Algebra I - OAS MVP Alignment by Lesson

*This document is for the *lesson* only. ReadySetGo may cover other standards.

Module 1: Sequences				
MVP Lesson		MVP Type of Understanding	Description	OAS-M
1.1	Checkerboard Borders	Develop	Defining quantities and interpreting expressions	PA.A.3.2
1.2	Growing Dots	Develop	Representing arithmetic sequences with equations, tables, graphs, and story context	A1.F.2.1, A1.A.4.3, A1.A.3.5, A1.A.3.6, A1.F.1.3
1.3	Growing, Growing Dots	Solidify	Representing geometric sequences with equations, tables, graphs and story context	A1.F.3.1, A1.F.2.1, PA.A.2.1, A1.A.4.3, A1.F.1.3, A1.A.3.5, A1.A.3.6
1.4	Scott's Workout	Solidify	Arithmetic Sequences: Constant difference between consecutive terms, initial values	A1.F.3.1, A1.F.2.1, PA.A.2.1, A1.A.4.3, A1.F.1.3, A1.A.3.5, A1.A.3.6
1.5	Don't Break the Chain	Solidify	Geometric Sequences: Constant ratio between consecutive terms, initial values	A1.F.3.1, A1.F.2.1, PA.A.2.1, A1.A.4.3, A1.F.1.3, A1.A.3.5, A1.A.3.6
1.6	Something to Chew On	Solidify	Arithmetic Sequences: Increasing and decreasing at a constant rate	A1.F.3.1, A1.F.2.1, PA.A.2.1, A1.A.4.3, A1.F.1.3, A1.A.3.5, A1.A.3.6
1.7	Chew On This	Solidify	Comparing rates of growth in arithmetic and geometric sequences	A1.F.3.1, A1.F.2.1, PA.A.2.1, A1.A.4.3, A1.F.1.3, A1.A.3.5, A1.A.3.6
1.8	What Comes Next? What Comes Later?	Practice	Recursive and explicit equations for arithmetic and geometric sequences	A1.F.3.1, A1.F.2.1, PA.A.2.1, A1.A.4.3, A1.F.1.3, A1.A.3.5, A1.A.3.6
1.9	What Does it Mean?	Solidify	Using rate of change to find missing terms in an arithmetic sequence	A1.A.1.1, A1.A.2.1
1.10	Geometric Meanies	Solidify	Using a constant ratio to find missing terms in a geometric sequence	A1.A.1.1, A1.A.2.1
1.11	Know…What Do You Know?		Developing fluency with geometric and arithmetic sequences	PA.A.2.1, A1.A.4.3, A1.A.1.1, A1.A.2.1

Module 2: Linear and Exponential Functions				
MVP Lesson		MVP Type of Understanding	Description	OAS-M
2.1	Piggies and Pools	Develop	Introducing continuous linear and exponential functions	A1.A.3.5, A1.A.3.6, A1.F.3.1, A1.F.3.2, A1.F.2.1, A1.F.1.3
2.2	Shh! Please Be Discrete!	Solidify	Connecting context with domain and distinctions between discrete and continuous functions	A1.A.3.5, A1.A.3.6, A1.F.2.1, PA.A.2.1, A1.A.4.3, A1.F.1.2,
2.3	Linear, Exponential, or Neither	Practice	Distinguishing between linear and exponential functions using various representations	A1.A.3.5, A1.A.3.6, A1.F.2.1, A1.F.1.3
2.4	Experimenting With Exponents	Develop	Connecting rational exponents with radicals	A2.N.1.4, A2.A.2.4
2.5	Half Interested	Solidify	Reasoning with positive and negative rational exponents	A2.N.1.4, A2.A.2.4
2.6	More Interesting	Solidify	Verifying the properties of rational exponents	A2.N.1.4, A2.A.2.4
2.7	Radical Ideas	Practice	Using rules of exponents to simplify radical and rational exponents	A1.N.1.1, A1.N.1.2, A2.N.1.4, A2.A.2.4
2.8	Getting Down to Business	Solidify	Comparing growth of linear and exponential models	PA.A.2.1, A1.A.4.3, A1.A.3.5, A1.A.3.6, A2.A.1.7, A1.F.2.1, A1.F.1.3
2.9	Making My Point	Solidify	Interpreting equations that model linear and exponential functions	A1.A.4.3, A1.F.2.1, A1.A.4.3, PA.A.2.1
2.10	Form Follows Function	Solidify	Building fluency and efficiency in working with linear and exponential functions in their various forms	PA.A.2.1, A1.A.4.3, A1.F.2.1, A1.A.4.3, A1.D.1.3
Module 3: Features of Functions				
MVP Lesson		MVP Type of Understanding	Description	OAS-M
3.1	Getting Ready for a Pool Party	Develop	Using a story context to graph and describe key features of functions	A1.A.4.4
3.2	Floating Down the River	Solidify	Using tables and graphs to interpret key features of functions	A1.A.4.4, A1.F.1.2, A1.A.4.1, A1.D.1.3, A2.F.1.8
3.3	Features of Functions	Practice	Working to achieve fluency with the identification of feature of functions from various representations	A1.A.4.4, A1.F.1.2, A1.F.3.2, A1.D.1.3

3.4	The Water Park	Solidify	Interpreting functions and their notation	A1.F.3.2, A1.A.4.4, A1.F.1.2, A1.F.1.3
3.5	Pooling it Together	Solidify	Combining functions and analyzing contexts using functions	A1.F.3.3, A2.F.2.1, A1.F.3.2, A1.A.4.4*, A1.F.1.2, A2.F.1.5
3.6	Interpreting Functions	Practice	Using graphs to solve problems when given function notation	A1.F.3.3, A2.F.2.1, A1.F.3.2, A1.A.4.4*, A1.F.1.2, A2.F.1.5
3.7	To Function or Not to Function	Practice	Identify whether or not a relation is a function given various representations	A1.F.1.1, A2.F.1.1, A1.A.3.5, A1.A.3.6
Module 4: Equations and Inequalities				
MVP Lesson		MVP Type of Understanding	Description	OAS-M
4.1	Cafeteria Actions and Reactions	Develop	Explaining each step in the process of solving an equation	A1.A.1.1
4.2	Elvira's Equations	Solidify	Rearranging formulas to solve for a variable	A1.A.1.1, A1.A.3.1
4.3	Solving Equations Literally	Practice	Solving literal equations	A1.A.3.1
4.4	Greater Than	Develop	Reasoning about inequalities and the properties of inequalities	A1.A.2.1, 7A.3.2
4.5	May I have More, Please?	Solidify	Applying the properties of inequalities to solve inequalities	A1.A.2.1
4.6	Taking Sides	Practice	Solving linear inequalities and representing the solution	A1.A.2.1
Module 5: Systems of Equations and Inequalities				
MVP Lesson		MVP Type of Understanding	Description	OAS-M
5.1	Pet Sitters	Develop	An introduction to representing constraints with systems of inequalities	A1.A.1.3, A1.A.2.1, A1.A.2.3
5.2	Too Big or Not Too Big is the Question	Solidify	Writing and graphing linear inequalities in two variables	A1.A.2.1, A1.A.2.3
5.3	Some of One, None of the Other	Solidify	Writing and solving equations in two variables	A1.A.4.3, A1.F.2.1, PA.A.2.1
5.4	Pampering and Feeding Time	Practice	Writing and graphing inequalities in two variables to represent constraints	A1.A.2.1, A1.A.2.3
5.5	All for One, One for All	Solidify	Graphing the solution set to a linear system of inequalities	A1.A.2.1, A1.A.2.3

5.6	More or Less	Practice	Solving systems of linear inequalities and representing their boundaries	A1.A.2.1, A1.A.2.3
5.7	Get to the Point	Solidify	Solving systems of linear equations in two variables	A1.A.1.3
5.8	Shopping for Cats and Dogs	Develop	An introduction to solving systems of linear equations by elimination	A1.A.1.3
5.9	Can you Get to the Point, Too?	Solidify	Solving systems of linear equations by elimination	A1.A.1.3
5.10	Taken Out of Context	Practice	Working with systems of linear equations, including inconsistent and dependent systems	A1.A.1.3
5.11H	To Market with Matrices	Develop	An introduction to solving systems of linear equations using matrices	A1.A.1.3
5.12H	Solving with Matrices	Solidify	Solving systems of linear equations using matrices	A1.A.1.3
Module 6: Quadratics Functions				
MVP Lesson		MVP Type of Understanding	Description	OAS-M
6.1	Something to Talk About	Develop	An introduction to quadratic functions, designed to elicit representations and surface a new type of pattern and change	A2.A.1.1
6.2	I Rule	Solidify	Solidification of quadratic functions begins as quadratic patterns are examined in multiple representations and contrasted with linear relationships	A1.F.1.3, A2.A.1.1
6.3	Scott's Macho March	Solidify	Focus specifically on the nature of change between values in a quadratic being linear	A1.F.1.3, A2.A.1.1
6.4	Rabbit Run	Solidify	Focus on maximum/minimum point as well as domain and range for quadratics	A1.F.1.3, A2.A.1.1
6.5	The Tortoise and the Hare	Solidify	Comparing quadratic and exponential functions to clarify and distinguish between each type of growth as well as how that growth appears in each of their representations	A2.A.1.1, A2.A.1.2

6.6	How Does it Grow	Practice	Incorporating quadratics with the understandings of linear and exponential functions	A1.F.1.3, PA.A.2.1, A1.A.4.3, A1.F.1.1, A1.F.2.1, A1.F.3.2
Module 7: Structure of Expressions				
MVP Lesson		MVP Type of Understanding	Description	OAS-M
7.1	Transformers: Shifty Y's	Develop	Connecting transformations to quadratic functions and parabolas	A2.F.1.2
7.2	Transformers: More Than Meets the y's	Solidify	Working with vertex form of a quadratic, connecting the components to transformations	A2.F.1.2, A2.F.1.3
7.3	Building the Perfect Square	Develop	Visual and algebraic approaches to completing the square	A1.A.3.2, A2.A.2.3
7.4	A Square Deal	Solidify	Visual and algebraic approaches to completing the square	A1.A.3.2, A2.A.2.3
7.5	Be There or Be Square	Practice	Visual and algebraic approaches to completing the square	A1.A.3.2, A2.A.2.3
7.6	Factor Fixin'	Solidify	Connecting the factored and expanded forms of a quadratic	A1.A.3.3, A2.A.2.3
7.7	The x Factor	Solidify	Connecting the factored and expanded or standard forms of a quadratic	A1.A.3, A2.A.2.3
7.8H	The Wow Factor	Solidify	Connecting the factored and expanded forms of a quadratic when a value is not equal to one	A1.A.3, A2.A.2.3
7.9	Lining Up Quadratics	Solidify	Focus on the vertex and intercepts for quadratics	A1.F.1.2, A1.A.4.3, A1.F.1.3, A2.A.2.3, A2.F.1.3
7.10	I've Got a Fill-in	Practice	Building fluency in rewriting and connecting different forms of a quadratic	A2.A.2.3
7.11	Throwing an Interception	Develop	Developing the Quadratic Formula as a way for finding x-intercepts and roots of quadratic functions	A1.A.3.1, A2.A.1.1, A2.A.2.3, A2.F.1.3
7.12	Curbside Rivalry	Solidify	Examining how different forms of a quadratic expression can facilitate the solving of quadratic equations	A1.A.1.3, A2.A.1.1
Module 8: More Functions, More Features				
MVP Lesson		MVP Type of Understanding	Description	OAS-M

8.1	Some of This, Some of That	Develop	Use prior knowledge of functions to develop understanding of piecewise functions	A1.F.1.4, A1.F.3.2, A2.F.1.2
8.2	Bike Lovers	Solidify	Solidification of graphing and writing equations for piecewise functions	A1.F.1.2, A1.F.1.4, A2.F.1.1, A2.F.1.8
8.3	More Functions with Features	Solidify	Incorporating absolute value as piecewise-defined functions	A1.F.1.4, A1.F.1.3, A1.F.1.2, A2.F.1.8
8.4	Reflections of a Bike Lover	Practice	Fluency with domain, range, absolute value and piecewise-defined functions	A1.F.1.2, A2.F.1.8, A2.F.2.2
8.5	What's Your Pace?	Develop	Comparing input and output values to develop understanding of inverse functions	A2.F.2.3
8.6	Bernie's Bikes	Solidify	Solidifying inverse functions using multiple representations	A2.F.2.3
8.7	More Features, More Functions	Practice	Using prior knowledge to identify features of a function as well as to create functions when given features	A1.F.1.3, A2.F.1.8, A2.F.2.3
Module 9: Modeling Data				
MVP Lesson		MVP Type of Understanding	Description	OAS-M
9.1	Texting by the Numbers	Solidify	Use context to describe data distribution and compare statistical representations	6.D.1.3, 7.D.1.2, PA.D.1.2
9.2	Data Distribution	Solidify/ Practice	Describe data distributions and compare two or more data sets	6.D.1.3, 7.D.1.2, PA.D.1.2
9.3	After School Activity	Solidify	Interpret two way frequency tables	No OAS
9.4	Relative Frequency	Solidify/ Practice	Use context to interpret and write conditional statements using relative frequency tables	No OAS
9.5	Connect the Dots	Develop	Develop an understanding of the value of the correlation co-efficient	PA.D.1.3
9.6	Making More $	Solidify	Estimate correlation and lines of best fit. Compare to the calculated results of linear regressions and the correlation co-efficient	A1.D.1.2
9.7	Getting Schooled	Solidify	Use linear models of data and interpret the slope and intercept of regression lines with various units	A1.D.1.2
9.8	Rocking the Residuals	Develop	Use residual plots to analyze the strength of a linear model for data	No OAS

9.9	Lies and Statistics	Practice	Use definitions and examples to explain understanding of correlation coefficients, residuals, and linear regressions	A1.D.1.2, A2.D.1.2