Common Core Lesson Planning Template

Grade Level 10th-12th	**Teacher/Room**: Daniels 214 Week of: February 13-17, 2017

Unit Vocabulary: Matrices - Chapter 4 Algebra ll

Instructional Strategies Used: direct instruction, independent study, interactive instruction

Day 1	Day 2	Day 3	Day 4	Day 5
Georgia Standards of Excellence **MGSE9-12.A.SSE.1** Interpret expressions that represent a quantity in terms of its context. **MGSE9-12.A.SSE.1a** Interpret parts of an expression, such as terms, factors, and coefficients, in context. **MGSE9-12.A.SSE.1b** Given situations which utilize formulas or expressions with multiple terms and/or factors, interpret the meaning (in context) of individual terms or factors.	**Georgia Standards of Excellence** **MGSE9-12.A.SSE.1** Interpret expressions that represent a quantity in terms of its context. **MGSE9-12.A.SSE.1a** Interpret parts of an expression, such as terms, factors, and coefficients, in context. **MGSE9-12.A.SSE.1b** Given situations which utilize formulas or expressions with multiple terms and/or factors, interpret the meaning (in context) of individual terms or factors.	**Georgia Standards of Excellence** **MGSE9-12.A.SSE.1** Interpret expressions that represent a quantity in terms of its context. **MGSE9-12.A.SSE.1a** Interpret parts of an expression, such as terms, factors, and coefficients, in context. **MGSE9-12.A.SSE.1b** Given situations which utilize formulas or expressions with multiple terms and/or factors, interpret the meaning (in context) of individual terms or factors.	**Georgia Standards of Excellence** **MGSE9-12.A.SSE.1** Interpret expressions that represent a quantity in terms of its context. **MGSE9-12.A.SSE.1a** Interpret parts of an expression, such as terms, factors, and coefficients, in context. **MGSE9-12.A.SSE.1b** Given situations which utilize formulas or expressions with multiple terms and/or factors, interpret the meaning (in context) of individual terms or factors.	**Georgia Standards of Excellence** **MGSE9-12.A.SSE.1** Interpret expressions that represent a quantity in terms of its context. **MGSE9-12.A.SSE.1a** Interpret parts of an expression, such as terms, factors, and coefficients, in context. **MGSE9-12.A.SSE.1b** Given situations which utilize formulas or expressions with multiple terms and/or factors, interpret the meaning (in context) of individual terms or factors**.**
EQ Question: 1.How can I add and subtract matrices, multiply a matrix by a scalar, and solve matrix equations	**EQ Question:** 1. How can I multiply two matrices?	**EQ Question:** 1. How can I evaluate determinants of 2 X 2 and 3 X 3 Matrices?	**EQ Question:** 1. How can I use Cramer's rule to solve systems of linear equations?	**EQ Question:** 1. How can I demonstrate mastery of Matrices, determinants and Cramer's Rule?
Mini Lesson: Warm Up- Number talk-Races **Activating Strategies:** Review week 2/6-2/10 And Friday's quiz Youtube video on Matrices **Lesson: 1.** Matrix Operations **Resource/Materials:** P 203 r, rulers, examples	**Mini Lesson:** Warm Up- Number talk-Races **Activating Strategies:** Check homework Youtube Multiplying matrices **Lesson 1** Multiply Matrices **Resource/Materials:** P208, youtube, Puzzle, rulers	**Mini Lesson:** Warm up- Number talk-Races **Activating Strategies:** Check homework, Team work Khan Academy video on determinants **Lesson** Determinants (4.3) **Resource/Materials:** Practice packet, rulers, P214 Task and examples	**Mini Lesson:** Warm Up- Number talk-Races **Activating Strategies:** Check homework Station Races/Team Competition **Lesson1.** Cramer's Rule (4.3b) **Resource/Materials:** Textbook, sample problems	**Mini Lesson:** Warm Up- Number talk-Races **Activating Strategies:** Check homework/Review **Lesson:** Review/ weekly test USA Test Prep cmptr lab **Resource/Materials:** Review, test, cmptr lab

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Differentiation:	Differentiation:	Differentiation:	Differentiation:	Differentiation:
Content/Process/Product: groups *Grouping Strategy: Page 4 for group A 1 and 3 for Group B* *Assessment:TOD*	*Content/Process/Product:* *Grouping Strategy: Practice with simple 2 x 2 (group A) and more advanced 3 matrices multiplication for (Group B)* *AssessmentTOD*	*Content/Process/Product:* *Grouping Strategy: Practice with 2 X 2 determinants group A 3X3 for Group B* *Assessment:TOD*	*Content/Process/Product:* *Grouping Strategy: lesson is mainly for Group B. Students in group A continue finding determinants for 2X2 amnd 3X3 and practice multiplying matrices* *Assessment:TOD*	*Content/Process/Product:* *Grouping Strategy:* *USA Test Prep in Computer lab after test/quiz* *Assessment:TOD*
Assessment : **weekly test**	**Assessment:** **Weekly test**	**Assessment:** **Weekly test**	**Assessment:** **Weekly test**	**Assessment:** **Weekly test** **Chapter 4 Quiz :** **4.1-4.3**
Homework: Matrix Packet adding and subtracting	**Homework:** Multiplying Matrices Packet	**Homework:** Determinant/Cramer's Rule packet (Just the first two pages)	**Homework:** Determinant/**Cramer's Rule** packet (the last two pages)	**Homework:** No homework

GSE Algebra II/ Advanced Algebra
Unit 6: Mathematical Modeling

Vocabulary:

Absolute Value: The absolute value of a number is the distance the number is from zero on the number line.
• **Base** (of a Power): The number or expression used as a factor for repeated multiplication
• **Geometric Sequence**: is a sequence with a constant ratio between successive terms
• **Geometric Series**: the expression formed by adding the terms of a geometric sequence
• **Degree**: The exponent of a number or expression
•
Degree of a Polynomial: The largest exponent of x which appears in the polynomial
• **Domain**: The set of x-coordinates of the set of points on a graph; the set of x-coordinates of a given set of ordered pairs. The value that is the input in a function or relation.
• **Estimate**: A guess about the size, cost, or quantity of something.
• **Exponential**: A number written with an exponent. For example, 6,3 is called an exponential expression.
• **Factor**: When two or more integers are multiplied, each integer is a factor of the product. "To factor" means to write the number or term as a product of its factors.
• **Function**: A rule of matching elements of two sets of numbers in which an input value from the first set has only one output value in the second set.
• **Graph of a Function**: The set of all the points on a coordinate plane whose coordinates make the rule of function true.
• **Integer**: The set of numbers ...,-3,-2,-1,0,1,2,3,…
• **Interest**: The percent of the money on deposit (the principal) paid to a lender for the use of the principle
• **Interval**: A regular distance or space between values. The set of points between two numbers.
• **Pattern**: A set of numbers or objects that are generated by following a specific rule.
• **Power**: The exponent of a number or expression, which indicates the number of times the number or expression is used as a factor.

ESSENTIAL QUESTIONS

- How can an appropriate equation be built by looking at a mathematical pattern?
- How can prior knowledge of functions be used to build precise and efficient models?
- How do the multiple representation of functions aid in building more efficient and more accurate models?
- How can technology be employed to help build mathematical models, and how can it be used to assess the appropriateness of a specific model?
- How can we derive and apply the formula for the sum of a finite geometric series?
- How can both algebraic and geometric models optimize particular important values?
- How can systems of equations and inequalities be used to define feasible regions of solutions to solve problems?
- What is the purpose of building constraints for a model, including using constraints to define feasible solutions and using domain restrictions when analyzing graphs to ensure validity of a function?
- Why is revision necessary in model building?
- Why is a deep knowledge of the various types of basic mathematical functions absolutely necessary in order to build models for real-world phenomena?
- Why is building functions, including combining and composing functions, important in the process of mathematical modeling?