



Whiteriver Unified School District Essential Standards Quarterly Focus

What is it we expect students to learn?

Grade: 8th

Subject:

Math

First Quarter

8.NS.A.1 - Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion. Know that numbers whose decimal expansions do not terminate in zeros or in a repeating sequence of fixed digits are called irrational.

8.NS.A.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)

8.EE.A.1 - Understand and apply the properties of integer exponents to generate equivalent numerical expressions.

8.EE.B.6- Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.

Second Quarter

8.EE.C.7- Fluently solve linear equations and inequalities in one variable.

a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solution. 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).

b. Solve linear equations and inequalities with rational number coefficients, including solutions that require expanding expressions using the distributive property and collecting like terms.

8.EE.C.8 - Analyze and solve pairs of simultaneous linear equations.

a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.

b. Solve systems of two linear equations in two variables algebraically and estimate solutions by graphing the equations including cases of no solution and infinite number of solutions. Solve simple cases by inspection.

c. Solve mathematical problems and problems in real-world context leading to two linear equations in two variables.

8.F.A.1 - Understand that a function is a rule that assigns exactly one output to each input.

8.F.A.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.



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Quarterly Focus

Third Quarter

8.F.B.4 - Given a description of a situation, generate 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 a graph. Track how the values of the two quantities change together. Interpret the rate of change and initial value of a linear function in terms of the situation it models, its graph, or its table of values.

8.F.B.5 - Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

8.G.A.2 - Understand that a two-dimensional figure is congruent to another if one can be obtained from the other by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that demonstrates congruence.

8.G.A.3 - Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

8.G.A.4 - Understand that a two-dimensional figure is similar to another if, and only if, one can be obtained from the other by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that demonstrates similarity

Fourth Quarter

8.G.B.8 - Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

8.G.C.9 - Understand and use formulas for volumes of cones, cylinders and spheres and use them to solve real-world context and mathematical problems.

8.SP.B.5 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.

a. Understand that the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.

b. Represent sample spaces for compound events using organized lists, tables, tree diagrams and other methods. Identify the outcomes in the sample space which compose the event.

c. Design and use a simulation to generate frequencies for compound events



Whiteriver Unified School District Essential Standards Quarterly Focus

- *Leverage- Knowledge and skills valuable in multiple disciplines*
- *Readiness for the next level of learning- Knowledge and skills that are necessary for success in the next grade level or the next level of instruction*