Timeframe	Learning Targets	Essential Questions	Standards	Vocabulary	Assessments	Differentiation
Cycle 1	Students will log in to the computer and multiple online accounts to ensure there are no errors with school accounts.	How can we be more ethical, civil, and responsible when using a computer? How does a computer interact with humans and vice versa? What are the main components of a computer? How does a computer process information?	1A-CS-01, 1B-CS-01	Username, Password, Account, Single Sign-On, Code	1. Students will sign in to accounts.	Students will be assisted in sign in procedures and/or teacher will contact support.
Cycle 2 - 3	Students will be able to identify and describe parts of the computer and common technology applications in today's society.	What are the components of a computing device? How do the components of a computer interact with each other? What are the advantages and disadvantages computing systems create individually? Locally? Globally? What features would be best for a gaming/digital art/data science computer?	1B-CS-01, 1B-CS-02	Technology, Router, Mouse, Keyboard, Monitor CPU, Speaker, Headphones, Icon, App, Cursor	1. Students will receive a score for an online quiz game. 2. Students will team up to play a whole class Technology Jeopardy game.	Students may work with partners and/or teammates to complete the tasks.
Cycle 4 - 7	Students will create animations using a new programming language called Scratch.	How can creative computing help one use computational concepts across many disciplines and contexts? How can engaging in creative computing prepare one for a career as a computer scientist or programmer? How does interacting with a computer as a designer, rather than a consumer, increase knowledge, creativity, imagination, and literacy? How can reflection enable us to grow and learn?	1B-AP-09, 1B-AP-10, 1B-AP-11, 1B-AP-12, 1B-AP-15, 1B-AP-16, 1B-AP-17	Scratch, Sprite, Block Code, Functions, Loops, Computer Science, Events, Control, Costumes	Students will initially be assessed by informal observation. Students will need to show ability to add multiple sprites, dialogues, and movements.	Students may rewatch instructional videos if needed. One on one assistance will be provided with any student needing it.
Cycle 8-9	Students will use their knowledge of basic Scratch skills to create a short animation in preperation for upcoming lessons that require more in-depth coding.	What is coding and what can you use coding to create? What is Scratch and how can it be used to solve real world problems? How does computer science relate to everyday life? What relationship does coding have with the terms software and hardware?	1B-AP-09, 1B-AP-10, 1B-AP-11, 1B-AP-12, 1B-AP-15, 1B-AP-16, 1B-AP-17	Scratch, Sprite, Block Code, Functions, Loops, Computer Science, Events, Control, Costumes	Students will need to create: At least 3 Sprites At least 1 Backdrop Each sprite must have movement 2 sprites must have a conversation lasting at least 4 responses each. Change the size of one sprite. Add a sound to at least one sprite.	Students may rewatch instructional videos if needed. One on one assistance will be provided with any student needing it.
Cycle 10 - 12	Students code a story or game about someone in their life they consider an everyday hero.	How do you use block coding in the context of scratch? How do you use the design process? How to you create an interactive project?	1B-AP-09, 1B-AP-10, 1B-AP-11, 1B-AP-12, 1B-AP-15, 1B-AP-16, 1B-AP-17	Scratch, Sprite, Block Code, Functions, Loops, Computer Science, Events, Control, Costumes	Students will initially be assessed by informal observation. Students will need to show ability to code add ons in this lesson.	Students may rewatch instructional videos if needed. One on one assistance will be provided with any student needing it.
Cycle 13 - 14	Students will program and design your own Google logo. Google often creates special logos, called Google Doodles, to celebrate holidays and important people, places, and events. In this lesson, you will be the artist and programmer for your own special logo. You might celebrate a real or imagined holiday or even highlight your favorite hobbies and interests, like a sport or activity	What is the underlying logic of computer programing?	1B-AP-09, 1B-AP-10, 1B-AP-11, 1B-AP-12, 1B-AP-15, 1B-AP-16, 1B-AP-17	Scratch, Sprite, Block Code, Functions, Loops, Computer Science, Events, Control, Costumes	Students will initially be assessed by informal observation. Students will need to show ability to code add ons in this lesson.	Students may rewatch instructional videos if needed. One on one assistance will be provided with any student needing it.
Cycle 15	Students will write in formal letter format using a greeting, a body, and a closing. They will also use the built in grammar and spell check to correct any errors.	How can one use the toolbar and menu bar to formate a Google Doc?	1B-CS-01, 1B-CS-03, 1B-DA-05, 1B-IC-18	Greeting, Body, Closing, Spacing, Font Size, Style, Color, Italics, Bold, Bullets	Students will be assessed on the ability to create the three parts of a letter, and write five complete sentences with proper capitalization, punctuation, and grammar.	Students may be directed to use words from a word bank and/or write fewer sentences if differentiation is required.
Cycle 16	Computer Science Education Week: Hour of Code	Design, code, test, and execute a program that corresponds to a set of specifications using Scratch and Python. 2. How can a student use appropriate algorithms to solve a problem? 3. Why is it important to select appropriate programming structures? 4. Can you explain and create variables? 5. Can you explain conditionals and use them in a program?	1B-AP-08 through 1B-AP-17	Coding, Computer Science, Block Coding, Python, JavaScript, Algorithms, Programs, Sequence	Students will participate in the global Hour of Code event by celebrating different activites in computer science.	Reteach and Small Group Instruction

Cycle	Objective	Essential Questions	Standards	Vocabulary	Assessment	Differentiation
Cycle 17	I will use the Google Interland to learn about personal information and passwords.	What are some current cybersecurity concerns? What are the risks of using public devices and public WiFi connections? How can we protect our data on the Internet? What are the consequences of a data breach or misuse of information? What is hacking? Why do hacking and other digital exploits occur?	1B-IC-18 through 1B-IC-21	Digital Citizenship, Password, Confidentiality, Secure	Students will work on a Google created activity to complete different tasks focusing on digital citizenship.	Reteach and Small Group Instruction
Cycle 18 - 19	Students will use files, images, and text to create links in a Google Slides presentation.	In what ways can a link be used to navigate through Google Slides and to the internet?	1B-CS-01 through 1B-CS-03, 1B-DA-06 and -07, 1B-IC-18	Slides, Insert, Tabs, Images, Link, Document, URL Address, File, Copy & Paste, Icon, Background, Theme, Video, Embed	Students will be assessed through discussion, questioning, a checklist, and a final rubric.	Reteach and Small Group Instruction
Cycle 20 - 23	Students will use Google Slides to create an interactive "app" for their elementary building through the creation of working links, images, and text.	In what ways can a link be used to navigate through Google Slides and to the internet?	1B-CS-01 through 1B-CS-03, 1B-DA-06 and -07, 1B-IC-18	Slides, Insert, Tabs, Images, Link, Document, URL Address, File, Copy & Paste, Icon, Background, Theme, Video, Embed	Students will be assessed through discussion, questioning, a checklist, and a final rubric.	Reteach and Small Group Instruction
Cycle 24 - 36 PE and OME will split the code.org and Droneblocks. One building will work on code.org, the other on DroneBlocks.	**DroneBlocks.io with Tello -** The DroneBlocks simulator allows students to practice their coding skills in a virtual world before sending their code to the real drone. The simulator now features a tabbed canvas and block-highlighting. The tabbed canvas gives the ability to work on more than one mission at once and easily test different sections of code without relaunching the entire mission. With block-highlighting, easily diagnose errors in your code by identifying which line of code is being launched at that time.	What real world applications create a link between programming and coding and drones?	1B-CS-01 through 1B-CS-03 & 1B-AP-08 through 1B-AP-17	Block Code, Script, Yee, Haw, Link, Python, Drone, Safety Procedures	Students will be informally assessed on the ability to add block coding to the workspace, connect the Tello Drone to the network, and get it off the ground. Skills will be built upon each lesson.	Reteach and Small Group Instruction
	Code.org - Students will be able to: Examine code to find places where variables can be substituted for specific values. Identify areas where they can use variables to modify quantities during runtime. Students will pretend to flow through the internet while learning about connections, URLs, IP Addresses, and DNS in this exploratory lesson.	How do you create programs that respond to time and user input? How does one use a variable in code instead of a repetitive loop? How do students recognize when to use a for loop and when to use other loops such as repeat and while loops?	1B-CS-01 through 1B-CS-03 &1B-AP-08 through 1B-AP-17	Algorithms, Behavior, Program, Sprite, Variables, Prompt, Input, Loop, Repeat, DNS, DSL/Cable, Fiber Optic Cable, IP Address, Internet, Packets, Servers, URL, Wi-Fi	Students will complete self-paced variable and for loops puzzles and progress through the online student curriculum. Overall, informal assessment will be used to guage student engagement.	Student work is self paced. Students who do not know proper techniques will be pulled aside for one on one instruction.