#	Unit	Classes	Coding Concepts	Creations	Math Concepts
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Coding Curriculum: Grades 1-3					
Outcomes					
The Cuemath coding curriculum for grades 1-3 is designed to help students: - get a great introduction to programming fundamentals through block-based coding - learn the basics of Javascript, one of today's most popular programming languages - ideate and develop interactive games and fun applications - master fundamental math concepts as they learn coding					
Game Development Basic					
1	**Computer Systems**	1-2	understanding parts of a computer, input and output devices, hardware and software, processing of information	Draw Your Own Keyboard	-
2	**Fundamentals Of Programming**	3-20	logical sequencing of commands, program debugging, event handlers	Digital Art	sequencing of numbers, spatial reasoning, lines and angles
3	**Building Games Using Loops And Conditionals**	21-32	while loops, until loops, conditionals, binary numbers, algorithms	Flappy Bird Game Alien Attack	position, directions and movement, decimal number system, binary numbers
4	**Understanding UI & UX**	33-40	buttons, screens, game controller, events, game design process, debugging	Around The Galaxy Math Brainer Game	3D shapes, addition, odd & even numbers, comparison of numbers
Game Development Advanced					
5	**Coding Basics And Digital citizenship**	41-45	sequencing, loops, debugging, events, digital citizenship	Safe Cyber Practices	ordering of numbers, skip counting
6	**Functions, Variables And Loops**	46-60	functions, variables, nested loops, logic building	Digital Art	multiples, ordering of numbers, variables, estimation
7	**Data Computing**	61-65	for loops, data computing	Single Player Game	understanding data, data interpretation, organisation of data
8	**Sprite Lab**	66-80	sprite behaviour, sprite interactions, sprite designing	Galactica Game	coordinate geometry, spatial reasoning, time
App Development Basic					
9	**Revising Programming Basics**	81-85	algorithms, sequencing, top-down design process, turtle graphics	Underwater Game Patterns and Shapes	coordinate geometry, 2D shapes and its properties, ordering of numbers
10	**Introduction To App Design**	86-90	UI design, debugging, event handlers, UI control	Yoga Studio App	spatial reasoning, organisation of data
11	**Fundamentals Of JavaScript**	91-105	variables, conditionals, functions	Photo Liker App Calculator App Decision Maker app	algebra, integers, numbers and operations
12	**Advanced JS Programming Concepts**	106-115	lists, arrays, for loops, while loops	Task Reminder App Lock Screen App Unit Conversion App	unit conversion, measurement, reading time
13	**Advanced Algorithms**	116 - 117	advanced computing algorithms, algorithm efficiency, parallel and distributed algorithms	Ticket Generator Widget Travelling Salesman Widget	random numbers, graphs, data interpretation
14	**Capstone Project**	118 - 120	loops, functions, arrays, conditionals, variables	Multiplayer Tic-Tac-Toe Game	probability, understanding data, algebra
Coding Curriculum: Grades 4-6					
Outcomes					
The Cuemath coding curriculum for grades 4-6 is designed to help students: - become comfortable with core programming concepts like variables, conditionals, loops and functions - gain mastery in Javascript, one of today's most popular programming languages - get a great introduction to Python, which (like Javascript) is also a hugely popular language - apply different math concepts to design powerful apps that solve real-word problems					
App Development Basic					
1	**Introduction To Computer Programming**	1-5	algorithms, sequencing, top-down design process, turtle graphics	Underwater Game Patterns and Shapes	coordinate geometry, 2D shapes and its properties, ordering of numbers
2	**Introduction To App Design**	6-10	UI design, debugging, event handlers, UI control	Yoga Studio App	spatial reasoning, organisation of data
3	**Fundamentals of JavaScript**	11-25	variables, conditionals, functions	Photo Liker App Calculator App Decision Maker app	algebra, integers, numbers and operations
4	**Advanced Programming Concepts**	26-35	lists, arrays, for loops, while loops	Task Reminder App Lock Screen App Unit Conversion App	unit conversion, measurement, reading time
5	**Advanced Algorithms**	36-37	advanced computing algorithms, algorithm efficiency, parallel and distributed algorithms	Ticket Generator Widget Travelling Salesman Widget	random numbers, graphs, data interpretation
6	**Final Project**	38-40	loops, functions, arrays, conditionals, variables.	Multiplayer Tic-Tac-Toe Game	probability, understanding data, algebra
App Development Advanced					
7	**JS Web-App 1**	41-43	UI design, variables, conditionals, events, loops, type casting	Notes Taking App	algebra, representation and interpretation of data
8	**JS Web-App 2**	44-47	strings, variables, conditionals, UI design, operators, functions	Iphone Calculator App	numbers and operations, BODMAS
9	**JS Web-App 3**	48-51	UI design, loops, events, turtle graphics, sliders	Geometrix App	2D shapes and its properties, ordering of numbers, measurement
10	**JS Web-App 4**	52-55	timers, for loops, functions, UI design, conditionals, scoring system	Whack-a-Mole Game	coordinate geometry, random numbers, arithmetic operations
11	**JS Web-App 5**	56-63	arrays, loops, variables, functions, UI design, drop-downs, indexing	Android Conversion App	unit conversion, area, volume,
12	**JS Web-App 6**	64-71	events, functions, conditionals, UI design, game physics	Brick Buster Game	collision physics, coordinate geometry, arithmetic operations
13	**JS Web-App 7**	72-80	APIs, functions, variables, events, conditionals, UI design, events	Weather Information App	temperature conversion, time, data collection and interpretation
Python Basic					
14	**Python Basics**	81-85	variables, data types, operator precedence	Math Calculator App Temperature Convertor App	sequencing, pattern mapping, arithmetic operations, BODMAS and operator precedence rules
15	**Conditional Branching**	86-90	if and else, multiple and nested if, menu driven programs	Simulated ATM Chatbots Pythagorean Calculator Text-based Robot	pythagoras theorem, relational and logical operations, mensuration
16	**Loops**	91-100	mechanics of loops, for loops, while loops, nested loops, break and continue statements	Demographic Calculator Madlib Word Game	data handling, data representation, probability
17	**Built-In Functions**	101-104	built-in functions, modules and packages, complex math programs, encryption programs	Alien-Invasion Game Cipher Encryption	random number generation, datetime operations, encryption and decryption methods
18	**Drawing In Python**	105-112	turtle graphics, drawing basic and complex shapes, turtle animation	Turtle Race Starry Night Game Of Soccer Kaleido Spiral	coordinate geometry, angles, rotational symmetry
19	**Functions**	113-120	user defined functions (UDF), call and respond	Magic 8 Ball Hangman Snake Food Game	HCF and LCM, relations and functions

#	Unit	Classes	Coding Concepts	Creations	Math Concepts			
Coding Curriculum: Grades 7-10+								
Outcomes								
The Cuemath coding curriculum for grades 7-10 is designed to help students: - master the fundamentals of programming, like data structures, conditionals, loops and functions - learn and master Python, one of the most widely used programming languages in the world - build fun Python apps that solve practical, real-world problems - become great at middle and high-school math concepts used in programming, like coordinate geometry								
Python Basic								
1	**Python Basics**	1-5	variables, data types, operator precedence	Math Calculator App Temperature Convertor App	sequencing, pattern mapping, arithmetic operations, BODMAS and operator precedence rules			
2	**Conditional Branching**	6-10	if and else, multiple and nested if, menu driven programs	Simulated ATM Chatbots Pythagorean Calculator Text-based Robot	pythagoras theorem, relational and logical operations, mensuration			
3	**Loops**	11-20	mechanics of loops, for loops, while loops, nested loops, break and continue statements	Demographic Calculator Madlib Word Game	data handling, data representation, probability			
4	**Built-In Functions**	21-24	built-in functions, modules and packages, complex math programs, encryption programs	Alien-Invasion Game Cipher Encryption	random number generation, datetime operations, encryption and decryption methods			
5	**Drawing In Python**	25-32	turtle graphics, drawing basic and complex shapes, turtle animation	Turtle Race Starry Night Game Of Soccer Kaleido Spiral	coordinate geometry, angles, rotational symmetry			
6	**Functions**	33-40	user defined functions (UDF), call and respond	Magic 8 Ball Hangman Snake Food Game	HCF and LCM, relations and functions			
Python Intermediate								
7	**Lists And Dictionaries**	41-50	data structures, lists, dictionaries, tuples	Battleship 21 Strategy Game Rock-Paper-Scissors	probability, matrices			
8	**Data Structures**	51-56	tuples, sets, applications of data structure	Rock-Paper-Scissors	sets, finite and infinite			
9	**GUI With Tkinter**	57-64	buttons, labels, GUI Events	Tic-Tac-Toe	ratio and proportions, graph theory			
10	**Functions II**	65-71	lambda functions, recursive functions	Factorial Recursion Fibonacci Series	sequences and series, mathematical induction			
11	**Search and Sort**	72-80	searching, sorting	Searching and Sorting App	sets and index			
Python Advanced								
12	**PyGames I**	81-90	using images, sound and animation	Memory Puzzle Dodge the Shape	3D shapes, graph theory			
13	**Class Design**	91-98	classes and objects, global and instances attributes, exception handling	Blackjack Simulator	permutations and combinations			
14	**Object Oriented Programming**	99-105	inheritance, polymorphism	Astronomy Lab Simulator	statistics			
15	**PyGames II**	106-112	game theory, exception handling, abstract classes	Connect Four Squirrel Eat Squirrel Game	determinants, 2D and 3D vectors			
16	**PyGames III**	113-120	app and games using object oriented programming	Music On The Floor GUI Based App	applications of derivatives, 3D geometry			