Eighth Grade Math Curriculum Alignment

Timeline	Strand/Concept	Performance Objective	Resources	Lessons/Objectives	Technology
August - September	**Strand 2: Data Analysis, Probability, and Discrete Mathematics** **Concept 1: Data Analysis (Statistics)**	PO 1. Formulate questions to collect data in contextual situations.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 1 – All	AM
		PO 2. Construct box-and-whisker plots.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 1 – All	
		PO 3. Determine the appropriate type of graphical display for a given data set.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 1 – All	
		PO 4. Interpret box-and-whisker plots, circle graphs, and scatter plots.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 1 – All	
		PO 5. Answer questions based on box-and-whisker plots, circle graphs, and scatter plots.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 1 – All	

		PO 6. Solve problems in contextual situations using the mean, median, mode, and range of a given data set.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 1 – All	
		PO 7. Formulate reasonable predictions based on a given set of data.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 1 – All	
		PO 8. Compare trends in data related to the same investigation.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 1 – All	
		PO 9. Solve contextual problems using scatter plots, box-and-whiskers plots, and double line graphs of continuous data.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 1 – All	
		PO 10. Evaluate the effects of missing or incorrect data on the results of an investigation (e.g., Susie's teacher recorded a 39 instead of a 93 for her last quiz, what will happen to Susie's average?).	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 1 – All	

		PO 11. Identify a line of best fit for a scatter plot.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 1 – All	
				Lessons: Chapter 12 Section 4-7	
		PO 12. Distinguish between causation and correlation.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 12 Section 4-7	
	Strand 2: Data Analysis, Probability, and Discrete Mathematics **Concept 2:Probability**	PO 1. Determine the probability that a specific event will occur in a 2-stage probability experiment.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 12 Section 4-7	
		PO 2. Solve contextual situations using probability (e.g., If the probability of Michelle making a free throw is 0.25, what is the probability that she will make three free throws in a row?).	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 12 Section 4-7	
		PO 3. Predict the outcome of a grade-level appropriate probability experiment.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 12 Section 4-7	

		PO 4. Record the data from performing a grade-level appropriate probability experiment.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 12 Section 4-7	
		PO 5. Compare the outcome of an experiment to predictions made prior to performing the experiment.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 12 Section 4-7	
		PO 6. Distinguish between independent and dependent events.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 12 Section 1-3	
		PO 7. Compare the results of two repetitions of the same grade-level appropriate probability experiment.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 12 Section 1-3 **Lessons:** Chapter 12 Section 1-3	

	Strand 2: Data Analysis, Probability, and Discrete Mathematics **Concept 3: Discrete Mathematics – Systematic Listing and Counting**	PO 1. Determine all possible outcomes involving the combination of two or more sets of objects (e.g., If you roll a six-sided number cube 4 times, how many possible outcomes are possible?). PO 2. Determine all possible arrangements given a set (e.g., How many ways can you arrange a set of 7 books on a shelf?).	Scott Foresman/ Addison Wesley Middle School Math Course 2 ©2001 (West Sedona) (Big Park) Scott Foresman/ Addison Wesley Middle School Math Course 2 ©2001 (West Sedona) (Big Park)		
	Strand 2: Data Analysis, Probability, and Discrete Mathematics **Concept 4: Vertex-Edge Graphs**	PO 1. Solve contextual problems represented by vertex-edge graphs.	Scott Foresman/ Addison Wesley Middle School Math Course 2 ©2001 (West Sedona) (Big Park)		
September - November	**Strand 1: Number Sense & Operations** **Concept 1: Number Sense**	PO 1. Locate rational numbers on a number line. PO 2. Identify irrational numbers.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park) Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 7 Section 4, 8 **Lessons:** Chapter 7 Section 4, 8	AM

		PO 3. Classify real numbers as rational or irrational.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 7 Section 4, 8	
	Strand 1: Number Sense & Operations **Concept 2: Numerical Operations**	PO 1. Select the grade-level appropriate operation to solve word problems.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 7 Section 7-8	
		PO 2. Solve word problems using grade-level appropriate operations and numbers.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 7 Section 7-8	
		PO 3. Determine the square of an integer.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 7 Section 7-8	
		PO 4. Determine the square root of an integer.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 7 Section 7-8	
		PO 5. Identify squaring and finding square roots as inverse operations.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 7 Section 7-8	

		PO 7. Apply the symbols "√" to represent square root, "±" to represent roots, and "{}" as grouping symbols.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 7 Section 7-8	
		PO 8. Use grade-level appropriate mathematical terminology.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 2– All	
		PO 6. Apply grade-level appropriate properties to assist in computation.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 2 – All **Lessons:** Chapter 2 – All	
		PO 10. Convert standard notation to scientific notation, and vice versa.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 6 – All	
		PO 11. Simplify numerical expressions using the order of operations with grade- appropriate operations on number sets.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)		
		PO 9. Calculate the missing value in a percentage problem.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** All Year **Lessons:** All Year	

	Strand 1: Number Sense & Operations **Concept 3: Estimation**	PO 1. Solve grade-level appropriate problems using estimation.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** All Year	
		PO 2. Use estimation to verify the reasonableness of a calculation (e.g., Is 32 the square root of 64?).	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** All Year	
		PO 3. Express answers to the appropriate place or degree of precision (e.g., time, money).	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)		
		PO 4. Verify the reasonableness of estimates made from calculator results within a contextual situation.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)		

November – December	**Strand 3: Patterns, Algebra, and Functions** **Concept 1: Patterns**	PO 1. Communicate a grade-level appropriate iterative or recursive pattern, using symbols or numbers.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Enrichment from Course 3, AM	AM
		PO 2. Extend a grade-level appropriate iterative or recursive pattern.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Enrichment from Course 3, AM	
		PO 3. Solve grade-level appropriate iterative or recursive pattern problems.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Enrichment from Course 3, AM	
	Strand 3: Patterns, Algebra, and Functions **Concept 2: Functions and Relationships**	PO 1. Describe the rule used in a simple grade-level appropriate function (e.g., T-chart, input/output model).	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 4 Section 1-5	
		PO 4. Identify independent and dependent variables for a contextual situation.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 4 Section 1-5 **Lessons:** Chapter 10 Section 1-4	

		PO 2. Distinguish between linear and nonlinear functions, given graphic examples.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 10 Section 1-4	
		PO 3. Determine whether a graph or table is related to a given equation of the form $y=ax^2$ where 'a' is a natural number.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 2 – All (Except Section 8) Chapter 10 – All (Except Section 8 & 11)	
	Strand 3: Patterns, Algebra, and Functions **Concept 3: Algebraic Representations**	PO 1. Evaluate algebraic expressions by substituting rational values for variables [e.g., $2(ab+ac+bc)$, when $a = 2$, $b = 3/5$, and $c = 4$].	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 3 – All	
		PO 2. Use variables in contextual situations.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 3 – All	
		PO 3. Translate a written sentence or phrase into an algebraic equation or expression, and vice versa (e.g., Three less than twice a number is $2n-3$.).	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 3 – All	
		PO 4. Translate a sentence written in context into an algebraic equation involving two operations.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 3 – All	

		PO 5. Translate a contextual situation into an algebraic inequality (e.g., Joe earns more than $5.00 an hour; therefore, $x > 5$).	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 3 – All	
		PO 6. Identify an equation or inequality that represents a contextual situation.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 3 – All	
		PO 7. Solve one-step equations with rational numbers as coefficients or as solutions.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 3 – All	
		PO 8. Solve one-step equations that model contextual situations.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 3 – All	
		PO 9. Solve two-step equations with rational coefficients and integer solutions (e.g., $3x + 5 = 11$, $4x – 20 = 8$).	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)		
		PO 10. Graph an inequality on a number line.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 3 – All	
				Lessons: Chapter 3 – All	

		PO 11. Solve a simple algebraic proportion.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 7 Section 9	
		PO 12. Solve applied problems using the Pythagorean theorem.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 4 Section 4	
	Strand 4: Geometry and Measurement Concept 1: Geometric Properties	PO 9. Determine whether three given lengths can form a triangle.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 4 Section 1-5	
	Strand 3: Patterns, Algebra, and Functions Concept 4: Analysis of Change	PO 1. Identify the slope of a line as the rate of change (the ratio of rise over run).	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 4 Section 1-5	
	Strand 4: Geometry and Measurement Concept 3: Coordinate Geometry	PO 1. Use a table of values to graph a linear equation.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 4 Section 1-5	

		PO 2. Determine the midpoint given two points on a number line. PO 3. Determine the distance between two points on a number line.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park) Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)		
January - April	**Strand 4: Geometry and Measurement Concept 1: Geometric Properties**	PO 1. Draw a model that demonstrates basic geometric relationships such as parallelism, perpendicularity, similarity/proportionality, and congruence. PO 2. Draw 3-dimensional figures by applying properties of each (e.g., parallelism, perpendicularity, congruency). PO 3. Recognize the 3-dimensional figure represented by a net.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park) Scott Foresman/ Addison Wesley Middle School Math Course ©2001 (West Sedona) (Big Park) Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 8 – All **Lessons:** Chapter 8 – All **Lessons:** Chapter 8 – All **Lessons:**	AM

				Chapter 8 – All	
		PO 5. Draw regular polygons with appropriate labels.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 8 – All	
		PO 6. Identify the properties of angles created by a transversal intersecting two parallel lines (e.g., corresponding angles are congruent).	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 8 – All	
		PO 7. Recognize the relationship between inscribed angles and intercepted arcs.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 8 – All	
		PO 10. Identify corresponding angles of similar polygons as congruent and sides as proportional.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 9 – All l	
		PO 4. Represent the surface area of rectangular prisms and cylinders as the area of their net.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 9 – All	
		PO 8. Identify tangents and secants of a circle.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 11 – All	

	Strand 4: Geometry and Measurement Concept 2: Transformation of Shapes	PO 1. Identify the planar geometric figure that is the result of a given rigid transformation.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 11 – All	
		PO 2. Model a simple transformation on a coordinate grid (e.g., Translate right four units and down two units.).	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 9 – All	
	Strand 4: Geometry and Measurement Concept 4: Measurement **- Units of Measure** **- Geometric Objects**	PO 1. Solve problems for the area of a trapezoid.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 9 – All **Lessons:** Chapter 9 – All	
		PO 2. Solve problems involving the volume of rectangular prisms and cylinders.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 9 – All	
		PO 3. Calculate the surface area of rectangular prisms or cylinders.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 9 – All	
		PO 4. Identify rectangular prisms and cylinders having the same volume.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 9 – All	

		PO 5. Find the measure of a missing interior angle in a triangle or quadrilateral. PO 6. Solve problems using ratios and proportions, given the scale factor. PO 7. Calculate the length of a side, given two similar triangles.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park) Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park) Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 9 – All	
May	**Strand 5: Structure and Logic** **Concept 1: Algorithms and Algorithmic Thinking**	PO 1. Describe how to use a proportion to solve a problem in context. PO 2. Analyze algorithms.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park) Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** Chapter 5 – All **Lessons:** Chapter 5 – All **Lessons:** All Year	AM

	Strand 5: Structure and Logic **Concept 2: Logic, Reasoning, Arguments, and Mathematical Proof**	PO 1. Solve a logic problem given the necessary information. PO 2. Identify simple valid arguments using *if…then* statements (e.g., All squares are rectangles. If quadrilateral ABCD is a rectangle, is it a square?). PO 3. Model a contextual situation using a flow chart. PO 4. Verify the Pythagorean theorem using an area dissection argument.	Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park) Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park) Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park) Scott Foresman/ Addison Wesley Middle School Math Course 3 ©2001 (West Sedona) (Big Park)	**Lessons:** All Year **Lessons:** All Year **Lessons:** All Year	
				**Basic Math Skills will be used to help with Remediation needs	