

Grade	Standard	Alice World	Description
5th Grade			
	5.OA.1	Order of Operations World	This world tests students knowledge of the order of operations (PEMDAS) and this standard requires that students be able to use parentheses, brackets, or braces in numerical expressions and evaluate them.
		Order of Operations Rap	This world is an animation and song to help students learn and memorize the order of operations in math.
		Distributive Property Tutorial	The Distributive Property world shows how to deal with parentheses in an equation and checks to see if the equations are expanded correctly with an application to the Distributive Property.
	5.OA.2	Using Pearls to Understand Variables	This standard deals with simple algebraic expressions and interpreting numerical expressions. Even though they do not need to evaluate them this early in the standards, this Alice world shows how to set up and solve algebraic equations using bags of pearls as variables.
	5.OA.3	Nonvisual arrays	A simpler version of this game that allows students to practice calculating mathematical and algebraic patterns rather than making the list to hold them.
	5.NBT.1	Rounding Game	This standard requires that students recognize the different places of a multi-digit number (ones, tens, hundreds,...) and they know the corresponding place to the right(/ 10) and left (* 10). The first part of the questions in this game deals with identifying the given place by clicking on the number.
	5.NBT.2	Scientific Notation	In this standard, students must understand patterns in multiplying numbers by 10 and use exponents to denote powers of 10. This Alice world goes over how to translate numbers into scientific notation form which uses exponents to denote powers of 10 and trailing zeros in a number.
	5.NBT.3A		Expanded form of numbers- (EX: $347.392 = 3*100 + 4*10 + 7*1 + 3*(1/10) + 9*(1/100) + 2*(1/1000)$)
	5.NBT.3B	Inequalities	Can extend the inequalities world to include more examples with decimals and fractions in the game.
	5.NBT.4	Rounding Game	The rest of the rounding game world deals with rounding numbers which is what this standard is, except the world needs to add decimals.
	5.NBT.5	Basketball Math	In this Alice world, students practice finding the products of numbers in a basketball game. This standard requires students to be able to multiply multi-digit whole numbers, so the maximum values in the game can be increased to practice multiplying larger numbers.
		Multiplication Table	This game allows kids to practice their multiplication skills up to 10×10 .
	5.NBT.6	Sign Me Up	This world deals with the division of whole numbers (easier examples) with positive and negative integers. This standard deals with division as well, but goes up to 4 digit dividends and 2 digit divisors.
	5.NBT.7	Nemo Learns Math	A more advanced version of this game that includes decimals would help students practice this standard of adding, subtracting, multiplying, and dividing decimals to the hundredths place.
	5.NF.1	Fraction World	This Alice world allows students to add and subtract fractions and go through the method of finding the common denominator, then calculating the numerator and denominator.
	5.NF.2		- Word problem to add and subtract fractions.
	5.NF.3		- Recognize $3/4 = 3$ divided by 4
	5.NF.4A	Fraction World	This world allows students to practice multiplying and dividing fractions.
	5.NF.4B		- Area of a rectangle with fractional sides
	5.NF.5A	Reducing Simple Fractions, Fraction World	This Alice world delves into the greatest common factor of numbers with applications in reducing fractions. Fraction World does this with an application to fraction arithmetic.
	5.NF.5B	Simplifying Fractions	This Alice world allows students to practice simplifying fractions and help them learn fraction equivalence: $a/b = (na)/(nb)$
	5.NF.6		- Real world problems and applications of multiplying fractions and mixed numbers.
	5.NF.7A		- Dividing fractions and whole numbers
	5.NF.7B		- Dividing whole numbers by fractions
	5.NF.7C		- Convert different measurement units in a given measurement system ($5 \text{ cm} = .05 \text{ m}$)
	5.MD.1		
	5.MD.2		- Make a line plot of fractional data.
	5.MD.3A		- Unit cube
	5.MD.3B		- A solid figure that can be packed with n unit cubes has a volume of n cubic units.
	5.MD.4		- Measure volumes with unit cubes of cubic cm., cubic in., etc.
	5.MD.5A		- Find volume of rectangular prism using unit cubes.
	5.MD.5B	Volume Formulas	This Alice world deals with learning the formulas for the volumes of different shapes, but this standard only requires students to find the volume of rectangular prisms using $V = b*h = l*w*h$. It won't help them practice this standard, just memorize formulas.
	5.MD.5C		- Volume is additive.
	5.G.1	Lesson on the Coordinate Plane	An introduction to coordinate planes (Axes, coordinates, lines, ordered pairs, etc.)

			This standard requires students to be able to represent real world data and mathematical problems by graphing points in the first quadrant and interpreting those values. The Plotting Points Alice world takes data created by the student about how far a bicyclist travels and asks them to plot the points and then interpret the data that they came up with.
	5.G.2	Plotting Points, Lines, and Scatter Plots	
	5.G.3		- Categories of 2D shapes and their properties.
	5.G.4		- Be able to classify 2D objects in a hierarchy based on properties.
6th Grade			
	6.RP.1		- Ratios (2:1)
	6.RP.2		- Relationship of ratios to fractions.
	6.RP.3A		- Tables of equivalent ratios
	6.RP.3B		- Unit rate problems
	6.RP.3C		- percentages
	6.RP.3D		- ratios to convert measurements
	6.NS.1	Fraction World	This world deals with arithmetic expressions of fractions.
	6.NS.2	Sign Me Up	Extend this world to include the division of multi-digit numbers.
	6.NS.3	Basketball Math, Nemo Math, etc.	To accomplish this standard, all we need to do is extend the previous mentioned math Alice worlds to make them harder by adding multi-digit addition, subtraction, multiplication, and division.
	6.NS.4	Simplifying Fractions	This world allows students to practice finding the greatest common factor between 2 numbers with applications in simplifying fractions.
	6.NS.5	Walk the Number Line	This world will help students understand the difference between positive and negative numbers. Does not go into real-world applications though.
	6.NS.6A	Walk the Number Line apps	Negatives and positives as opposites, symmetry. $(-(-3) = 3)$
	6.NS.6B	Kick the Coordinate Plane, Lesson on the Coordinate Plane	In this world (Kick the Coordinate Plane), students click a character to kick a soccer ball to a random position on a graph and must give the coordinates of the point. This goes over points in all 4 quadrants and positive/negative numbers.
	6.NS.6C	Walk the Number Line, Integer Football	Walk the Number Line allows students to move a character around to the correct place on a number line by adding/subtracting positive and negative integers. Integer Football does the same thing, with an application to sports and moving down a football field on given plays.
	6.NS.7A	Inequalities	Students should be able to interpret inequalities with negative numbers. Use this world with more examples with negative numbers.
	6.NS.7B		- Real world applications for the above standard.
	6.NS.7C		- Absolute Value
	6.NS.7D		- Statements of absolute value
	6.NS.8	Bike Plot	This standard that requires that students be able to solve real-world problems by graphing points, and this world applies that skill to tracking the speed of a bicycle.
	6.EE.1	Scientific Notation*	The Scientific Notation world uses exponents, but we'll need an Alice world that deals with exponents exclusively.
	6.EE.2A	Using Pearls to Understand Variables	Standard 2a deals with students being able to understand and write expressions using variables and letters to represent numbers.
	6.EE.2B		- Understand and identify the parts of a mathematical function. (sum, term, product, difference, quotient, factor, coefficient,...)
	6.EE.2C		- Solving algebraic functions
	6.EE.3	Distributive Property Tutorial	The distributive property.
	6.EE.4		- Identify when two equations are equivalent. [Inequalities]
	6.EE.5		- Finding values that make an equation or inequality true.
	6.EE.6	Using Pearls to Understand Variables	Using variables to represent numbers and write expressions from real life problems. This world is an example but won't help them practice this skill.
	6.EE.7		- Writing and solving equations of the form $x + p = q$ and $px = q$
	6.EE.8		- Inequalities with variables and applications.
	6.EE.9	ModelinXYZ(Kelly) and Mike's world	These worlds allow students to use graphs to represent equations and also go into more advanced functions. Also, these worlds do not deal with tables which are also mentioned in this standard.
	6.G.1		- Areas of triangles and special quadrilaterals.
	6.G.2		- Find the volume of a rectangular prism
	6.G.3		- Draw polygons in a coordinate plane
	6.G.4		- Represent 3D figures with rectangles and triangles to find the surface area.
	6.SP.1		- Recognize statistical questions.
	6.SP.2		- Statistical distributions
	6.SP.3	Boat Averages	Measures of center (average/median) summarize a group of data with just one value.
	6.SP.4	Bike Plot	- Display numerical data using dot plots, histograms, and box plots.
	6.SP.5A		- Reporting the number of observations
	6.SP.5B		- Describing the nature of observation
	6.SP.5C	Boat Averages	This standard deals with calculating the measures of center (median and mean) of data and the boat averages worlds allow users to practice finding the average speed, distance, and time a boat travels.
	6.SP.5D		- Relating measures of center to variability

7th Grade			
	7.RP.1		- Ratios and averages of measurements
	7.RP.2A		- Decide whether two quantities are proportional by table or graphing
	7.RP.2B		- Constant of proportionality
	7.RP.2C		- Represent proportional relationships with equations
	7.RP.2D		- Proportional relationship between points on a graph
	7.RP.3		- Multistep ratio and percent problems
	7.NS.1A	Walk the Number Line	This standard deals with describing situations where opposite quantities combine to make 0 such as $-4 + 4$, but this standard gives the example of hydrogen atoms.
	7.NS.1B	Walk the Number Line	This standard wants students to understand that $p + q$ is a distance of the $\text{abs}(q)$ from p in either direction.
	7.NS.1C	Walk the Number Line	In this standard, students should understand that subtraction is just adding the inverse: $p - q = p + (-q)$
	7.NS.1D		- Properties of operations to add and subtract rational numbers
	7.NS.2A	Basketball Math, etc	Understanding multiplication and distributive property with positive and negative integers $(-1)(-1)=1$
	7.NS.2B	Sign Me Up, etc.	Understand that integers can be divided if the divisor is non-zero. With negative values, know that $-(p/q) = (-p)/q = (p)/(-q)$
	7.NS.2C		- Use properties of operations as strategies to multiply and divide rational numbers
	7.NS.2D		- Convert a rational number to a decimal using long division
	7.EE.1		- Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions.
	7.EE.2		- Rewriting expressions in different forms: $a + .05 = 1.05(a)$
	7.EE.3		- Solve multistep real life problems with positive and negative rational numbers in any form and apply the properties of operations to them...
	7.EE.4A		- Word problems of the form $px + q = r$ or $p(x + q) = r$
	7.EE.4B		- Word problems with inequalities of the form $px + q > r$ or $px + q < r$
	7.G.1		- Solve problems using scale drawings of geometric figures
	7.G.2		- Draw geometric shapes with given conditions using rulers, protractors, etc.
	7.G.3		- Describe two-dimensional figures by slicing 3D figures.
	7.G.4	Geometry Game	In this standard, students should know the formulas for the area and circumference of a circle which is practiced in this world along with squares and rectangles.
	7.G.5		- Supplementary, complementary, vertical, and adjacent angles
	7.G.6		- Solve real world and math problems involving area, volume, and surface area.
	7.SP.1	1 Ball, 2 Ball, Red Ball, Blue Ball	This Alice world deals with random sampling from a group of red and blue balls, and in this standard students must learn about gaining information about populations by examining a sample of the population and understand random sampling.
	7.SP.2	1 Ball, 2 Ball, Red Ball, Blue Ball	This standard has students use the random sample to draw inferences about the population from the data, and in this world students will predict the number of red and blue balls and see how the samples are simulated.
	7.SP.3		- Comparing two different numerical distributions
	7.SP.4		- Use measures of center and measures of variability from numerical data from random samples
	7.SP.5	Probability World	Understanding the definition of probability (the chance an event occurs is between 0 and 1, the likelihood that an event occurs...)
	7.SP.6	Probability World	Approximating the probability of a chance event by collecting data. Students should develop a uniform probability model and use it to determine the probability of different events. In the game, the user must enter the probability of choosing a random colored ball from a hole.
	7.SP.7A	Probability World	- Develop a probability model that may not be uniform.
	7.SP.7B		- Probability of compound events
	7.SP.8A		- Represent sample spaces for compound events.
	7.SP.8B		- Design and use a simulation to generate frequencies of compound events. (simulate Alice?)
	7.SP.8C		
8th Grade			
	8.NS.1		- Irrational Numbers
	8.NS.2		- Rational Approximations of irrational numbers
	8.EE.1	Exponent Laws	This world explains the laws and properties of exponents which students are required to know based on this standard.
	8.EE.2		- Square root and cube root
	8.EE.3	Scientific Notation	Students should be able to know how to use and understand scientific notation.
	8.EE.4		- Perform operations with numbers in scientific notation
	8.EE.5		- Graph proportional relationships
	8.EE.6		- Use similar triangles to calculate why the slope is the same between two points.
	8.EE.7A		- Linear equations with one variable and one solution
	8.EE.7B		- Solve linear equations

	8.EE.8A		- Students should be able to understand a system of equations and the corresponding point is their intersection. (Graphically)
	8.EE.8B	Systems of Equations	Students should be able to solve systems of 2 linear equations which is what this world helps them practice.
	8.EE.8C		- Same as the above with real world applications.
	8.F.1		- Definition of a function
	8.F.2	Move in XYZ and Mike's world	Students should be able to compare different functions GRAPHICALLY, also algebraically, numerically in tables, description, etc.
	8.F.3		- Linear functions
	8.F.4	(Slope Quiz)	- Construct a function to create a linear relationship between two points
	8.F.5		- Sketch graphs and describe relationship between two functions
	8.G.1A		- Lines and line segments
	8.G.1B		- Angles
	8.G.1C		- Parallel Lines
	8.G.2		- Congruency between 2D figures with reflections, translations, and rotations
	8.G.3		- Dilations, translations, rotations, and reflections on coordinates
	8.G.4		- Similar 2D figures
	8.G.5		- Angle sum of triangles
	8.G.6		- Prove and explain the Pythagorean Theorem
	8.G.7	Pythagorean Prom (2D), Pythagorean Theorem in a 3D Problem	"Apply the Pythagorean Theorem to determine the unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions."
	8.G.8	Pythagorean Prom	This standard requires students to be able to use Pythagorean's Theorem to calculate the distance between 2 points.
	8.G.9	Volume Quiz	This world quizzes students on the volume formulas of different shapes including cones, cylinders, and spheres which are specified in this standard.
	8.SP.1	Bike Plot	Construct and interpret scatter plots.
	8.SP.2	Bike Plot	Students should know about the line of best fit for a scatter plot data and the end of this Alice world gives an example of finding the line of best fit for the data created by the user.
	8.SP.3	(Using Pearls to Understand Variables)	- Use linear equations to solve problems
	8.SP.4		- Bivariate categorical data
High School			
	N-RN.1		- Rational exponents and their properties.
	N-RN.2		- Rewrite expressions involving radicals and rational exponents.
	N-RN.3		- Explain why the sum or product of two rational numbers is rational, the sum of a rational number and irrational number is irrational, and the product of a nonzero rational number and an irrational number is irrational.
	N-Q.1		- Use units as a way to understand problems and to guide the solution for multi-step problems.
	N-Q.2		- Define appropriate quantities for the purpose of descriptive modeling.
	N-Q.3		- Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
	N-CN.1		- Complex number i such that $i^2 = -1$.
	N-CN.2		- Use i^2 and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.
	N-CN.3		- Find the conjugate of a complex number
	N-CN.4		- Represent complex numbers on the complex plane in rectangular and polar form.
	N-CN.5		- Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically.
	N-CN.6		- Calculate the distance between numbers in the complex plane.
	N-CN.7		- Solve quadratic equations with real coefficients that have complex solutions.
	N-CN.8		- Extend polynomial identities to complex numbers.
	N-CN.9		- The Fundamental Theorem of Algebra is true for quadratic polynomials.
	N-VM.1		- Recognize vector quantities as having both magnitude and direction.
	N-VM.2		- Find the components of a vector by subtracting the coordinates of an initial point from a terminal point.
	N-VM.3		- Solve problems involving velocity and other quantities represented by vectors.
	N-VM.4A		- Add vectors end-to-end, component-wise, and by the parallelogram rule.
	N-VM.4B		- Given 2 vectors in magnitude and direction form, determine the magnitude and direction of their sum.
	N-VM.4C		- Understand vector subtraction.
	N-VM.5A		- Represent scalar multiplication graphically
	N-VM.5B		- Compute the magnitude of a scalar multiple
	N-VM.6		- Use matrices to represent and manipulate data.
	N-VM.7		- Multiply matrices by a scalar.

	N-VM.8	The Matrix	Add, subtract, and multiply* matrices. This standard requires that students be able to multiply matrices of appropriate dimensions. In this Alice world, users are able to practice multiplying 2x2 matrices and learn the method for multiplying matrices.
	N-VM.9	The Matrix	Students should know that matrix multiplication for square matrices is not commutative. In this world, they are able to input the numbers they want into the matrices that will be multiplied and can switch the values to see that they aren't commutative.
	N-VM.10		- Understand that the zero and identity matrix play a role in matrix addition and multiplication.
	N-VM.11		- Multiply a vector by a matrix of suitable dimensions.
	N-VM.12		- Work with 2x2 matrices as transformations in a plane.
	A-SSE.1A		- Interpret parts of an expression. (terms, factors, and coefficients)
	A-SSE.1B		- Interpret complicated expressions by viewing one or more of their parts as a single entity.
	A-SSE.2		- Use the structure of an expression and identify ways to rewrite it.
	A-SSE.3A		- Factor a quadratic expression to reveal zeros of the function it defines.
	A-SSE.3B		- Complete the square in a quadratic expression.
	A-SSE.3C	Exponent Laws	In this standard, students should be able to use the properties of exponents to transform expressions for exponential functions. This Alice world goes over all of the exponent laws with variables, which can be translated into functions and hold the same properties.
	A-SSE.4		- Derive the formula for the sum of a finite geometric series.
	A-APR.1	System of Equations (2008), System of Equations (2011)	Understand that polynomials form a system analogous to the integers. Polynomials can be added, subtracted, and multiplied, and this Alice world quizzes students on how to add and subtract polynomials using a system of equations.
	A-APR.2		- Know and apply the Remainder Theorem.
	A-APR.3		- Identify zeros in polynomials.
	A-APR.4		- Prove polynomial identities and describe numerical relationships.
	A-APR.5		- The Binomial Theorem
	A-APR.6		- Rewrite simple rational expressions
	A-APR.7		- Understand that rational expressions form a system analogous to the rational numbers
	A-CED.1	*Word problem challenges	Create equations and inequalities in one variable and use them to solve problems.
	A-CED.2		- Create equations in two or more variables.
	A-CED.3		- Represent constraints by equations or inequalities.
	A-CED.4		- Rearrange formulas to highlight a quantity of interest.
	A-REI.1	Using Pearls To Understand Variables	This standard requires students to explain each step in solving a simple equation. The "Using Pearls to Understand Variables" Alice world explains variables using pearls and at the end it provides an example and shows how to solve an equation.
	A-REI.2		- Solve simple rational and radical equations in one variable.
	A-REI.3	Using Pearls To Understand Variables	Students should be able to solve linear equations and inequalities and this Alice world deals with solving linear equations.
	A-REI.4A		- Use the method of completing the square to transform any quadratic equation.
	A-REI.4B		- Solve quadratic equations by inspection.
	A-REI.5		- Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
	A-REI.6	System of Equations	This standard deals with solving systems of equations exactly and approximately, and the exact method is practiced in this Alice world.
	A-REI.7		- Solve a system of linear equations consisting of a linear equation and a quadratic equation.
	A-REI.8		- Represent a system of linear equations as a single matrix equation.
	A-REI.9		- Find the inverse of a matrix if it exists and use it to solve systems of equations.
	A-REI.10		- Understand that the graph of an equation with two variables is the set of all its solutions plotted in the coordinate plane.
	A-REI.11		- Explain why the x-coordinates of the points where 2 graphs intersect are solutions of the equations.
	A-REI.12		- Graph the solutions to a linear inequality.
	F-IF.1		- Understand that a function from one set (domain) connects to another set (range).
	F-IF.2		- Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation.
	F-IF.3	Nonvisual Arrays, Nonvisual Arrays and Recursion in Alice	Students should recognize that sequences are functions, and also defined recursive functions. Both of these Alice worlds use arrays to let students build functions and examine the sequences that they produce, and the second one focuses specifically on recursive functions such as Fibonacci's sequence and factorials.

	F-IF.4	MoveInXYZ, Bird Graphing	This standard says that for a function that models a relationship between two quantities, interpret key features of graphs and tables (intercepts, intervals of increasing/decreasing, max and min, symmetry, etc.) Both of these Alice worlds deal with graphing functions that the user can examine and compare with other functions. MoveInXYZ uses polynomial functions while Bird Graphing can use all of the math functions built into Alice.
	F-IF.5	MoveInXYZ, Bird Graphing	Students need to be able to relate the domain of a function to its graph and the quantitative relationship it describes. In these Alice world, students can view the graphs of a variety of functions and use the graphs to analyze the domains of the functions.
	F-IF.6		- Calculate and interpret the average rate of change of a function over a specified interval.
	F-IF.7A	MoveInXYZ, Bird Graphing	Graph linear and quadratic functions and show intercepts, maxima, and minima.
	F-IF.7B	Bird Graphing	Graph square root, cube root, and piecewise-defined functions including step and absolute value functions. The Bird Graphing Alice world is able to graph the square and cube root functions.
	F-IF.7C	MoveInXYZ	Graph polynomial functions, identifying zeros and factorizations when available. This Alice world allows users to create the functions that they want to graph up to the x^4 degree.
	F-IF.7D	Bird Graphing	Graph rational functions, identifying zeros and asymptotes. This world allows users to create rational functions if they can create them using the built-in Alice functions.
	F-IF.7E	Bird Graphing	Graph exponential and logarithmic functions showing intercepts and end behavior and trigonometric functions. Alice world functions contain these mathematical functions in the advanced math section that can be graphed in this world.
	F-IF.8A		- Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry.
	F-IF.8B		- Use the properties of exponents to interpret expressions for exponential functions.
	F-IF.9		- Compare properties of two functions each represented in a different way.
	F-BF.1A		- Determine an explicit expression, a recursive process, or steps for calculation from a context.
	F-BF.1B		- Combine standard function types using arithmetic operations
	F-BF.1C		- Compose functions $[T(h(y))]$
	F-BF.2		- Write arithmetic and geometric sequences both recursively and with an explicit formula.
	F-BF.3	Bird Graphing	Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, and $f(kx)$ for specific values of k . In this Alice world, the user can choose a function in Alice and then modify it by making the changes above and choosing a value of k to see how the graph changes for each one.
	F-BF.4A		- Solve an equation of the form $f(x) = c$ and write an expression for the inverse.
	F-BF.4B		- Verify by composition that one function is the inverse of another
	F-BF.4C		- Read values of an inverse function from a graph or table
	F-BF.4D		- Produce an invertible function from a non-invertible function by restricting the domain.
	F-BF.5		- Understand the inverse relationship between exponents and logarithms.
	F-LE.1A	Nonvisual Arrays in Alice	In this standard, students should be able to prove that linear functions grow by equal differences over equal differences. This Alice world shows how functions grow at an equal rate and helps them practice with a quiz to calculate these values.
	F-LE.1B		- Recognize situations in which one quantity changes at a constant rate per unit interval
	F-LE.1C		- Recognize situations in which a quantity grows or decays by a constant percent rate
	F-LE.2		- Construct linear and exponential functions including arithmetic and geometric sequences
	F-LE.3	Bird Graphing, MoveInXYZ	This standard wants students to observe quantities increasing exponentially, linearly, quadratically, polynomially, etc. in graph and table form. These Alice worlds present these values in graphical form.
	F-LE.4		- For exponential models, express as a logarithm of the solution.
	F-LE.5		- Interpret the parameters in a linear or exponential function in terms of a context
	F-TF.1		- Understand radian measure of an angle
	F-TF.2		- Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to real numbers
	F-TF.3		- Use special triangles to determine geometrically the values of \sin , \cos , and \tan for $\pi/3$, $\pi/4$, and $\pi/6$
	F-TF.4		- Use the unit circle to explain symmetry and periodicity of trigonometric functions
	F-TF.5		- Choose trig functions to model periodic phenomena with specified amplitude, frequency, and midline

	F-TF.6		- Understand that restricting a trig function to a domain which is always increasing/decreasing allows its inverse to be constructed.
	F-TF.7		- Use inverse functions to solve trig equations
	F-TF.8		- Prove the Pythagorean identity $\sin^2 + \cos^2 = 1$
	F-TF.9		- Prove the addition and subtraction formulas for sin, cos, and tan
	G-CO.1		- Know the precise definitions of angle, circle, perpendicular and parallel lines, line segments, point, line, distance, arc, etc.
	G-CO.2		- Represent transformations in the plane using transparencies and geometry software
	G-CO.3		- Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections
	G-CO.4		- Develop definitions of rotations, reflections, and transformations
	G-CO.5		- Given a geometric figure, draw the transformed figure
	G-CO.6		- Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure
	G-CO.7		- Use the definition of congruence in terms of rigid motions
	G-CO.8		- Explain how the criteria for triangle congruence follow from the definition of congruence
	G-CO.9		- Prove theorems about lines and angles
	G-CO.10		- Prove theorems about triangles
	G-CO.11		- Prove theorems about parallelograms
	G-CO.12		- Make formal geometric constructions with a variety of tools
	G-CO.13		- Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle
	G-SRT.1A		- A dilation takes a line not passing through the center of the dilation to a parallel line
	G-SRT.1B		- The dilation of a line segment is longer or shorter in the ratio given by the scale factor
	G-SRT.2		- Given two figures, use the definition of similarity and decide if they are similar
	G-SRT.3		- Use properties of similarity transformation to establish the AA criterion for 2 triangles to be similar
	G-SRT.4		- Prove theorems about triangles.
	G-SRT.5		- Use congruence and similarity for triangles to solve problems
	G-SRT.6		- Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle
	G-SRT.7		- Explain and use the relationship between sin and cos of complementary angles
	G-SRT.8		- Use trigonometric ratios and Pythagorean Theorem to solve right triangle in applied problems
	G-SRT.9		- Derive the formula $A = \frac{1}{2}ab \sin(c)$ for the area of a triangle
	G-SRT.10		- Prove the Law of Sines and Cosines
	G-SRT.11		- Understand and apply the Law of Sines and the Law of Cosines
	G-C.1		- Prove that all circles are similar
	G-C.2		- Identify and describe relationships among inscribed angles, radii, and chords
	G-C.3		- Construct the inscribed and circumscribed circles of a triangle and prove properties of angles and for a quadrilateral inscribed in a circle.
	G-C.4		- Construct a tangent line from a point outside a given circle to the circle
	G-C.5		- Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius
	G-GPE.1		- Derive the equation of a circle of given center and radius using the Pythagorean Theorem
	G-GPE.2		- Derive the equation of a parabola given a focus and directrix
	G-GPE.3		- Derive the equations on ellipses and hyperbolas
	G-GPE.4		- Use coordinates to prove simple geometric theorems algebraically
	G-GPE.5		- Prove the slope criteria for perpendicular and parallel lines
	G-GPE.6		- Find the point on a directed line segment between two given points
	G-GPE.7		- Use coordinates to compute perimeters and areas of polygons
	G-GMD.1		- Give an informal limit argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.
	G-GMD.2		- Give an informal argument using Cavalieri's principle
	G-GMD.3	Volume Formulas	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. This world will help students learn the formulas of the volumes for different 3D shapes.
	G-GMD.4		- Identify the shapes of 2D cross sections of 3D shapes
	G-MG.1		- Use geometric shapes, their measures, and their properties to describe objects
	G-MG.2		- Apply concepts of density based on area and volume in modeling
	G-MG.3		- Apply geometric methods to solve design problems
	S-ID.1	Bike Plot	This standard wants students to represent data with plots on a real number line, dot plots, histograms, and box plots. This Alice world has the user create data and then plot the points on a graph.
	S-ID.2		- Use statistics appropriate to the shape of the data distribution to compare center and spread

	S-ID.3		- Interpret differences in shape, center, and spread in the context of data sets
	S-ID.4		- Use the mean and sd of a data set to fit it to a normal distribution and to estimate the population percentages
	S-ID.5		- Summarize categorical data for two categories in two-way frequency tables
	S-ID.6A	Bike Plot	This standard has students find a function to the data and use functions fitted to data to solve a problem. In this Alice world, after the user plots the points from the data that they create, the best-fit line is drawn and predicts a future value.
	S-ID.6B		- Informally assess the fit of a function by plotting and analyzing residuals
	S-ID.6C		- Fit a linear function for a scatter plot that suggests linear association
	S-ID.7		- Interpret the slope and the intercept of a linear model.
	S-ID.8		- Compute and interpret the correlation coefficient of a linear fit.
	S-ID.9		- Distinguish between correlation and causation
	S-IC.1		- Understand statistics as a process for making inferences about population parameters
	S-IC.2		- Decide if a specified model is consistent with results from a given data-generation process
	S-IC.3		- Recognize the purposes of and differences among sample surveys, experiments, and observational studies
	S-IC.4		- Use data from a sample survey to estimate a population mean or proportion
	S-IC.5		- Use data from a randomized experiment to compare two treatments
	S-IC.6		- Evaluate reports based on data
	S-CP.1	Can I Get Your Number?, 1 Ball, 2 Ball, Red Ball, Blue Ball	This standard wants the students to describe events of subsets of a sample space. Both of these worlds deal with random sampling and creating subsets. The first creates a random set of numbers to form a phone number and the second is randomly sampling from a group of balls.
	S-CP.2		- Definition of independent events
	S-CP.3		- Understand the conditional probability of A given B and interpret their independence
	S-CP.4		- Construct and interpret two-way frequency tables
	S-CP.5		- Recognize and explain the concept of conditional probability
	S-CP.6		- Find the conditional probability of A given B
	S-CP.7		- Apply the Addition Rule of probabilities
	S-CP.8		- Apply the Multiplication Rule of uniform probabilities
	S-CP.9	Line Up	This standard requires students to use permutations and combinations to compute probabilities, and this Alice world shows the user how to use permutations to find the number of possible ways to order a group of people in a line.
	S-MD.1		- Define a random variable for a quantity of interest
	S-MD.2		- Calculate the expected value of a random variable and interpret it as the mean of the probability distribution
	S-MD.3		- Develop a probability distribution and find the expected value for a random variable defined for a sample space that can be calculated
	S-MD.4		- Develop a probability distribution for a random variable defined for a sample space assigned empirically
	S-MD.5A		- Find the expected payoff for a game of chance
	S-MD.5B		- Evaluate and compare strategies of expected values
	S-MD.6	Ready, SET, Go!, War, Choosing Random People From a Class	This standard wants students to use probabilities to make fair decisions. Both of these worlds use probabilities to make decisions within them. The first two use probability in a card game and the last one selects a random student from a class.
	S-MD.7		- Analyze decisions and strategies using probability concepts