Georgia's K-12 Mathematics Standards Curriculum Map

Implementation beginning Fall 2023

ADVANCED MATHEMATICAL DECISION MAKING

ADVANCED MATHEMATICAL DECISION MAKING CURRICULUM MAP

Georgia's K-12 Mathematics Standards ADVANCED MATHEMATICAL DECISION MAKING						
SEMESTER 1			SEMESTER 2			
Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7
Using The Power of Mathematical Reasoning to Make Decisions	Using Probability to Make Decisions	Using Statistical Studies to Make Decisions	Using Mathematical Models to Make Decisions	Using Vectors and Matrices to Make Decisions	Using Network Models to Make Decisions	Culminating Capstone Unit
Traditional Schedule						
5 – 6 weeks	5 – 6 weeks	5 – 6 weeks	6 – 7 weeks	3 – 4 weeks	3 – 4 weeks	1 – 2 weeks
Block Schedule						
15 – 18 days	15 – 18 days	15 – 18 days	18 – 21 days	9 – 12 days	9 – 12 days	2 – 4 days
AMDM.MM.1 AMDM.QPR.2 AMDM.QPR.3 AMDM.PAR.4 AMDM.MP.1-8	AMDM.MM.1 AMDM.PR.5 AMDM.PR.6 AMDM.MP.1-8	AMDM.MM.1 AMDM.DSR.7 AMDM.MM.1-8	AMDM.MM.1 AMDM.PAR.8 AMDM.FGR.9 AMDM.GSR.10 AMDM.MP.1-8	AMDM.MM.1 AMDM.PAR.11 AMDM.MP.1-8	AMDM.MM.1 AMDM.PAR.12 AMDM.MP.1-8	ALL STANDARDS AMDM.MP.1-8

Ongoing interdisciplinary learning to impact the community and to explain real-life phenomena.

The concepts presented in each unit are presented based on a logical, mathematical progression. Each unique unit in sequence builds upon the previous unit.

The Framework for Statistical Reasoning, Mathematical Modeling Framework, and the K-12 Mathematical Practices should be taught throughout the units.

Mathematical Practices (AMDM.MP.1- 8) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3, and 6 should support the learning in every lesson.

Key for Course Standards: MP: Mathematical Practices, MM: Mathematical Modeling, NR: Numerical Reasoning, PAR: Patterning & Algebraic Reasoning, FGR: Functional & Graphical Reasoning, GSR: Geometric & Spatial Reasoning, DSR: Data & Statistical Reasoning, PR: Probabilistic Reasoning, QPR: Quantitative & Proportional Reasoning

ADVANCED MATHEMATICAL DECISION MAKING

Year-At-A-Glance			
Semester 1			
Pacing Suggestions	**Units**	**Content Standards**	**Learning Objectives**
Traditional 5 – 6 weeks **Block 15 – 18 days**	**Unit 1: Using the Power of Mathematical Reasoning to Make Decisions** *In this unit, students will examine the use of mathematical reasoning to solve estimable problems involving large quantities. Students will learn how rates and ratios are used in the analysis of voting methods and consumer purchases. Students will also explore how numbers are used in industry for identification and in business for the validation of transactions. Students will provide evidence of learning through the solving of real-world examples with appropriate mathematical resources from the unit of study.*	AMDM.QPR.2 AMDM.QPR.3 AMDM.PAR.4 AMDM.MM.1 AMDM.MP.1-8	AMDM.QPR.2.1 AMDM.MM.1.1 AMDM.QPR.2.2 AMDM.MM.1.2 AMDM.QPR.2.3 AMDM.MM.1.3 AMDM.QPR.3.1 AMDM.MM.1.4 AMDM.QPR.3.2 AMDM.PAR.4.1 AMDM.PAR.4.2 AMDM.PAR.4.3 AMDM.PAR.4.4
Traditional 5 – 6 weeks **Block 15 – 18 days**	**Unit 2: Using Probability to Make Decisions** *In this unit, students will focus on the creation of various models to organize data and determine the probability of events for conditional, compound, and weighted problems. Students will also calculate and analyze the fairness, risks, and expected payoffs as they pertain to games of chance or consumer decisions. Students will provide evidence of learning through the solving of real-world examples with appropriate mathematical resources from the unit of study. They will culminate this unit by participating in playing carnival games they created throughout the unit.*	AMDM.PR.5 AMDM.PR.6 AMDM.MM.1 AMDM.MP.1-8	AMDM.PR.5.1 AMDM.MM.1.1 AMDM.PR.5.2 AMDM.MM.1.2 AMDM.PR.6.1 AMDM.MM.1.3 AMDM.PR.6.2 AMDM.MM.1.4 AMDM.PR.6.3
Traditional 5 – 6 weeks **Block 15 – 18 days**	**Unit 3: Using Statistical Studies to Make Decisions** *In this unit, students will examine the process of conducting a research study by emphasizing the various methods of collecting data, creating appropriate graphical displays, and interpreting the results. Students will explore various sampling techniques, while identifying the parameters and possible sources of bias that may affect the findings used to make research and business decisions. Students will provide evidence of learning through the solving of real-world examples with appropriate mathematical resources from the unit of study.*	AMDM.DSR.7 AMDM.MM.1 AMDM.MP.1-8	AMDM.DSR.7.1 AMDM.MM.1.1 AMDM.DSR.7.2 AMDM.MM.1.2 AMDM.DSR.7.3 AMDM.MM.1.3 AMDM.DSR.7.4 AMDM.MM.1.4 AMDM.DSR.7.5 AMDM.DSR.7.6 AMDM.DSR.7.7 AMDM.DSR.7.8 AMDM.DSR.7.9

Mathematical Practices (AMDM.MP.1- 8) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3, and 6 should support the learning in every lesson.

ADVANCED MATHEMATICAL DECISION MAKING

Year-At-A-Glance				
Semester 2				
Pacing Suggestions	**Units**		**Content Standards**	**Learning Objectives**
Traditional **6 – 7 weeks** **Block** **18 – 21 days**	**Unit 4: Using Mathematical Models to Make Decisions** *In this unit, students will connect distributions and interpretations of data as it relates to personal and business finance with real world analysis of various functions in financial situations. Students will determine the best model for discrete and continuous relationships using a variety of functions. Students will apply these relationships to two-dimensional representations, three-dimensional representations, and using basic trigonometric principles. Students will provide evidence of learning through the solving of real-world examples with appropriate mathematical resources from the unit of study.*		AMDM.PAR.8 AMDM.FGR.9 AMDM.GSR.10 AMDM.MM.1 AMDM.MP.1-8	AMDM.PAR.8.1 AMDM.MM.1.1 AMDM.PAR.8.2 AMDM.MM.1.2 AMDM.FGR.9.1 AMDM.MM.1.3 AMDM.FGR.9.2 AMDM.MM.1.4 AMDM.GSR.10.1 AMDM.GSR.10.2
Traditional **3 – 4 weeks** **Block** **9 – 12 days**	**Unit 5: Using Vectors and Matrices to Make Decisions** *In this unit, students will use algebraic reasoning with vectors and matrices and their representations to make real world decisions. Students will provide evidence of learning through the solving of real-world examples with appropriate mathematical resources from the unit of study.*		AMDM.PAR.11 AMDM.MM.1 AMDM.MP.1-8	AMDM.PAR.11.1 AMDM.MM.1.1 AMDM.PAR.11.2 AMDM.MM.1.2 AMDM.MM.1.3 AMDM.MM.1.4
Traditional **3 – 4 weeks** **Block** **9 – 12 days**	**Unit 6: Using Network Models to Make Decisions** *In this unit, students will solve, construct, analyze, interpret, and investigate a variety of network models that include vertex-edge graphs, flow charts to develop algorithms, Program Evaluation Review Technique (PERT), and problems that can be resolved by coloring graphs using real-world application to make informed decisions.*		AMDM.PAR.12 AMDM.MM.1 AMDM.MP.1-8	AMDM.PAR.12.1 AMDM.MM.1.1 AMDM.PAR.12.2 AMDM.MM.1.2 AMDM.PAR.12.3 AMDM.MM.1.3 AMDM.PAR.12.4 AMDM.MM.1.4
Traditional **1 – 2 weeks** **Block** **2 – 4 days**	**Unit 7: Culminating Capstone Unit** ***(applying concepts in real-life contexts through a culminating interdisciplinary unit)*** *The capstone unit applies content that has already been learned in previous interdisciplinary PBLs and units throughout the school year. The capstone unit is an interdisciplinary unit that allows students to create a presentation, report, or demonstration that could include their models used to answer an overarching driving question. (e.g., Students can present their solution(s), findings, project, or answer to the driving question to a larger audience during the culminating capstone unit.)*		ALL STANDARDS AMDM.MP.1-8	ALL ASSOCIATED LEARNING OBJECTIVES

Mathematical Practices (AMDM.MP.1- 8) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3, and 6 should support the learning in every lesson.

ADVANCED MATHEMATICAL DECISION MAKING

Semester 1

Unit 1: Using the Power of Mathematical Reasoning to Make Decisions

Traditional (5 – 6 weeks)	Block (15 – 18 days)

Big Ideas: Quantitative & Proportional Reasoning, Patterning & Algebraic Reasoning and Mathematical Modeling

Standards Addressed in this Unit:

AMDM.QPR.2: Make decisions and solve problems using ratios, rates, and percents in a variety of real-world applications.

AMDM.QPR.3: Make predictions by analyzing averages and indices of large data sets through investigations of real-world contexts.

AMDM.PAR.4: Develop methods or algorithms to analyze discrete situations.

AMDM.MM.1: Apply mathematics to real-life situations; model real-life phenomena using mathematics.

Learning Objectives		Evidence of Student Learning
AMDM.QPR.2.1	Apply proportions, ratios, rates, and percentages to various settings, including business, media, and consumerism.	**Examples** • Aspect ratios – TV, films, and special effects
AMDM.QPR.2.2	Solve problems involving ratios in mechanical and agricultural contexts.	**Example** • Determine the effect of tire size on speedometer.
AMDM.QP2.2.3	Use proportions to solve problems involving large quantities that are not easily measured.	**Examples** • Estimate the size of a crowd at indoor and outdoor events. • Estimate the number of gumballs in a container. • Determine license plate number options.
AMDM.QPR.3.1	Use averages and weighted averages to make decisions.	**Examples** • Batting averages • Slugging percentage • Class grades.

AMDM.QPR.3.2	Calculate and interpret indices.	**Example** • Fan cost index	**Terminology** • The fan cost index determines the cost to take a family to an event.
AMDM.PAR.4.1	Create and verify identification numbers.	**Examples** • UPC codes • QR codes • Product keys • Credit card number	
AMDM.PAR.4.2	Analyze and evaluate the mathematics behind various methods of voting and selection.	**Examples** • Rank voting • Plurality • Borda count • Pairwise comparisons	
AMDM.PAR.4.3	Evaluate various voting and selection processes to determine an appropriate method for a given situation.		
AMDM.PAR.4.4	Apply various ranking algorithms to determine an appropriate method for a given situation.	**Examples** • Inheritance • Sports drafts • Sports pools	
AMDM.MM.1.1	Explain contextual, mathematical problems using a mathematical model.	**Fundamentals** • Students should be provided with opportunities to learn mathematics in the context of real-life problems. • Contextual, mathematical problems are mathematical problems presented in context where the context makes sense, realistically and mathematically, and allows for students to make decisions about how to solve the problem (model with mathematics).	
AMDM.MM.1.2	Create mathematical models to explain phenomena that exist in the natural sciences, social sciences, liberal arts, fine and performing arts, and/or humanities contexts.	**Fundamentals** • Students should be able to use the content learned in this course to create mathematical models to explain real-life phenomena.	
AMDM.MM.1.3	Using abstract and quantitative reasoning, make decisions about information and data from a contextual situation.		
AMDM.MM.1.4	Use relevant information to create various mathematical representations and structures to solve real-life problems.	Strategies and Methods • Students should be provided opportunities to use various mathematical representations and structures to illustrate and solve culturally relevant problems.	

Mathematical Practices (AMDM.MP.1- 8) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3, and 6 should support the learning in every lesson.

ADVANCED MATHEMATICAL DECISION MAKING

Unit 2: Using Probability to Make Decisions	
Traditional (5 – 6 weeks)	**Block (15 – 18 days)**
Big Ideas: Probabilistic Reasoning and Mathematical Modeling	

Standards Addressed in this Unit:

AMDM.PR.5: Analyze the chances for success or failure in order to make decisions.

AMDM.PR.6: Model strategic interaction among rational decision-makers.

AMDM.MM.1: Apply mathematics to real-life situations; model real-life phenomena using mathematics.

Learning Objectives		Evidence of Student Learning	
AMDM.PR.5.1	Determine conditional probabilities and probabilities of compound events to make decisions in problem situations.	**Examples** • Clothing combinations • Food combinations • Travel routes	
AMDM.PR.5.2	Use probabilities to make and justify decisions about risks in everyday life.	**Examples** • Insurance policies • Gambling	
AMDM.PR.6.1	Calculate expected value to analyze mathematical fairness, payoff, and risk.	**Examples** • The purchase of a lottery ticket • Amount of insurance needed • Replacement value	
AMDM.PR.6.2	Analyze real-life situations involving strategic interactions using the mathematics of zero-sum games.	**Terminology** • A zero-sum game is a mathematical representation of a situation in which each participant's gain or loss of utility is exactly balanced by the losses or gains of the utility of the other participants.	**Examples** • Viruses • Zombies • Prisoner's Dilemma
AMDM.PR.6.3	Construct a mathematical model of probabilistic situations to make mathematical assumptions.	**Example** • Students could create their own carnival game of chance.	

AMDM.MM.1.1	Explain contextual, mathematical problems using a mathematical model.	**Fundamentals** • Students should be provided with opportunities to learn mathematics in the context of real-life problems. • Contextual, mathematical problems are mathematical problems presented in context where the context makes sense, realistically and mathematically, and allows for students to make decisions about how to solve the problem (model with mathematics).
AMDM.MM.1.2	Create mathematical models to explain phenomena that exist in the natural sciences, social sciences, liberal arts, fine and performing arts, and/or humanities contexts.	**Fundamentals** • Students should be able to use the content learned in this course to create mathematical models to explain real-life phenomena.
AMDM.MM.1.3	Using abstract and quantitative reasoning, make decisions about information and data from a contextual situation.	
AMDM.MM.1.4	Use relevant information to create various mathematical representations and structures to solve real-life problems.	**Strategies and Methods** • Students should be provided opportunities to use various mathematical representations and structures to illustrate and solve culturally relevant problems.

Mathematical Practices (AMDM.MP.1- 8) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3, and 6 should support the learning in every lesson.

ADVANCED MATHEMATICAL DECISION MAKING

Unit 3: Using Statistical Studies to Make Decisions	
Traditional (5 – 6 weeks)	**Block (15 – 18 days)**
Big Ideas: Data & Statistical Reasoning and Mathematical Reasoning	

Standards Addressed in this Unit:

AMDM.DSR.7: Conduct investigative research to solve real-life problems and answer statistical investigative questions involved in business and financial decision-making.

AMDM.MM.1: Apply mathematics to real-life situations; model real-life phenomena using mathematics.

Learning Objectives		Evidence of Student Learning	
AMDM.DSR.7.1	Apply statistical methods to design, conduct, and analyze statistical studies. Identify a contextual, real-life problem that can be answered using investigative research.	**Strategies and Methods** • Simple random sampling • Stratified random sampling • Cluster sampling • Convenience sampling	
AMDM.DSR.7.2	Build the skills and vocabulary necessary to analyze and critique reported statistical information, summaries, and graphical displays. Develop statistical investigative questions that can help solve a real-life problem involved in business and financial decision-making.	**Strategies and Methods** • Interpret and compare results of polls given margin of error. • Determine possible sources of statistical bias. • Determine appropriate sampling techniques. • Determine sources of variability of data, those that can and cannot be controlled. **Examples** • Trends – gas prices, birth rates, death rates, stock market Financial portfolios, mutual funds, life insurance	
AMDM.DSR.7.3	Create a statistical study using sound methodology to answer statistical investigative questions and to solve the real-life problem.	**Fundamentals** • Students should have experiences with both experimental and observational studies.	**Terminology** • Sound methodology ensures the integrity, credibility, and generalizability of the evidence, analysis, and conclusions presented in a study based on

		the techniques and approaches used.
AMDM.DSR.7.4	Explain how the sample size impacts the precision with which estimates of the population parameters can be made (i.e., the larger the sample size the more precision).	
AMDM.DSR.7.5	Recognize that random selection from a population plays a different role than random assignment in an experiment.	
AMDM.DSR.7.6	Incorporate random designs in data collection.	
AMDM.DSR.7.7	Describe ways in which big data can be used to make decisions in various business enterprises and in the context of business and financial decision-making.	**Examples** • How much house can you afford? • Loan application process • Credit worthiness • Investment potential
AMDM.DSR.7.8	Use distributions to identify the key features of the data collected.	
AMDM.DSR.7.9	Interpret results and make connections to the original research question.	**Strategies and Methods** • Analyze and report using histograms, boxplots, pie charts, and bar graphs.
AMDM.MM.1.1	Explain contextual, mathematical problems using a mathematical model.	**Fundamentals** • Students should be provided with opportunities to learn mathematics in the context of real-life problems. • Contextual, mathematical problems are mathematical problems presented in context where the context makes sense, realistically and mathematically, and allows for students to make decisions about how to solve the problem (model with mathematics).
AMDM.MM.1.2	Create mathematical models to explain phenomena that exist in the natural sciences, social sciences, liberal arts, fine and performing arts, and/or humanities contexts.	**Fundamentals** • Students should be able to use the content learned in this course to create mathematical models to explain real-life phenomena.
AMDM.MM.1.3	Using abstract and quantitative reasoning, make decisions about information and data from a contextual situation.	
AMDM.MM.1.4	Use relevant information to create various mathematical representations and structures to solve real-life problems.	**Strategies and Methods** • Students should be provided opportunities to use various mathematical representations and structures to illustrate and solve culturally relevant problems.

Mathematical Practices (AMDM.MP.1- 8) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3, and 6 should support the learning in every lesson.

ADVANCED MATHEMATICAL DECISION MAKING

Semester 2

Unit 4: Using Mathematical Models to Make Decisions

Traditional (6 – 7 weeks)	Block (18 – 21 days)

Big Ideas: Patterning & Algebraic Reasoning, Functional & Graphical Reasoning, Geometrical & Spatial Reasoning and Mathematical Modeling

Standards Addressed in this Unit:

AMDM.PAR.8: Create and analyze mathematical models to make decisions related to earning, investing, spending, and borrowing money.

AMDM.FGR.9: Use functions to model problem situations in both discrete and continuous relationships.

AMDM.GSR.10: Use functions to model problem situations in both discrete and continuous relationships.

AMDM.MM.1: Apply mathematics to real-life situations; model real-life phenomena using mathematics.

Learning Objectives		Evidence of Student Learning
AMDM.PAR.8.1	Use exponential functions to model change in a variety of financial situations.	**Examples** • Simple interest • Compound interest • Compound continuous
AMDM.PAR.8.2	Determine, represent, and analyze mathematical models for income, expenditures, and various types of loans and investments.	**Terminology** • Time value of money, budget, growth potential, wealth building, debt snowfall
AMDM.FGR.9.1	Determine whether a problem situation involving two quantities is best modeled by a discrete or continuous relationship.	**Examples** • Pattern identification (discrete) • Population growth (discrete) • Compound interest (discrete) • Medication dosage (continuous) • Climate change (continuous) • Bone decay (continuous)

AMDM.FGR.9.2	Use linear, exponential, logistic, and piecewise functions to construct a model.		
AMDM.GSR.10.1	Create and use two-dimensional and three-dimensional representations to model authentic situations.	**Example** • Roofing and construction	
AMDM.GSR.10.2	Solve problems involving inaccessible distances using basic trigonometric principles including extensions of right triangle trigonometry.	**Example** • Cell phone triangulation	**Strategies and Methods** • Law of Sines, Law of Cosines, Unit Circle
AMDM.MM.1.1	Explain contextual, mathematical problems using a mathematical model.	**Fundamentals** • Students should be provided with opportunities to learn mathematics in the context of real-life problems. • Contextual, mathematical problems are mathematical problems presented in context where the context makes sense, realistically and mathematically, and allows for students to make decisions about how to solve the problem (model with mathematics).	
AMDM.MM.1.2	Create mathematical models to explain phenomena that exist in the natural sciences, social sciences, liberal arts, fine and performing arts, and/or humanities contexts.	**Fundamentals** • Students should be able to use the content learned in this course to create mathematical models to explain real-life phenomena.	
AMDM.MM.1.3	Using abstract and quantitative reasoning, make decisions about information and data from a contextual situation.		
AMDM.MM.1.4	Use relevant information to create various mathematical representations and structures to solve real-life problems.	Strategies and Methods • Students should be provided opportunities to use various mathematical representations and structures to illustrate and solve culturally relevant problems.	

Mathematical Practices (AMDM.MP.1- 8) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3 and 6 should support the learning in every lesson.

ADVANCED MATHEMATICAL DECISION MAKING

Unit 5: Using Vectors and Matrices to Make Decisions	
Traditional (3 – 4 weeks)	**Block (9 – 12 days)**
Big Ideas: Patterning & Algebraic Reasoning and Mathematical Reasoning	

Standards Addressed in this Unit:
AMDM.PAR.11: Use functions to model problem situations in both discrete and continuous relationships.
AMDM.MM.1: Apply mathematics to real-life situations; model real-life phenomena using mathematics.

Learning Objectives		Evidence of Student Learning
AMDM.PAR.11.1	Represent situations and solve problems using vectors in areas such as transportation, computer graphics, and the physics of force and motion.	**Examples** • Transportation • Computer Graphics • Physics of force and motion
AMDM.PAR.11.2	Represent geometric transformations and solve problems using matrices.	**Examples** • Computer animations • Food chains
AMDM.MM.1.1	Explain contextual, mathematical problems using a mathematical model.	**Fundamentals** • Students should be provided with opportunities to learn mathematics in the context of real-life problems. • Contextual, mathematical problems are mathematical problems presented in context where the context makes sense, realistically and mathematically, and allows for students to make decisions about how to solve the problem (model with mathematics).
AMDM.MM.1.2	Create mathematical models to explain phenomena that exist in the natural sciences, social sciences, liberal arts, fine and performing arts, and/or humanities contexts.	**Fundamentals** • Students should be able to use the content learned in this course to create mathematical models to explain real-life phenomena.
AMDM.MM.1.3	Using abstract and quantitative reasoning, make decisions about information and data from a contextual situation.	
AMDM.MM.1.4	Use relevant information to create various mathematical representations and structures to solve real-life problems.	Strategies and Methods • Students should be provided opportunities to use various mathematical representations and structures to illustrate and solve culturally relevant problems.

Mathematical Practices (AMDM.MP.1- 8) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3, and 6 should support the learning in every lesson.

ADVANCED MATHEMATICAL DECISION MAKING

Unit 6: Using Network Models to Make Decisions	
Traditional (3 – 4 weeks)	**Block (9 – 12 days)**
Big Ideas: Patterning & Algebraic Reasoning and Mathematical Modeling	

Standards Addressed in this Unit:

AMDM.PAR.12: Make informed decisions and solve problems with a variety of network models in quantitative situations.

AMDM.MM.1: Apply mathematics to real-life situations; model real-life phenomena using mathematics.

Learning Objectives		*Evidence of Student Learning*
AMDM.PAR.12.1	Solve problems represented by a vertex-edge graphs.	**Examples** • Critical and Euler paths • Minimal spanning trees
AMDM.PAR.12.2	Construct, analyze, and interpret flow charts to develop an algorithm to describe processes such as quality control procedures.	**Examples** • Manufacturing • Restaurants
AMDM.PAR.12.3	Investigate the scheduling of projects using Program Evaluation Review Technique (PERT).	**Terminology** • PERT is a project management planning tool used to calculate the amount of time it will take to realistically finish a project. PERT stands for Program Evaluation Review Technique. **Strategies and Methods** • Students should be able to use PERT charts as tools to plan tasks within a project - making it easier to schedule and coordinate team members accomplishing the work.
AMDM.PAR.12.4	Consider problems that can be resolved by coloring graphs.	
AMDM.MM.1.1	Explain contextual, mathematical problems using a mathematical model.	**Fundamentals** • Students should be provided with opportunities to learn mathematics in the context of real-life problems. • Contextual, mathematical problems are mathematical problems presented in context where the context makes sense, realistically and mathematically, and

		allows for students to make decisions about how to solve the problem (model with mathematics).
AMDM.MM.1.2	Create mathematical models to explain phenomena that exist in the natural sciences, social sciences, liberal arts, fine and performing arts, and/or humanities contexts.	**Fundamentals** • Students should be able to use the content learned in this course to create mathematical models to explain real-life phenomena.
AMDM.MM.1.3	Using abstract and quantitative reasoning, make decisions about information and data from a contextual situation.	
AMDM.MM.1.4	Use relevant information to create various mathematical representations and structures to solve real-life problems.	**Strategies and Methods** • Students should be provided opportunities to use various mathematical representations and structures to illustrate and solve culturally relevant problems.

Mathematical Practices (AMDM.MP.1- 8) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3, and 6 should support the learning in every lesson.

ADVANCED MATHEMATICAL DECISION MAKING

Unit 7: Culminating Capstone Unit *(applying concepts in real-life contexts through a culminating interdisciplinary unit)*	
Traditional (1 – 2 weeks)	**Block (2 – 4 days)**
ALL standards addressed in this unit. *The capstone unit applies content that has already been learned in previous interdisciplinary PBLs and units throughout the school year. The capstone unit is an interdisciplinary unit that allows students to create a presentation, report, or demonstration that could include their models used to answer an overarching driving question. (e.g., Students can present their solution(s), findings, project, or answer to the driving question to a larger audience during the culminating capstone unit.)*	

Mathematical Practices (AMDM.MP.1- 8) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3, and 6 should support the learning in every lesson.