Darul Arqam North

Scope and Sequence

6th Grade Math II (Advanced)

1st Quarter			
Resources: Mc Graw Hill Mathematics,			
Week	**Unit/Lesson**	**Learning Objectives**	**Reporting Categories**
1st:	- **Welcome** - **Survey – getting to know you** - **Collect & log Supplies received** - **Classroom Rules** - **Curriculum overview**	6.2) Number and operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. 6.3) Number and operations. The student applies mathematical process standards to represent addition, subtraction, multiplication, and division while solving problems and justifying solutions. 6.4) Proportionality. The student applies mathematical process standards to develop an understanding of proportional relationships in problem situations. 6.5) Proportionality. The student applies mathematical process standards to solve problems involving proportional relationships. 6.6) Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to describe algebraic relationships. 6.7) Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. 6.8) Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to represent relationships and solve problems. 6.9) Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to represent situations. 6.10) Expressions, equations, and relationships. The student applies mathematical process standards to use equations and inequalities to solve problems. 6.11) Measurement and data. The	Readiness Standard(s)

Darul Arqam North

Scope and Sequence
6th Grade Math II (Advanced)

1st Quarter			
Resources: Mc Graw Hill Mathematics,			
Week	**Unit/Lesson**	**Learning Objectives**	**Reporting Categories**
		student applies mathematical process standards to use coordinate geometry to identify locations on a plane. 6.12) Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to analyze problems. 6.13) Measurement and data. The student applies mathematical process standards to use numerical or graphical representations to solve problems. 6.14) Personal financial literacy. The student applies mathematical process standards to develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor.	
2nd:	**Compare, add, and subtract Rational Numbers**	Compare rational numbers on a number line or in a table. (7.2A) Describe relationships between sets of rational numbers. (7.2A) Compare rational numbers using Venn diagram. (7.2A) Add and subtract positive and negative rational numbers using a number line. (7.3A) Add and subtract positive and negative rational numbers flexibly, accurately and efficiently. (7.3A) Add and subtract positive and negative rational numbers given real world situation (i.e. temperature, measurement, and monetary). (7.3B)	Readiness Standard(s) 7.3 B apply and extend previous understandings of operations to solve problems using addition, subtraction, of rational numbers Supporting Standard(s) 7.2A Extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers 7.3A add, subtract rational numbers fluently
3rd:	**Compare, add, and subtract Rational Numbers (cont'd)**	Solve real- world problems involving a combination of adding and subtracting rational numbers. (7.3B) Evaluate reasonableness of solutions to real world problems involving operations with rational numbers (7.3B) Differentiate between financial assets and liabilities (7.13C)	Readiness Standard(s) 7.3 B apply and extend previous understandings of operations to solve problems using additions, subtractions of rational numbers Supporting Standard(s) 7.13C Create and organize a financial assets and liabilities record and construct a net worth statement. numbers

Darul Arqam North

Scope and Sequence

6th Grade Math II (Advanced)

1st Quarter			
Resources: Mc Graw Hill Mathematics,			
Week	**Unit/Lesson**	**Learning Objectives**	**Reporting Categories**
		Determine whether a given example is an asset or liability. (7.13C) Determine a minimum household budget and average hourly wage needed for a family to meet its basic needs using a family budget estimator. (7.13D)	7.13D Use a family budget estimator to determine the minimum household budget and average hourly wage needed for a family to meet its basic needs in the student's city or another large city nearby.
4th:	**Multiplying and Dividing Rational numbers**	Multiplying and dividing positive and negative numbers using a number line. (7.3 A) Multiply and divide positive and negative rational numbers flexibly, accurately and efficiently. (7.3A) Evaluate reasonableness of solutions to real word problem involving operations with rational numbers. (7.3B) Multiply and divide positive and negative rational numbers given real world situation (i.e temperature, measurement, and monetary). Explain the various aspects of net worth. (7.13 C) Create a net worth statement. (7.13 C) Compare the basic needs of a small town to those of a large city. (7.13 D)	Readiness Standard(s) 7.3B Apply and extend previous understandings of operations to solve problems using addition, subtraction, Supporting Standard(S) 7.3A add, subtract, multiply, and divide rational numbers fluently.
5th:	**Rates and Ratios**	7.4 D Differentiate between ratios and rates 7.4 B Explain the significance of unit rates 7.4 D Solve problems involving rates 7.4 B calculate unit rate in mathematical and real-world problems 7.4 D solve problems involving ratios 7.4 D compare ratios and part to whole 7.4 E convert units between and within a measurement system, both customary and metric using proportions and unit rates. 7.4 E convert units using equivalent ratios and unit rates. 7.4 E solve problems using the conversions and formulas on the assessment reference materials 7.4 E Estimate solutions to real world conversion problems prior to calculating an exact answer	Readiness Standard(s) 7.4 D solve problems involving ratios and rates Supporting Standard(s) 7.4 B calculate unit rates from rates in mathematical and real world problems 7.4 E convert between measurement systems, including the use of proportions and the use of unit rates.

Darul Arqam North

Scope and Sequence

6th Grade Math II (Advanced)

1st Quarter			
Resources: Mc Graw Hill Mathematics,			
Week	**Unit/Lesson**	**Learning Objectives**	**Reporting Categories**
		7.4 E Evaluate reasonableness of solutions 7.4 D Apply knowledge of ratios, rates, to financial literacy problems.	
6th:	**Chapter Review and Reflect**		
7th:	**Proportional Relationships**	Calculate the constant of proportionality 7.4 C Apply the constant of proportionality to the real-world problems 7.4 C Determine the pattern of data in a table, graphical representation, pictures, and algebraic representations 7.4A Calculate the proportional relationship to find the constant rate of change 7.4A Determine the reasonableness of the inferences based on the data 7.6 F Solve problems involving ratios 7.4 D	Readiness Standard(s) 7.4 A represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical and algebraic representations including d = rt Supporting Standard(s) 7.4 C determine the constant of proportionality (k = y/x) within mathematical and real-world problem 7.6 F use data from a random sample to make inferences about a population
8th:	**Chapter Review & Reflect**		
9th:	**Proportional Relationships Cont'd**	Compare various offers from different stores to determine which is the best deal. 7.13 F Identify and give examples of a variety of factors that should be included in a personal budget, including income, planned saving for college, retirement, retirement, and emergencies; taxes; and fixed and variable expenses. 7.13 B Make inferences about a population using data from a random sample 7.6F Move fluidly between multiple representations of mathematical and real-world problems. 7.4 A Apply knowledge of ratios, rates to financial literacy problems 7.4D	Readiness Standard(s) 7.4D Solve problems involving ratios, rates. Supporting Standard(s) 7.13B Identify the components of a personal budget, including income; planned saving for college, retirement, and emergencies; taxes; and fixed and variable expenses. 7.13F Analyze and compare monetary incentives, including sales, rebates, and coupons

Darul Arqam North

Scope and Sequence

6th Grade Math II (Advanced)

2nd Quarter			
Resources:			
Week	**Unit/Lesson**	**Learning Objectives**	**Reporting Categories**
1st:	Applying proportionality to percent	Compare ratios and part of whole. 7.4D Differentiate between sales tax and income tax 7.13 A Estimate and calculate the sales tax for a given purchase 7.13 A Calculate income tax for earned wages. 7.13 A Identify the components of a personal budget, including income; planned savings for college, retirement, and emergencies; taxes; and fixed and variable expenses, and calculate what percentage each category comprises of the total budget. 7.13 B Calculate WHAT PERCENTAGE EACH CATEGORY OF A PERSONAL BUDGET COMPRISES OF THE TOTAL BUDGET 7.13 B Determine the constant of proportionality (k = y/x) within mathematical and real-world problems. 7.4 C Analyze and compare monetary incentives, including sales, rebates, and coupons. 7.13 F Calculate the price of an item after applying sale, rebate, or coupon 7.13 F Compare various offers from different stores to determine which is the best deal. 7.13 F	Readiness Standard(s) 7.4 A represent constant rate of change in mathematical and real world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations including d =rt 7.4 D solve problems involving ratios, rates, and percent including multistep problems involving percent increase and percent decrease and financial literacy problems Supporting standard(s) 7.13 A calculate the sales tax for a given purchase and calculate income tax for earned wages 7.13 B identify the components of a personal budget including income; planned saving for college, retirement, and emergencies; taxes; and fixed and variable expenses, and calculate what percentage each category comprises of the total budget. 7.13 F analyze and compare monetary incentives, including sales, rebates and coupons.
2nd:	**Applying proportionality to percent cont'd**	Move fluidly between multiple representations of mathematical and real world problems involving constant rates of change 7.4A Calculate constant rate of proportionality 7.4 C Solve problems involving percent including multistep problem involving percent increase and percent decrease 7.4 D Differentiate between simple interest and compound interest earnings 7.13 E Calculate simple and compound interest 7.13 E Compare earning from simple interest to the earning from compound interest 7.13 E	Readiness Standard(s) 7.4A represent constant rates of change in mathematical and real world problems given pictorial, tubular, verbal, numeric, graphical, and algebric representations, including d = rt 7.4D solve problems involving ratios, rates, and percent including multi step problems involving percent increase and percent decrease and financial literacy problems Supporting Standards 7.4 C determine the constant of proportionality (k = y/x) within the mathematical and real world problems 7.13 E calculate and compare simple interest and compound interest earning
3rd:	**Proportionality of Geometry**	Compare corresponding angles and sides 7.5 A Determine scale factor by using ratios of corresponding sides 7.5 A Determine whether ratios of similar figures 7.5 A Model similar figures on a grid including perimeter and area 7.5 A Calculate for missing sides and angles of similar figures 7.5C Calculate using equivalent fractions, the length of missing side using proportions derived from a pair of similar figures. 7.5 C Applying similarity attributes to perimeter and area 7.5 C	Readiness Standard(s) 7.4 D solve problems involving ratios and rates. 7.5 C solve mathematical and real-world problem involving similar shape and scale drawings Supporting Standard(s) 7.5 A generalize the critical attributes of similarity, including ratios within and between similar shapes
4th:	**Proportionality of Geometry**	Solve problems involving similar shapes and scale drawings using ratios. 7.4 D	Readiness Standard(s) 7.4 D solve problems involving ratios and rates

Darul Arqam North

Scope and Sequence

6th Grade Math II (Advanced)

2nd Quarter			
Resources:			
Week	**Unit/Lesson**	**Learning Objectives**	**Reporting Categories**
	Cont'd	Solve real world problems involving similar shapes and scale drawings. 7.5 C Write equations that involve geometry concepts including area perimeter volume the sum of angles in triangle angle relationships etc. 7.11 C Solve equations to answer real world problems involving geometry concepts. 7.11 C	7.5 C solve mathematical and real-world problems involving similar shape and scale drawings Supporting Standard(s) 7.5 A generalize the critical attributes of similarity, including ratios within and between similar shapes 7.11 C write and solve equations using geometry concepts, including the sum of the angles in a triangle and angle relationships.
4th:	**Statistics**	Solve problems from bar graphs, dot plots and circle graphs including part-to-whole and part-to-part comparisons and equivalents. (7.6 G) Make inference from a table and graph (7.12 B) Determine which type of graph best presents a set of data. (7.6 G) Draw conclusions from graphs 7.6 G Draw conclusions about 2 sets of data from these comparisons 7.12 A Make inferences about populations using data from a random sample 7.12 B Analyze data on graphs and tables to make inferences about a population 7.12 B	Readiness Standard(s) 7.6 G solve problems using data represented in a bar graphs, dot plots, and circle graphs, including part-to whole and part-to-part comparisons and equivalents Supporting Standard(s) 7.12 B use date from a random sample to make inferences about a population 7.12 C compare 2 populations based on data in random samples from these populations, including informal comparative inferences about difference between the populations.
5th:	**Semester Review of topics covered from Reporting Categories 1-3**	Represent and use rational numbers in a variety of forms Use probability and statistics to describe or solve problems involving proportional relationships. Add, subtract, multiply and divide while solving problems and justifying solutions Represent and solve problems involving proportional relationships Convert between measurement systems, including the use of proportions and the use of unit rates	Readiness Standard(s) Supporting Standard(s)

Darul Arqam North

Scope and Sequence

6th Grade Math II (Advanced)

2nd Quarter			
Resources:			
Week	**Unit/Lesson**	**Learning Objectives**	**Reporting Categories**
		Use geometry to describe or solve problems involving proportional relationships Use statistical representations to analyze data. Develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor	
6th:	**Chapter Review and Reflect**		
7th:	**Statistics Cont'd**	Compare the shapes, centers and spreads of dot plots or box plots. 7.12 A Compare the data from random samples, including informal comparative infe Draw conclusions about each population based on the comparisons 7.12 C	Readiness Standard(s) 7.12 A compare 2 groups of numeric data using comparative dot plot Supporting Standard(s) 7.12 B use data from a random sample to make inferences about a po 7.12 C compare 2 populations based on data in random samples from
8th:	**Probability**	Draw and compare tree diagrams based on the sample space 7.6 A Represent sample space in multiple formats including tables and lists 7.6 A Determine the complement of given simple event 7.6 E Describe the relationship between a simple event and its complement 7.6 E Find and compare the probabilities of a simple event and its complement 7.6 Make predictions using theoretical probability for simple and compound ever Determine solutions using theoretical probability for simple and compound e Draw conclusions regarding the probabilities of a simple event and its comple	Readiness Standard(s) Supporting Standard(s) 7.6 C make predictions and determine solutions using experimental d 7.6 D make predictions and determine solutions using theoretical pro 7.6 E find the probabilities of a simple event and its complement and

Darul Arqam North

Scope and Sequence
6th Grade Math II (Advanced)

2nd Quarter			
Resources:			
Week	**Unit/Lesson**	**Learning Objectives**	**Reporting Categories**
9th:	**Chapter Review & Reflect Hands-On Labs & Project Bench Mark**		

3rd Quarter			
Resources:			
Week	**Unit/Lesson**	Learning Objectives	Reporting Categories
1st:	**Probability Cont'd**	Select and use different simulations to represent more complex real-world situations 7.6 B Differentiate between experimental and theoretical probabilities. 7.6 D Conduct experiments with simple events with and without technology 7.6 B Make predictions using experimental data for simple and compound events 7.6 C Determine solutions using experimental probabilities and theoretical probabilities from simple events 7.6 I Distinguish between qualitative and quantitative information 7.6 H	Readiness Standard(s) 8.8C Model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants Supporting Standard(s) Readiness Standard(s) 7.6 H Solve problems using qualitative and quantitative predictions and comparisons from simple experiments 7.6 I Determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces Supporting Standard(s) 7.6 C make predictions and determine solutions using experimental data for simple and compound events

Darul Arqam North

Scope and Sequence

6th Grade Math II (Advanced)

3rd Quarter			
Resources:			
Week	**Unit/Lesson**	Learning Objectives	Reporting Categories
			7.6 D make predictions and determine solutions using theoretical probability for simple and compound events 7.6 E find the probabilities of a simple event and its complement and describe the relationship between the 2
2nd:	**Compound Event Probability**	Represent samples space in multiple formats including tables and lists 7.6A Determine whether a given situation represents a simple or compound event 7.6B Determine experimental and theoretical probabilities from simple and compound events 7.6I	Readiness Standard(s) 7.6I Determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces Supporting Standard(s) 7.6A represent sample spaces for simple and compound events using lists and tree diagrams 7.6B select and use different simulations to represent simple and compound events with or without technology 7.6C make predictions and determine solutions using experimental data for simple and compound events 7.6 D make predictions and determine solutions using theoretical probability for simple and compound events
3rd:	**Chapter Review & Reflect**		
4th:	**Compound Event Probability Cont'd**	Make predictions and determine solutions using and theoretical probability for simple and compound events 7.6D Make predictions using experimental data for simple and compound events 7.6C Select and use different simulations to represent more complex real-world situations 7.6B Distinguish between qualitative and quantitative information 7.6H	Readiness Standard(s) 7.6H solve problems using qualitative and quantitative predictions and comparisons from simple experiments Supporting Standard(s) 7.6B select and use different simulations to represent simple and compound events with or without technology 7.6C Make predictions and determine solutions using and experimental probability for simple and compound events 7.6D Make predictions and determine solutions using and theoretical probability for simple and compound events

Darul Arqam North

Scope and Sequence

6th Grade Math II (Advanced)

3rd Quarter			
Resources:			
Week	**Unit/Lesson**	Learning Objectives	Reporting Categories
5th:	**Circles**	Determine the radius and diameter of a given circle. 7.9B Approximate formulas for circumference of a circle using models 7.8 Connect models to algebraic formulas 7.8C Collect data from varying sizes of circles to verify that the circumfere Explore Pi = c/d 7.5B Connect combinations of formulas Pi = c/d, C = Pi.d, C = 2.Pi.r 7.5B	Readiness Standard(s) 7.9B determine the circumference and area of a circle 7.9C determine the area of semicircles and quarter circles Supporting Standard(s) 7.5B describe Pi as the ratio of the circumference of a circle to its di 7.8C use models to determine the approximate formulas for the cir
6th:	**Circle Cont'd.**	Determine whether a problem is asking for area of circumference. 7.9B Calculate the circumference and area of a circle given either the radius or diameter 7.9B Calculate the area of semicircle and quarter circles 7.9C Apply circumference and area to real world problem situations 7.9B	Readiness Standard(s) 7.9B determine the circumference and area of circles 7.9C determine the area of composite figures Supporting Standard(s)
7th:	**Equations**	Represent solutions for 2 step equations on a number line 7.10B Explain why a given value is or is not a reasonable solution to a given real world situation 7.11B Evaluate reasonable solutions to equations 7.10B Evaluate reasonableness of solution to an equation based on constraints or conditions within real world problems 7.10A	Readiness Standard(s) 8.7A Solve problems involving the volume of cylinders, cones, and spheres Readiness Standard(s) Supporting Standard(s) Represent solutions for one variable, 2 step equations on a number line 7.10B Determine if the given value makes one variable, 2 step equations true 7.11B
8th:	**inequalities**	Determine whether a given situation require an equation or inequality 7.10A Explain the difference in the solution for an equation vs. the	Readiness Standard(s) Supporting Standard(s) Write one variable, 2 step equations and inequalities to represent

Darul Arqam North

Scope and Sequence

6th Grade Math II (Advanced)

3rd Quarter			
Resources:			
Week	**Unit/Lesson**	Learning Objectives	Reporting Categories
		solution set for an inequality 7.10B Write 2 step inequalities from real world examples 7.10A Write real world situations given 2 step inequalities 7.10C Determine if a given value is a solution to a 2 step inequality 7.11B	constraints or conditions within problems. 7.10A Represent solutions for one variable 2 step equations and inequalities on a number line 7.10B Write corresponding real-world situations given a one variable, 2 step inequalities or equations 7.10C 7.11B Determine if a given values makes a one variable, 2 step inequality or equation true.
9th:	**Equations**	Write 2 steps equation from real world examples 7.10A Write real world situations given 2 step equations 7.10C Determine if a given value is a solution to 2 step equations 7.11B Represent 2 step equations using algebra tiles 7.11A Connect operations with models to standard algorithms 7.11A Solve 2 steps equation algebraically 7.11A	Readiness Standard(s) 7.11A model and solve one variable, 2 step equations Supporting Standard(s) 7.10A write one variable, 2 step equations and inequalities to represent constraints or conditions within problems 7.10C write corresponding real-world problems given a one variable, 2 step equation or inequality.

4th Quarter			
Resources:			
Week	Unit/Lesson	Learning Objectives	Reporting Categories
1st:	**Area of Composite Figures**	Identify real world situations that involve composite figure 7.9C Calculate the area of composite figures containing combinations of rectangles, squares, parallelogram, trapezoid, triangle, semicircles, and quarter circles 7.9C Justify reasonableness of solutions to area problems 7.9C	Readiness Standard(s) 7.9C determine the area of composite figures containing combinations of rectangles, squares, parallelogram, trapezoid, triangle, semicircles, and quarter circles 7.9C Supporting Standard(s)
2nd:	**Area of Composite Figures Cont'd**	Differentiate between lateral and total surface area 7.9D Determine whether a real-world problem is asking for lateral or total surface area 7.9D	
3rd:	**Inequality cont'd**	Extend previous knowledge of sets and subsets using a visual	Readiness Standard(s)

Darul Arqam North

Scope and Sequence

6th Grade Math II (Advanced)

4th Quarter			
Resources:			
Week	Unit/Lesson	Learning Objectives	Reporting Categories
		representation to describe relationships between sets of real numbers	Supporting Standard(s)
4th:	**Volume** **STAAR Testing**	Determine whether a given real world situation is asking for lateral or total surface area or volume 7.9A Determine which formula to use from the reference material 7.9 A Collect data from varying sizes of rectangular pyramid and rectangular prism pairs with congruent bases and heights to model the relationship between their volumes 7.8A Describe the similarities and differences between the volume formulas for a rectangular pyramid and a rectangular prism 7.8A Explain the significance of rectangular pyramids and prisms having congruent bases and heights 7.8A Identify the advantages and disadvantages of different payment	Readiness Standard(s) 7.9 A solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids Supporting Standard(s) 7.8A model the relationship between the volume of a rectangular prism and a rectangular pyramid having both congruent bases and heights and connect that relationship to the formulas.
5th:	**Chapter Review & Reflect**		
6th:	**Volume Cont'd**	Collect data from varying sizes of triangular pyramid and triangular prism pairs with congruent bases and heights to model the relationship between their volumes 7.8B Describe the similarities and differences between the volume formulas for a triangular pyramid and a triangular prism 7.8B Explain the significance of triangular pyramids and prisms having congruent bases and heights 7.8A Explain why the formulas for volume use B, the area of the base 7.9A Connect the relationships between these shapes to their volume formulas 7.8B Find the volume of rectangular prisms, triangular prisms, rectangular pyramids and triangular pyramids in real world problems 7.9A	Readiness Standard(s) 7.9A solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramid and triangular pyramid
7th:	**Linear relationships**	Represent linear relationships using verbal description, table,	Supporting Standard(s)

Darul Arqam North

Scope and Sequence

6th Grade Math II (Advanced)

4th Quarter			
Resources:			
Week	Unit/Lesson	Learning Objectives	Reporting Categories
		graph, and equations in the form 7.7A Move Fluidly between multiple representations of linear relationships 7.7A Write 2 step linear equations that simplify to the form y = mx + b from real world examples	7.10A write one variable, 2 step equations and inequalities to represent constraints or conditions within problems 7.10B Represent solutions for one-variable, two-step equations on the number line
8th:	**End of Year Project**		
9th:	**STAAR Testing / Year End Activities & Awards**		