The Asian International School Curriculum Mapping

Grade: 7 (Elementary) | Subject: Mathematics | School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
Aug.	**5**		Patterns, Functions, and Algebra	**Chapter 1: Rational and Irrational Numbers** **Unit 1: Introduction to rational numbers** • Definition ○ $\mathbb{Q} = \left\{\frac{a}{b} \middle\| a,b \in \mathbb{Z}, b \neq 0\right\}$ ○ $\mathbb{Q}$ are all decimals that stop, repeat or both • Rational numbers on the number line • Compare rational numbers • Operations on rational numbers • Review ○ $a^m \cdot a^n = a^{m+n}$ ○ $\frac{a^m}{a^n} = a^{m-n}$ • Rational base ○ $\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$ • Powers of powers $\left[\left(\frac{a}{b}\right)^n\right]^m = \left(\frac{a}{b}\right)^{mn}$	• Identify rational and not rational numbers • Change rational number a/b to decimal • Compare rational numbers • Add and subtract rational numbers • Add and subtract decimals • Multiply and divide rational numbers • Multiply and divide decimals • Solve simple equations involving rational numbers • Perform basic operations with exponents • Simplify expressions with rational base • Perform calculations of powers of powers • Simplify rational expressions with	• Group Work • Mini-Research Projects • Computer Projects • Worksheets	• Group Presentations • Individual Presentations • Worksheets

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
Aug.-Sept.	**3**		Patterns, Functions, and Algebra	**Chapter 1: Rational and Irrational Numbers** **Unit 2: Proportions** • Properties of proportion ○ If $\frac{a}{b}=\frac{c}{d}$, then ad = bc. ○ If ad = bc, then $\frac{a}{b}=\frac{c}{d}$. ○ If $\frac{a}{b}=\frac{c}{d}$, then $\frac{a}{b}=\frac{a+c}{b+d}$ • Solve for x in proportions	• Define a proportion • Show that if $\frac{a}{b}=\frac{c}{d}$, then ad = bc. • Show that if ad = bc, then $\frac{a}{b}=\frac{c}{d}$. • Apply properties of proportion to determine the missing number in a proportion	• Group Work • Mini-Research Projects • Computer Projects • Worksheets	• Group Presentations • Individual Presentations • Worksheets
Sept.	**3**		Patterns, Functions, and Algebra	**Chapter 1: Rational and Irrational Numbers** **Unit 3: Decimals** • Long division • Finite and infinite decimals • Rounding decimals	• Simplify rational number $\frac{a}{b}$ to decimal using long division • Use English notation for infinite decimals • Round decimals to a given number of decimal places	• Group Work • Mini-Research Projects • Computer Projects • Worksheets	• Group Presentations • Individual Presentations • Worksheets

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
	3		Patterns, Functions, and Algebra	**Chapter 1: Rational and Irrational Numbers** **Unit 4: Irrational numbers and Real numbers** • Define irrational numbers • Square root of a number • Real numbers in the number line	• Identify irrational numbers • Simplify square roots • Estimate square roots • Identify points in the real number line	• Group Work • Mini-Research Projects • Computer Projects • Worksheets	• Group Presentations • Individual Presentations • Worksheets
Oct.	**2**		Patterns, Functions, and Algebra	**Chapter 1: Rational and Irrational Numbers** **Comprehensive Project** • Comprehensive group project intended to demonstrate the students comprehensive understanding and functional knowledge of the material from Chapter 1.	• Students will demonstrate their functional knowledge of the material from Chapter 1.	• Comprehensive Group Project • Preferred for the students to do the project outside of class and present their results to the class.	• Presentation of the Group Project to the class.

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
	2		Patterns, Functions, and Algebra	**Review for Midterm Exam**	**Chapter 1: Rational and Irrational Numbers** • Unit 1: Introduction to rational numbers • Unit 2: Proportions • Unit 3: Decimals • Unit 4: Irrational numbers and Real numbers		
MIDTERM EXAM							

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments

Oct. - Nov.	**2**		Statistics and Probability	**Chapter 3: Statistics**
				Unit 1: Introduction
				• Datasets
				  ○ Items and Values
				  ○ Size of a Dataset
				  ○ Numerical Data
				  ○ Non-numerical Data
				  ○ Countable Datasets
				  ○ Uncountable Datasets
				• Ordering Datasets
				• Calculating Basic Statistics
				  ○ Mean
				  ○ Median
				  ○ Mode
				  ○ Range
					• Define Dataset
					• Identify the items/values in a Dataset
					• Calculate the size of a Dataset
					• Identify numerical and non-numerical data
					• Identify countable and uncountable Datasets
					• Order Datasets
					• Calculate
					  ○ Mean
					  ○ Median
					  ○ Mode
					  ○ Range
						• Group Work
						• Mini-Research Projects
						• Computer Projects
						• Worksheets
							• Group Presentations
							• Individual Presentations
							• Worksheets

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
Nov.	**3**		Statistics and Probability	**Chapter 3: Statistics** **Unit 2: Collecting Data** • Making a survey • Collecting Data with a Survey • Creating a raw data table from a survey • Calculate Basic Statistics from a survey	• Create a survey • Discuss elements that make a good/bad survey • Take surveys • Calculate statistical data from a survey • Make a raw data table from a survey	• Group Work • Mini-Research Projects • Computer Projects • Worksheets	• Group Presentations • Individual Presentations • Worksheets
	3		Statistics and Probability	**Chapter 2: Statistics** **Unit 3: Frequency Tables** • Define frequencies for a Dataset • Define frequency table from a Dataset • Define median using the frequency table	• Calculate frequencies for a Dataset • Construct a frequency table from a Dataset • Calculate Median using the frequency table • Interpret a frequency table	• Group Work • Mini-Research Projects • Computer Projects • Worksheets	• Group Presentations • Individual Presentations • Worksheets

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
Nov. - Dec.	**3**		Statistics and Probability	**Chapter 2: Statistics** **Unit 4: Charts** • Discrete data chart • Bar charts • Pie charts • Stacked bar charts	• Identify the different types of charts • Construct charts from data • Convert between bar chart and pie chart • Recognize when a data can be represented using stacked bar charts • Construct stacked bar charts	• Group Work • Mini-Research Projects • Computer Projects • Worksheets	• Group Presentations • Individual Presentations • Worksheets
Dec.	**2**		Statistics and Probability	**Chapter 2: Statistics** **Comprehensive Project** Comprehensive group project intended to demonstrate the students comprehensive understanding and functional knowledge of the material from Chapter 2.	• Students will demonstrate their functional knowledge of the material from Chapter 2.	• Comprehensive Group Project • Preferred for the students to do the project outside of class and present their results to the class.	• Presentation of the Group Project to the class.

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
	2		Statistics and Probability	**Review for Final Exam**	**Chapter 2: Statistics** • Unit 1: Introduction • Unit 2: Collecting Data • Unit 3: Frequency Tables • Unit 4: Charts		
FINAL EXAM							

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
Jan.	**3**	8.9.1.A 8.9.2.A 8.3.1.A	Geometry	**Chapter 3: Angles and Triangles** **Unit 1: Perpendicular and Parallel lines** • Vertical angles • Perpendicular lines • Perpendicular bisector of a line segment • Angles formed by one line cutting two others • Corresponding angles • Congruent angles • Properties of parallel lines cut by a line • Same-side exterior angles are supplementary	• Identify vertical angles • Compare vertical angles • Define perpendicular lines • Draw perpendicular lines • Construct the perpendicular bisector of a line segment • Define transversal line, alternate interior and exterior angles, corresponding angles and congruent angles • Identify the properties of parallel lines cut by a transversal line • Construct parallel lines using a ruler and protractor	• Group Work • Mini-Research Projects • Computer Projects • Worksheets	• Group Presentations • Individual Presentations • Worksheets

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
	2	8.3.1.A	Geometry	**Chapter 3: Angles and Triangles** **Unit 2: Theorems and Proofs** • Euclid Postulate • Properties of parallel lines	• Use Euclid Postulate to prove properties of two parallel lines	• Group Work • Mini-Research Projects • Computer Projects • Worksheets	• Group Presentations • Individual Presentations • Worksheets
Feb.	**3**	8.3.2.A	Geometry	**Chapter 3: Angles and Triangles** **Unit 3: Triangles** • Construct triangles • Sum of angles in a triangle • Right triangles • Isosceles triangle • Right triangle • Equilateral triangle / Equiangular triangle	• Construct triangles with the given sides or angles • Find the measure of the missing angle of a triangle • Identify a right triangle • Identify the different types of triangles • Construct the different types of triangles	• Group Work • Mini-Research Projects • Computer Projects • Worksheets	• Group Presentations • Individual Presentations • Worksheets

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
Feb. - Mar.	**3**	8.5.1.B	Geometry	**Chapter 3: Angles and Triangles** **Unit 4: Congruent Triangles** • Definition of congruent triangles • SSS Theorem • SAS Theorem • ASA Theorem • Theorems o Pythagorean Theorems o Congruence Postulates	• Define congruent triangles • Use SSS, SAS, and ASA theorems in proving congruent triangles • Use the Pythagorean theorem to find the measure of the missing side of a right triangle	• Group Work • Mini-Research Projects • Computer Projects • Worksheets	• Group Presentations • Individual Presentations • Worksheets

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
Mar.	**2**		Geometry	**Chapter 3: Angles and Triangles** **Comprehensive Project** Comprehensive group project intended to demonstrate the students comprehensive understanding and functional knowledge of the material from Chapter 3.	• Students will demonstrate their functional knowledge of the material from Chapter 3.	• Comprehensive Group Project • Preferred for the students to do the project outside of class and present their results to the class.	• Presentation of the Group Project to the class.
	2		Geometry	**Review for Midterm Exam**	**Chapter 3: Angles and Triangles** • Unit 1: Perpendicular and Parallel lines • Unit 2: Theorems and Proofs • Unit 3: Triangles • Unit 4: Congruent Triangles		
MIDTERM EXAM							

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments

Mar.	**2**	7.1.1.A
		7.1.2.A
			Patterns, Functions, and Algebra	**Chapter 4: Algebraic Expressions**
				Unit 1: Introduction
				• Definition
				  ○ Numerical expressions
				  ○ Algebraic expression
				  ○ Terms
				  ○ Monomial, binomial, n-terms
				• Value of algebraic expressions
					• Define algebraic expression as an expression of one or more variables
					• Name the parts of an algebraic expression
					• Calculate the value of an algebraic expression
					• Identify monomial, binomial, n-terms algebraic expressions
						• Group Work
						• Mini-Research Projects
						• Computer Projects
						• Worksheets
							• Group Presentations
							• Individual Presentations
							• Worksheets

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
Mar. - Apr.	**2**	7.1.3.A 7.1.1.B	Patterns, Functions, and Algebra	**Chapter 4: Algebraic Expressions** **Unit 2: Polynomials** • What is a polynomial? • Terms of a polynomial • Degree of polynomial • Zero polynomial	• Define polynomial • Differentiate a polynomial from an algebraic expression • Identify the degree of a term of a polynomial	• Group Work • Mini-Research Projects • Computer Projects • Worksheets	• Group Presentations • Individual Presentations • Worksheets

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
Apr.	**2**	7.2.1.C 7.3.1.A	Patterns, Functions, and Algebra	**Chapter 4: Algebraic Expressions** **Unit 3: Operations on Polynomials** • Add and subtract polynomials • Add and subtract polynomials in one variable • Solutions of polynomial in one variable by substitution	• Simplify polynomials • Add and subtract polynomials by combining similar terms • Add and subtract polynomials in one variable • Solve first degree polynomials in one variable • Solve polynomials of degree greater than 1 in one variable by substitution	• Group Work • Mini-Research Projects • Computer Projects • Worksheets	• Group Presentations • Individual Presentations • Worksheets
	2		Patterns, Functions, and Algebra	**Chapter 4: Algebraic Expressions** **Comprehensive Project** Comprehensive group project intended to demonstrate the students comprehensive understanding and functional knowledge of the material from Chapter 4.	• Students will demonstrate their functional knowledge of the material from Chapter 4.	• Comprehensive Group Project • Preferred for the students to do the project outside of class and present their results to the class.	• Presentation of the Group Project to the class.

The Asian International School Curriculum Mapping

Grade: 7 (Elementary) Subject: Mathematics School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
	2		Patterns, Functions, and Algebra	**Review for Final Exam**	**Chapter 4: Algebraic Expressions** • Unit 1: Introduction • Unit 2: Polynomials • Unit 3: Operations on Polynomials		
FINAL EXAM							