Use similar triangles to explain why the slope (m) is the same between any two distinct points on a non-vertical line in the coordinate plane and extend to include the use of the slope formula ($m = \frac{y_2 - y_1}{x_2 - x_1}$ when given two coordinate points (x_1, y_1) and (x_2, y_2)). Generate the equation $y = mx$ for a line through the origin (proportional) and the equation $y = mx + b$ for a line with slope m intercepting the vertical axis at y-intercept b (not proportional when $b \neq 0$). -KSDE Flipbooks*
8.EE.7	Fluently (efficiently, accurately, and flexibly) solve one-step, two-step, and multi-step linear equations and inequalities in one variable, including situations with the same variable appearing on both sides of the equal sign. • 8.EE.7a. Give examples of linear equations in one variable with one solution ($x = a$), infinitely many solutions ($a = a$), or no solutions ($a = b$). Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a, a = a, or\ a = b$ results (where a and b are different numbers). • 8.EE.7b. Solve linear equations and inequalities with rational number coefficients, including equations/inequalities whose solutions require expanding and/or factoring expressions using the distributive property and collecting like terms. -KSDE Flipbooks*

Priority Standards	Description
8.F.2	Compare properties of two linear functions represented in a variety of ways (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change, the greater y-intercept, or the point of intersection.* -*KSDE Flipbooks**
8.F.3	Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.* -*KSDE Flipbooks**
8.F.4	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (*x*, *y*) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values. - *KSDE Flipbooks**
8.G.5	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.* -*KSDE Flipbooks**
8.G.8	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. *For example: Finding the slant height of pyramids and cones.* -*KSDE Flipbooks**
8.G.12	Solve real-world and mathematical problems involving arc length, area of two-dimensional shapes including sectors, volume and surface area of three-dimensional objects including pyramids, cones and spheres. -*KSDE Flipbooks**

**Kansas Department of Education has created 'Flipbooks' for current standards that detail each standard, including examples and resources to support in understanding the depth of the standard.*