

Jasper City Schools Curriculum Map

Algebraic Connection

Course Name: Algebraic Connection																					
Unit Name: Unit #1 – Geometry: Modeling																					
Time Frame:	12 days																				
Unit Standards	<p>Geometry: Modeling</p> <p>Determine missing information in an application-based situation using properties of right triangles, including trigonometric ratios and the Pythagorean Theorem.</p>																				
Unit Essential Questions	<p>How do you solve problems involving angle relationships in triangles?</p> <p>How do you solve problems involving similar triangles?</p> <p>How do you solve problems using the Pythagorean Theorem?</p>																				
Unit Essential Vocabulary	<table border="0"> <tr> <td>1. Theorem</td> <td>11. Trigonometry</td> </tr> <tr> <td>2. Triangle</td> <td>12. Sine</td> </tr> <tr> <td>3. Scale drawings</td> <td>13. Cosine</td> </tr> <tr> <td>4. Similar figures</td> <td>14. Tangent</td> </tr> <tr> <td>5. Corresponding angles</td> <td></td> </tr> <tr> <td>6. Corresponding sides</td> <td></td> </tr> <tr> <td>7. Right triangle</td> <td></td> </tr> <tr> <td>8. Legs</td> <td></td> </tr> <tr> <td>9. Hypotenuse</td> <td></td> </tr> <tr> <td>10. Pythagorean Theorem</td> <td></td> </tr> </table>	1. Theorem	11. Trigonometry	2. Triangle	12. Sine	3. Scale drawings	13. Cosine	4. Similar figures	14. Tangent	5. Corresponding angles		6. Corresponding sides		7. Right triangle		8. Legs		9. Hypotenuse		10. Pythagorean Theorem	
1. Theorem	11. Trigonometry																				
2. Triangle	12. Sine																				
3. Scale drawings	13. Cosine																				
4. Similar figures	14. Tangent																				
5. Corresponding angles																					
6. Corresponding sides																					
7. Right triangle																					
8. Legs																					
9. Hypotenuse																					
10. Pythagorean Theorem																					
Resources	<p>Textbook</p> <p>KUTA</p> <p>ExamView</p> <p>Additional Online Resources</p>																				
Assessment(s)	<p>StartUps, quizzes, projects, Unit Test</p> <p>A –</p> <p>B –</p> <p>C –</p> <p>D –</p> <p>E –</p> <p>F –</p>																				
Assessment Data:																					

Jasper City Schools Curriculum Map

Walker High School

Algebraic Connection

Course Name: Algebraic Connection

Unit Name: Unit #2 – Geometry: Transformations

Time Frame: 5 days

Unit Standards
 GEOMETRY: Symmetry
 Analyze aesthetics of physical models for line symmetry, rotational symmetry, or the golden ratio.

Unit Essential Questions
 What is symmetry?
 How is symmetry be used in the real world?

Unit Essential Vocabulary
 1. Symmetry
 2. Orientation
 3. Reflections
 4. Rotations
 5. Translations

Resources
 Textbook
 KUTA
 ExamView
 Additional online resources

Assessment(s) StartUps, quizzes, projects, Unit Test

Assessment Data:
 A –
 B –
 C –
 D –
 F –

Jasper City Schools Curriculum Map

Algebraic Connection

Course Name: Algebraic Connection

Unit Name: Unit #3 - GEOMETRY: Measurement

Time Frame: 5 days

Unit Standards
 GEOMETRY: Measurement
 Critique measurements in terms of precision, accuracy, and approximate error.

Unit Essential Questions
 What is precision in terms of measurement?
 What is accuracy in terms of measurement?
 What is approximate error in terms of measurement?

Unit Essential Vocabulary
 1. Measurement
 2. Precision
 3. Accuracy
 4. Approximate error

Resources
 Textbook
 KUTA
 ExamView
 Additional Online Resources

Assessment(s) StartUps, quizzes, projects, Unit Tests

Assessment Data:
 A –
 B –
 C –
 D –
 F –

Jasper City Schools Curriculum Map

Algebraic Connection

Course Name: Algebraic Connection																							
Unit Name: Unit #4 – Geometry: Ratios and Proportions																							
Time Frame:	6 days																						
Unit Standards	GEOMETRY: Measurement Use ratios of perimeters, areas, and volumes of similar figures to solve applied problems.																						
Unit Essential Questions	What is perimeter? What is area? What is volume? What are perimeter, area, and volume’s uses in the real world?																						
Unit Essential Vocabulary	<table border="0"> <tr> <td>1. Perimeter</td> <td>10. Radius</td> </tr> <tr> <td>2. Polygon</td> <td>11. Diameter</td> </tr> <tr> <td>3. Triangle</td> <td>12. Circumference</td> </tr> <tr> <td>4. Quadrilateral</td> <td>13. Pi</td> </tr> <tr> <td>5. Regular polygon</td> <td>14. Volume</td> </tr> <tr> <td>6. Rectangle</td> <td>15. Rectangular solid</td> </tr> <tr> <td>7. Area</td> <td>16. Polyhedron</td> </tr> <tr> <td>8. Circle</td> <td>17. Pyramid</td> </tr> <tr> <td>9. Center</td> <td>18. Cylinder</td> </tr> <tr> <td></td> <td>19. Cone</td> </tr> <tr> <td></td> <td>20. Sphere</td> </tr> </table>	1. Perimeter	10. Radius	2. Polygon	11. Diameter	3. Triangle	12. Circumference	4. Quadrilateral	13. Pi	5. Regular polygon	14. Volume	6. Rectangle	15. Rectangular solid	7. Area	16. Polyhedron	8. Circle	17. Pyramid	9. Center	18. Cylinder		19. Cone		20. Sphere
1. Perimeter	10. Radius																						
2. Polygon	11. Diameter																						
3. Triangle	12. Circumference																						
4. Quadrilateral	13. Pi																						
5. Regular polygon	14. Volume																						
6. Rectangle	15. Rectangular solid																						
7. Area	16. Polyhedron																						
8. Circle	17. Pyramid																						
9. Center	18. Cylinder																						
	19. Cone																						
	20. Sphere																						
Resources	Textbook KUTA ExamView Additional Online Resources																						
Assessment(s)	StartUps, quizzes, projects, Unit Test																						
Assessment Data:	A – B – C – D – F –																						

Jasper City Schools Curriculum Map

Algebraic Connection

Course Name: Algebraic Connection

Unit Name: Unit #5 –ALGEBRA: Models

Time Frame: 10 days

Unit Standards
 ALGEBRA: Modeling
 Create algebraic models for application-based problems by developing and solving equations and inequalities, including those involving direct, inverse, and joint variation.

Unit Essential Questions
 What rules or properties would need to be applied to solve linear equations and inequalities?
 What are some strategies for solving word problems using equations?
 Can you explain the difference in direct, inverse, and joint variation?
 How would you describe the difference between equations and inequalities?

Unit Essential Vocabulary

1. Equation 2. Linear equation 3. Solution 4. Addition property of equality 5. Subtraction property 6. Multiplication property 7. Division property 8. Ratio 9. Proportion	10. Variation 11. Direct variation 12. Inverse variation 13. Joint variation 14. Linear inequality
--	--

Resources
 Textbook
 KUTA
 ExamView
 Additional Online Resources

Assessment(s) StartUps, quizzes, projects, Unit Test

Assessment Data:
 A –
 B –
 C –
 D –
 F –

Jasper City Schools Curriculum Map

Algebraic Connection

Course Name: Algebraic Connection	
Unit Name: Unit #6 – ALGEBRA: Modeling Systems of Equations and Inequalities	
Time Frame:	10 days
Unit Standards	ALGEBRA: Modeling Solve application-based problems by developing and solving systems of linear equations
Unit Essential Questions	What is a system of linear equations and inequalities? What is the substitution method? What is the addition/elimination method?
Unit Essential Vocabulary	1. System of equations 2. System of inequalities 3. Substitution 4. Addition/elimination
Resources	Textbook KUTA ExamView Additional Online Resources
Assessment(s)	StartUps, quizzes, projects, Unit Test
Assessment Data:	A – B – C – D – F –

Jasper City Schools Curriculum Map

Algebraic Connection

Course Name: Algebraic Connection	
Unit Name: Unit #7 –ALGEBRA: Formulas and Functions	
Time Frame:	5 days
Unit Standards	ALGEBRA: Modeling Use formulas or equations of functions to calculate outcomes of exponential growth or decay.
Unit Essential Questions	What is exponential growth or decay? How is exponential growth or decay applied in the real world? What do the graphs of exponential function or decay show?
Unit Essential Vocabulary	1. Exponential function 2. Base 3. Exponent
Resources	Textbook KUTA ExamView Additional online resources
Assessment(s)	StartUps, quizzes, projects, Unit Test
Assessment Data:	A – B – C – D – F –

Jasper City Schools Curriculum Map

Algebraic Connection

Course Name: Algebraic Connection	
Unit Name: Unit #8 – Algebra: Linear Programming	
Time Frame:	5 days
Unit Standards	ALGEBRA: Graphing Determine maximum and minimum values of a function using linear programming procedures.
Unit Essential Questions	How can the extreme value of an objective function be used to solve applied problems?
Unit Essential Vocabulary	<ol style="list-style-type: none"> 1. Linear programming 2. Objective function 3. Constraints 4. Vertex 5. Extreme value 6. Maximum value 7. Minimum value
Resources	Textbook KUTA ExamView Additional Online Resources
Assessment(s)	StartUps, quizzes, projects, Unit Test
Assessment Data:	<p>A –</p> <p>B –</p> <p>C –</p> <p>D –</p> <p>F –</p>

Jasper City Schools Curriculum Map

Algebraic Connection

Course Name: Algebraic Connection

Unit Name: Unit #9 – ALGEBRA: Rate of Change

Time Frame: 5 days

Unit Standards

ALGEBRA: Graphing

Determine approximate rates of change of nonlinear relationships from graphical and numerical data.
 a. Create graphical representations from tables, equations, or classroom-generated data to model consumer costs and to predict future outcomes.

Unit Essential Questions

What is average rate of change?
 How does average rate of change relate to slope?
 How is the average rate of change calculated?
 What does the average rate of change tell you about a function?

Unit Essential Vocabulary

1. Average rate of change
2. Slope

Resources

Textbook
 KUTA
 ExamView
 Additional online resources

Assessment(s)

StartUps, quizzes, projects, Unit
 A –

Assessment Data:

B –
 C –
 D –
 F –

Jasper City Schools Curriculum Map

Algebraic Connection

Course Name: Algebraic Connection			
Unit Name: ALGEBRA: Extreme Values			
Time Frame:	5 days		
Unit Standards	ALGEBRA: Graphing Use the extreme value of a given quadratic function to solve applied problems.		
Unit Essential Questions	How can the extreme value of a given quadratic function be used to solve applied problems?		
Unit Essential Vocabulary	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <ul style="list-style-type: none"> 1. Quadratic function 2. Parabola 3. Vertex 4. Axis of symmetry 5. x-intercepts 6. y-intercept 7. Extreme value 8. Maximum value </td> <td style="width: 50%; border: none; vertical-align: top;"> <ul style="list-style-type: none"> 9. Minimum value </td> </tr> </table>	<ul style="list-style-type: none"> 1. Quadratic function 2. Parabola 3. Vertex 4. Axis of symmetry 5. x-intercepts 6. y-intercept 7. Extreme value 8. Maximum value 	<ul style="list-style-type: none"> 9. Minimum value
<ul style="list-style-type: none"> 1. Quadratic function 2. Parabola 3. Vertex 4. Axis of symmetry 5. x-intercepts 6. y-intercept 7. Extreme value 8. Maximum value 	<ul style="list-style-type: none"> 9. Minimum value 		
Resources	Textbook KUTA ExamView Additional Online Resources		
Assessment(s)	StartUps, quizzes, projects, Unit Test		
Assessment Data:	<ul style="list-style-type: none"> A – B – C – D – F – 		

Jasper City Schools Curriculum Map

Algebraic Connection

Course Name: Algebraic Connection

Unit Name: Unit #11 –ALGEBRA: Making Decisions

Time Frame: 10 days

Unit Standards
 ALGEBRA: Finance
 7.) Use analytical, numerical, and graphical methods to make financial and economic decisions, including those involving banking and investments, insurance, personal budgets, credit purchases, recreation, and deceptive and fraudulent pricing and advertising.
 a. Create, manually or with technological tools, graphs and tables related to personal finance and economics.

Unit Essential Questions
 What is the purpose/significance of a budget?
 How could your understanding of banking and investments help you in making sound financial and economic decisions?
 What are credit purchases?
 What are the signs of and how can you detect deceptive and fraudulent pricing and advertising?

Unit Essential Vocabulary

1. Percent	21. Installment buying	41. Adjustable-rate mortgages
2. Sales	22. Installment loan	42. Variable-rate mortgages
3. Discount	23. Down payment	43. Points
4. Percent increase	24. Fixed installment loan	44. Truth-in-Lending Disclosure
5. Percent decrease	25. Amount financed	45. Escrow account
6. Interest	26. Total installment price	46. Amortized
7. Simple interest	27. Finance charge	47. Loan Amortization Schedule
28. Truth-in-Lending Act	48. Cash investment	8. Principal
9. Rate	29. Unearned interest	49. Return
10. Future value	30. Actuarial method	50. Stocks
11. Present value	31. Rule 78	51. Bonds
12. Banker's Rule	32. Payoff amount	52. Shareholder
13. Discounted loan	33. Revolving credit	53. Trading
14. Compound interest	34. Itemized billing	54. Stock exchange
15. Compounding period	35. Unpaid balance method	55. Stockbrokers
16. Compounded annually, Semiannually, quarterly	36. Previous balance methods	56. Capital gain
17. Continuous compounding	37. Average daily balance method	57. Dividends
18. Effective annual yield, effective rate	38. Mortgage	58. Lending money
19. Nominal rate	39. Mortgage brokers	59. Face value
20. Annual percentage rate	40. Fixed-rate mortgages	60. Financial portfolio
62. Mutual fund	63. Fund manager	61. Diversified portfolio

Resources
 Textbook
 KUTA
 ExamView
 Additional online resources

Assessment(s) StartUps, quizzes, projects, Unit Test

Assessment Data:
 A –
 B –
 C –
 D –
 F –

Jasper City Schools Curriculum Map

Algebraic Connection

Course Name: Algebraic Connection

Unit Name: Unit #12 – STATISTICS AND PROBABILITY: Model and Predict

Time Frame: 5 days

Unit Standards
 STATISTICS AND PROBABILITY: Graphing
 Create a model of a set of data by estimating the equation of a curve of best fit from tables of values or scatter plots.
 a. Predict probabilities given a frequency distribution.

Unit Essential Questions
 What are scatter plots?
 What does a scatter plot tell you about a given set of data?
 What is a regression line?
 How can a regression line predict information?

Unit Essential Vocabulary

1. Scatter plot
2. Correlation
3. Regression line
4. Correlation coefficient
5. Positive correlation
6. Negative correlation
7. Perfect positive correlation
8. Perfect negative correlation

Resources
 Textbook
 KUTA
 ExamView
 Additional online resources

Assessment(s) StartUps, quizzes, projects, Unit Test

Assessment Data:
 A –
 B –
 C –
 D –
 F –