



THSM Mathematics Map/Pacing Guide 2016-2017

Topics & Standards

Quarter 1

Time Frame Weeks 1-8

RATIONAL and IRRATIONAL NUMBERS

6.NS.C.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.

7.NS.A.3 Solve real-world and mathematical problems involving the four operations with rational numbers.²

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.

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). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*

Expressions and Equations

8.EE. 7. Solve linear equations in one variable.

- 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).

For guidance with I can statements, clarifications, Enduring Understandings, and Essential Questions, see your provided resource titled, The Common Core, Clarifying Expectations for Teachers & Students, 2011 Edition.

| <i>Curriculum Units & Assessment (Evidence)</i> | <i>Opportunities for Integration</i> | <i>Resources (Curriculum & Textbook)</i> | <i>Key Concept tools & practices for Differentiation</i> |
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| <p>UBD Framework</p> <p>Units: _____</p> <p>Formative & Summative Assessments</p> <ul style="list-style-type: none"> • 2-4 tasks that reach DOK 3-4 AND/OR • 1-3 FATPs / RAFTs | | <ul style="list-style-type: none"> • Glenco Algebra I supplemental material • https://sites.google.com/a/norman.k12.ok.us/mr-wolfe-s-math-interactive-whiteboard/5th-gradehttps://sites.google.com/a/norman.k12.ok.us/mr-wolfe-s-math-interactive-whiteboard/5th-grade | <p>Calculators SMARTboard Laptop carts</p> <p>Other tools and practices:</p> <ul style="list-style-type: none"> • Review order of operations • Fraction Tiles • Graphing Calculator |

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| | <ul style="list-style-type: none"> • At least (1) GRASPS per quarter • At least 1 common short cycle per quarter <p>*Assessments need to be developed by TBT team</p> <ul style="list-style-type: none"> • Aleks Software | | <ul style="list-style-type: none"> • https://sites.google.com/a/norman.k12.ok.us/mr-wolfe-s-math-interactive-whiteboard/5th-grade • https://www.bigideasmath.com/protected/content/ipe_cc/grade%207/02/g7_02_01.pdf • http://lcms.dadeschools.net/math/Pizzazz%20Books/http://lcms.dadeschools.net/math/Pizzazz Books/Pizzazz%20Book%20C.pdf • http://www.scsk12.org/SCS/curriculum_guides/6-12_Math_Webpage/PDF/gr8stations.pdf | <ul style="list-style-type: none"> • Examples of real-world situations that lend themselves to operations with fractions • Concept/Anchor Charts • Non-linguistic representations • Discourse and questioning • Operation stations for fractions |
| Topics & Standards Quarter 2 Time Frame Weeks 1-8 | Expressions and Equations 8.EE. 7. Solve linear equations in one variable. b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. FIF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.* Analyze functions using different representations 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. FIF.7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* a. Graph linear and quadratic functions and show intercepts, maxima, and minima. | | | |

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| | <i>Curriculum Units & Assessment (Evidence)</i> | <i>Opportunities for Integration</i> | <i>Resources (Curriculum & supplemental)</i> | <i>Key Concept tools & Practices</i> |
| | <p style="color: red; text-align: center;">UBD Framework</p> <p>Units: _____</p> <p>Formative & Summative Assessments</p> <ul style="list-style-type: none"> • 2-4 tasks that reach DOK 3-4 AND/OR • 1-3 FATPs / RAFTs • At least (1) GRASPS per quarter • At least 1 common short cycle per quarter <p>*Assessments need to be developed by TBT team</p> <ul style="list-style-type: none"> • Aleks Software | | <ul style="list-style-type: none"> • Glenco Algebra I supplemental material • http://nplainfieldmath.wikispaces.com/file/viewhttp://nplainfieldmath.wikispaces.com/file/view/Pizzazz+Algebra.pdf • Stain Glass window Activity • Aleks Software | <p>Other tools and practices:</p> <ul style="list-style-type: none"> • Algebra Tiles & Area models • Graphing Calculators • Graphing Software • Graphs and equations of real-world applications that apply quadratic and exponential functions • Computer software that generate graphs of functions • Examples of real-world situations that lend themselves to writing equations that model the contexts • Computer Algebra Systems • Journals • Concept/Anchor Charts • Non-linguistic representations • Discourse and questioning |
| <p><i>Topic & Standard</i></p> <p><i>Quarter 3</i></p> | <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>FIF.7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*</p> <p>a. Graph linear and quadratic functions and show intercepts, maxima, and minima.</p> <p>EE.8. Analyze and solve pairs of simultaneous linear equations</p> | | | |

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| <i>Time Frame Weeks 1-8</i> | <p>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</p> <p>b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.</p> <p>For guidance with I can statements, clarifications, Enduring Understandings, and Essential Questions, see your provided resource titled, The Common Core, Clarifying Expectations for Teachers & Students, 2011 Edition.</p> | | | |
| | <i>Curriculum Units & Assessment (Evidence)</i> | <i>Opportunities for Integration</i> | <i>Resources (Curriculum /Textbook)</i> | <i>Concept Tools & Practices</i> |
| | <p>UBD Framework</p> <p>Units: _____</p> <p>Formative & Summative Assessments</p> <ul style="list-style-type: none"> • 2-4 tasks that reach DOK 3-4 AND/OR • 1-3 FATPs / RAFTs • At least (1) GRASPS per quarter • At least 1 common short cycle per quarter <p>*Assessments need to be developed by TBT team</p> <ul style="list-style-type: none"> • Aleks Software | | <ul style="list-style-type: none"> • Glenco Algebra I supplemental material • System Scavenger hunt • Aleks Software | <p>Other tools and practices:</p> <ul style="list-style-type: none"> • Graphing Calculators • Graphing Software • Graphs and equations of real-world applications that apply quadratic and exponential functions • Computer software that generate graphs of functions • Examples of real-world situations that lend themselves to writing equations that model the contexts • Computer Algebra Systems • Area models • Journals • Concept/Anchor Charts • Non-linguistic representations • Discourse and questioning |

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| <p>Topic & Standard Quarter 4</p> <p>Time Frame Weeks 1-8</p> | <p>EE.8. Analyze and solve pairs of simultaneous linear equations</p> <p>b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.</p> <p>c. Solve real-world and mathematical problems leading to two linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair</p> <p>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</p> <p>8. SP. A. 4. Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. <i>For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?</i></p> <p>For guidance with I can statements, clarifications, Enduring Understandings, and Essential Questions, see your provided resource titled, <u>The Common Core, Clarifying Expectations for Teachers & Students, 2011 Edition.</u></p> | | | |
|---|--|--------------------------------------|---|---|
| Time Frame | Curriculum Units & Assessment (Evidence) | Opportunities for Integration | Resources (Curriculum /Textbook) | Concept Tools & Practices for Differentiation |
| | <p>UBD Framework</p> <p>Units: _____</p> <p>Formative & Summative Assessments</p> <ul style="list-style-type: none"> • 2-4 tasks that reach DOK 3-4 AND/OR • 1-3 FATPs / RAFTs • At least (1) GRASPS per quarter • At least 1 common short cycle per quarter <p>*Assessments need to be developed by TBT team</p> | | <ul style="list-style-type: none"> • System Stations • What are the Magic Numbers • Aleks Software • Survey Questions • Wing span vs height activity | <p>Other tools and practices:</p> <ul style="list-style-type: none"> • Graphing Calculators • Examples of real-world situations that lend themselves to Solving systems of equations • Journals • Concept/Anchor Charts • Non-linguistic representations • Discourse and questioning |

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| | Aleks Software | | | |
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