

MCS MYP Algebra: Concepts & Connections Subject Group Overview

Unit Name	U1: Modeling Linear Functions	U2: Analyzing Linear Inequalities	U3: Investigating Rational & Irrational Numbers	U4: Modeling and Analyzing Quadratic Functions	U5: Modeling and Analyzing Exponential Expressions & Equations	U6: Analyzing Exponential Functions	U7: Investigating Data	U8: Algebraic Connections to Geometric Concepts	U9: Culminating Capstone Unit
Time Frame	3 – 4 weeks	1 – 2 weeks	1 – 2 weeks	11 weeks	2 weeks	2 weeks	3 weeks	2 weeks	1 - 2 weeks
Standards	A.FGR.2 A.MM.1 A.MP.1-8 *8.PAR.3* *8.PAR.4.2*	A.PAR.4 A.MM.1 A.MP.1-8 *8.PAR.3.5*	A.NR.5 A.MM.1 A.MP.1-8	A.PAR.6 A.FGR.7 A.MM.1 A.MP.1-8 *8.FGR.5*	A.PAR.8 A.MM.1 A.MP.1-8	A.FGR.9 A.MM.1 A.MP.1-8	A.DSR.10 A.MM.1 A.MP.1-8 *6.NR.2.2*	A.GSR.3 A.MM.1 A.MP.1-8 *8.FGR.7.2, .5*	All standards A.MM.1 A.MP.1-8
Approaches To Learning Instructional Strategies	Category: Communication Skills Cluster: Communication Skill Indicator: Understand and use mathematical notation Category: Thinking Skills Cluster: Critical-thinking Skill Indicator: Gather and organize relevant information to formulate an argument.	Category: Thinking Skills Cluster: Transfer Skill Indicator: Combine knowledge, understanding and skills to create products or solutions	Category: Self-Management Skills Cluster: Reflection Skill Indicator: Perseverance - demonstrate persistence and perseverance	Category: Thinking Skills Cluster: Critical-thinking Skill Indicator: Practice Observing carefully in order to recognize problems Category: Self-Management Skills Cluster: Affective Skill Indicator: Demonstrate persistence and perseverance Category: Research Skills Cluster: Information Literacy Skill Indicator: Understand and use technology systems	Category: Self-Management Skills Cluster: Organization Skill Indicator: Use appropriate strategies for organizing complex information Category: Thinking Skills Cluster: Critical-thinking Skill Indicator: Practice visible thinking strategies and techniques	Category: Communication Skills Cluster: Communication Skill Indicator: Make effective summary notes for studying Category: Self-Management Skills Cluster: Affective Skill Indicator: Practice “bouncing back” after adversity, mistakes and failures Category: Research Skills Cluster: Information Literacy Skill Indicator: Process data and report results	Cluster: Critical Thinking Skill Indicator: Identify trends and forecast possibilities Category: Communication Skills Cluster: Communication Skill Indicator: Negotiate ideas and knowledge with peers and teachers	Category: Thinking Skills Cluster: Creative-Thinking Skill Indicator: Apply existing knowledge to generate new ideas, products or process	Summary of all ATL’s will be used.

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Statement of Inquiry	Forms of identities and relationships model psychological and social development using patterns and changes throughout health and well being activities.	Relationships formed by modeling systems validate products, processes, and solutions.	Exploring the relationships between rational and irrational numbers through models can enhance our understanding of their properties and applications in scientific and technical innovation	Investigating the relationship between quadratic functions and their models through representation and systems using scientific and technical innovations can lead to deeper understanding of their behavior and applications.	Application of logical reasoning principles, including validity and quantity, within mathematical models can enhance our understanding of the relationship between globalization and sustainability, particularly in the context of consumption, conservation of natural resources, and the provision of public goods.	Exploring the form of exponential functions and their relationship to scientific and technical innovation, including mathematical puzzles, principles, and discoveries, insights are given into the dynamic nature of change, space, and quantity within the global context of exponential growth and transformation.	Representing relationships in different quantities, data builds identities in sports.	Generalizing relationships between models can develop principles, processes and solutions through their various measurements.	
Global Context	Identities and Relationships - Exploration: Physical, psychological and social development; transitional; health and well-being; lifestyle choices	Scientific and technical innovation Exploration: Systems, models, methods	Scientific and Technical Innovation Exploration: Modernization, industrialization and engineering	Scientific and Technical Innovation Exploration: Mathematical puzzles, principles, and discoveries	Globalization and Sustainability Exploration: Consumption, conservation, natural resources and public goods	Scientific and Technological Innovations Exploration: Mathematical puzzles, principals and discoveries	Identities & Relationships Exploration: Competition and Cooperation; teams, affiliation & leadership	Personal and Cultural Expression Exploration: Artistry, craft, creation, beauty	
Key Concepts	Form The shape and underlying structure of an entity or piece of work, including its organization, essential in nature and external appearance.	Relationships Identify and understand connections and associations between properties, objects, people, and ideas - including the human community's connections with the world in which we live.	Relationships Identify and understand connections and associations between properties, objects, people, and ideas - including the human community's connections with the world in which we live.	Relationships Identify and understand connections and associations between properties, objects, people, and ideas - including the human community's connections with the world in which we live.	Logic A method of reasoning and a system of principles used to build arguments and reach conclusions.	Relationships Identify and understand connections and associations between properties, objects, people, and ideas - including the human community's connections with the world in which we live.	Relationships Identify and understand connections and associations between properties, objects, people, and ideas - including the human community's connections with the world in which we live.	Form The shape and underlying structure of an entity or piece of work, including its organization, essential nature and external appearance.	

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Related Concepts	Change, Model, Pattern	Models, Systems, Validity	Equivalence, Models	Representation, Systems, and Models	Generalization, Pattern, Representation	Change, Space, Quantity	Quantity, Representation, Validity	Measurement, Models	
Design Cycle Transdisciplinary	<ul style="list-style-type: none">● Inquiring and Analyzing● Developing Ideas● Creating a Solution● Evaluating	<ul style="list-style-type: none">● Inquiring and Analyzing● Developing Ideas● Creating a Solution● Evaluating	<ul style="list-style-type: none">● Inquiring and Analyzing● Developing Ideas● Creating a Solution● Evaluating	<ul style="list-style-type: none">● Inquiring and Analyzing● Developing Ideas● Creating a Solution● Evaluating	<ul style="list-style-type: none">● Inquiring and Analyzing● Developing Ideas● Creating a Solution● Evaluating	<ul style="list-style-type: none">● Inquiring and Analyzing● Developing Ideas● Creating a Solution● Evaluating	<ul style="list-style-type: none">● Inquiring and Analyzing● Developing Ideas● Creating a Solution● Evaluating	<ul style="list-style-type: none">● Inquiring and Analyzing● Developing Ideas● Creating a Solution● Evaluating	
MYP Assessments/ Performance Tasks	MYP B - Identifying and Predicting Patterns MYP C - Baby Denise Student Engagement	MYP D - Concerts, Accounts, and Advertisements	MYP C - Rational vs Irrational	MYP A - Factoring MYP B - D.O.S	MYP A - Solving Exponentials	MYP C - A Penny a Day	MYP B - Patterns in the Data	MYP D - City Design	
Differentiation For Tiered Learners	Marietta City Schools teachers provide specific differentiation of learning experiences for all students. Details for differentiation for learning experiences are included on the district unit planners.								