

Nevada Alternate Assessment

Nevada Academic Content Standard
Connectors for Mathematics
Grade 8

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Nevada Academic Content Connectors

The Nevada Academic Content Connectors (NACC) for Math represents the academic skills upon which students to be instructed. The NACCs for Math are linked to the Nevada Academic Content Standards and represent the key academic knowledge, skills and abilities of the Math content at each grade level. The Nevada Alternate Assessment, for Mathematics, will report to the Smarter Balanced Claims for Mathematics.

- **Claim #1- Concepts & Procedures**-“Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency.”
- **Claim #2 – Problem Solving** “Students can solve a range of complex well-posed problems in pure and applied mathematics, making productive use of knowledge and problem solving strategies.”
- **Claim #3 – Communicating Reasoning** “Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.”
- **Claim #4- Modeling and Data Analysis**- “Students can analyze complex, real-world scenarios and can construct and use mathematical models to interpret and solve problems.”

Example:

| Nevada Academic Content Standards (NVACS) | NVAC Connectors |
|--|---|
| <p><i>Math Content Standard</i> 8.NS.A.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.</p> | <p>Identify numbers as being either rational or irrational numbers.<i>(Connector to the content standard)</i></p> |
| <p><i>Math Content Standard</i> 8.EE.A.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.</p> | <p>Identify equivalent expressions involving integer exponents.<i>(Connector to the content standard)</i></p> |

The Nevada Alternate Assessment was developed to allow students an opportunity to fully demonstrate their knowledge in each content area. This ability to demonstrate knowledge of core content and skills is critical as educators seek to provide access to the general education curriculum while fostering higher expectations for students with significant cognitive disabilities.

NAA Mathematics NVAC Connectors

Grade 8

Know that there are numbers that are not rational, and approximate them by rational numbers

| Nevada Academic Content Standards (NVACS) | NVAC Connectors |
|--|---|
| <p>8.NS.A.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.</p> | <p>Identify numbers as being either rational or irrational numbers.</p> |

Expressions and Equations Work with radicals and integer exponents

| Nevada Academic Content Standards (NVACS) | NVAC Connectors |
|---|---|
| <p>8.EE.A.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^5 = 3^{-3} = 1/3^3 = 1/27$.</p> | <p>Identify equivalent expressions involving integer exponents.</p> |
| <p>8.EE.A.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.</p> | <p>Write a number in scientific notation.</p> |

Understand the connections between proportional relationships, lines, and linear equations

| Nevada Academic Content Standards (NVACS) | NVAC Connectors |
|---|---|
| <p>8.EE.B.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.</p> | <p>Identify unit rate. Identify positive or negative slopes represented in a graph.</p> |

Define, evaluate, and compare functions

| Nevada Academic Content Standards (NVACS) | NVAC Connectors |
|---|--|
| 8.F.A.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. | Identify a function using an input/output table. |
| 8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). | Compare the properties of two functions. |
| 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. | Identify linear and nonlinear functions. |

Understand congruence and similarity using physical models, transparencies, or geometry software

| Nevada Academic Content Standards (NVACS) | NVAC Connectors |
|---|---|
| 8.G.A.1 Verify experimentally the properties of rotations, reflections, and translations. 8.G.A.1.a Lines are taken to lines, and line segments to line segments of the same length. 8.G.A.1.b Angles are taken to angles of the same measure. 8.G.A.1.c Parallel lines are taken to parallel lines. | Identify congruent line segments and congruent angles. |
| 8.G.A.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them. | Given two figures on a coordinate plane, identify whether the image is a result of translation, rotation, or reflection of the other. |
| 8.G.A.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. | Describe the effects of transformations of a figure shown on a coordinate plane. |

Investigate patterns of association in bivariate data

| Nevada Academic Content Standards (NVACS) | NVAC Connectors |
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| <p>8.SP.A.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.</p> | <p>Use a scatterplot to determine the line of best fit.</p> |

Analyze and solve linear equations and pairs of simultaneous linear equations

| Nevada Academic Content Standards (NVACS) | NVAC Connectors |
|--|---|
| <p>8.EE.C.7 Solve linear equations in one variable. 8.EE.C.7.a Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. 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).</p> | <p>Solve a linear equation with one variable.</p> |

Define, evaluate, and compare functions

| Nevada Academic Content Standards (NVACS) | NVAC Connectors |
|---|---|
| <p>8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).</p> | <p>Compare the properties of two functions.</p> |