


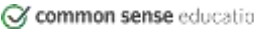
Year 3: Course C

Students will create programs with sequencing, loops, and events. They will investigate problem-solving techniques and develop strategies for building positive communities both online and offline. By the end of the course, students will create interactive games that they can share.

Concept Chunk	#	Lesson Name	Description
Digital Citizenship	1	 Putting a STOP to Online Meanness	The internet is filled with all kinds of interesting people, but sometimes, some of them can be mean to each other. With this role play, help your students understand why it's often easier to be mean online than in person and how to deal with online meanness when they see it.
Sequencing	2	My Robotic Friends Jr.	In this context-setting lesson, students will use a set of symbols to instruct a "robot" to stack cups in different patterns. Students will take turns participating as the robot, responding only to the algorithm defined by their peers.
	3	Programming with Angry Birds	In this skill-building lesson, students will develop sequential algorithms to move a bird from one side of a maze to the pig on the other side. To do this, they will stack code blocks together in a linear sequence, making them move straight, turn left, or turn right.
	4	Debugging in Maze	In this skill-building lesson, students will encounter pre-written code that contains mistakes. They will need to step through the existing code to identify errors.
	5	Collecting Treasure with Laurel	In this skill-building lesson, students will continue to develop their understanding of algorithms and debugging. With a new character, Laurel the Adventurer, students will create sequential algorithms to get Laurel to pick up treasure as she walks along a path.
Loops	6	Creating Art with Code	In this skill-building lesson, students will take control of the Artist to complete drawings on the screen.
	7	My Loopy Robotic Friends Jr.	This context-setting lesson builds on the initial "My Robotic Friends Jr." activity, featuring larger and more complicated designs.
	8	Loops with Rey and BB-8	This skill-building lesson has students using loops to help the Star Wars character BB-8 efficiently traverse a maze.
	9	Harvesting Crops with Loops	Students loop new actions to help the harvester collect multiple veggies growing in large bunches in this skill-building lesson.
Events	10	Mini-Project: Sticker Art	This mini-project lesson builds on the understanding of loops from previous lessons. Students will create unique artwork with the Artist.
	11	The Big Event	In this context-setting lesson, students will learn that events are a great way to add flexibility to a pre-written algorithm.
	12	Build a Flappy Game	This lesson combines skill-building around events with a mini-project where students get to build their own Flappy Bird game. At the end of the lesson, students will customize their game by changing the visuals or rules.
Data	13	Mini-Project: Chase Game	This lesson combines skill-building around events with a mini-project where students get to build their own animated game.
	14	Picturing Data	Students will collect data from a Play Lab project and visualize it using different graphs in this exploratory lesson.
Project	15	Binary Bracelets	This exploratory lesson introduces the concept of binary which is how computers today store all sorts of information.
	16	End of Course Project	This project lesson takes students through designing, developing, and showcasing new Play Lab projects.



Year 4: Course D

The course begins with a review of the concepts found in earlier courses, including loops and events. Afterward, students will develop their understanding of algorithms, nested loops, while loops, conditionals, and more.

Concept Chunk	#	Lesson Name	Description
Digital Citizenship	1	 Password Power-Up	Stronger, more secure online passwords are a good idea for everyone. Use the tips in this lesson to help kids make passwords that are both secure and memorable.
Sequencing	2	Graph Paper Programming	In this context-setting lesson, students use symbols to instruct each other to color squares on graph paper. By "programming" one another to draw pictures, students get an opportunity to experience some of the core concepts of programming in a fun and accessible way.
	3	Introduction to Online Puzzles	In this skill-building lesson, students will practice their sequencing and debugging skills in maze puzzles.
	4	Relay Programming	This context-setting lesson will begin with a short lesson on debugging and persistence, then will quickly move to a race against the clock as students break into teams and work together to write a program one instruction at a time.
	5	Debugging with Laurel	In this skill-building lesson, students will practice debugging in the "collector" environment. Students will get to practice reading and editing code to fix puzzles with simple algorithms, loops, and nested loops.
Events	6	Events in Bounce	In this context-setting/skill-building lesson, students will learn what events are and how programmers use them in video games. Students will build a game that they can customize with different speeds and sounds.
	7	Build a Star Wars Game	In this skill-building lesson, students will practice using events to build a game that they can share.
	8	Dance Party	In this skill-building lesson, students will program an interactive dance party.
Loops	9	Loops in Ice Age	This context-setting / skill-building lesson will quickly introduce students to loops.
	10	Drawing Shapes with Loops	This skill-building lesson builds on the understanding of loops from the previous lesson and doubles as a debugging exercise for extra problem-solving practice.
	11	Nested Loops in Maze	In this skill-building lesson, students will learn how to program a loop inside of another loop.
Conditionals	12	Conditionals with Cards	In this context-setting lesson, students will write conditional (if/else) statements to state the rules of simple card games.
	13	Looking Ahead with Minecraft	This skill-building lesson gives students the chance to practice concepts that they have learned up to this point and get their first experience with conditionals!
	14	If/Else with Bee	In this skill-building lesson, your class will continue to code with conditionals, allowing them to write code that functions differently depending on the specific conditions the program encounters.
	15	While Loops in Farmer	In this skill-building lesson, students will be working to fill holes and dig dirt in Farmer, but they will not know the size of the holes or the height of the mounds of dirt. To solve these puzzles, students will use a new kind of loop.
	16	Until Loops in Maze	In this skill-building lesson, students will learn about until loops. Students will build programs that have the main character repeat actions until they reach their desired stopping point.
Project	17	End of Course Project	This project lesson takes students through the process of designing, developing, and showcasing new projects!

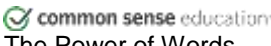
Year 5: Course E

The course begins with an introduction to the Sprite Lab programming tool. Students will learn to make fun, interactive projects that reinforce what they'll learn about online safety. Following these lessons, students will engage in more complex coding. Students will learn about nested loops, functions, and conditionals. By the end of the course, students will combine these concepts to solve challenging puzzles. The course ends with an open-ended project where students create a game or drawing.

Concept Chunk	#	Lesson Name	Description
Sprites	1	Follow the Algorithm	In this context-setting lesson, students will play a game intended to get them thinking about sequential instructions.
	2	Swimming Fish with Sprite Lab	Students will program a simple animated underwater scene in this skill-building lesson.
	3	Alien Dance Party with Sprite Lab	Students will use events to make sprites move around the screen based on user input in this skill-building lesson.
Digital Citizenship	4	 Be a Super Digital Citizen	Online tools are empowering for kids, and they also come with big responsibilities. Show your students appropriate ways to take action and resolve conflicts, from being upstanders to helping others in need.
	5	 Private and Personal Information	It's in our students' nature to share and connect with others. Help your students learn the difference between what's personal and what's best left private.
	6	Mini-Project: About Me	Students will apply their understanding of sharing personal and private information on the web by creating an interactive poster in this mini-project .
	7	Digital Sharing	This exploratory lesson helps students understand the challenges and benefits of respecting ownership and copyright, particularly in digital environments.
Nested Loops	8	Drawing with Loops	This context-setting lesson shifts the focus from Sprite Lab to the Artist, a new tool that students will explore throughout the remainder of the course.
	9	Fancy Shapes using Nested Loops	In this skill-building lesson, students will create intricate designs using the Artist. The lesson ends with an opportunity for students to create their own designs.
	10	Mini-Project: Design a Snowflake	This mini-project lesson takes students through a series of exercises to create snowflake images using characters from the Frozen movies.
Functions	11	Songwriting	This context-setting lesson will help students understand why combining chunks of code into functions can be a helpful practice.
	12	Functions in Minecraft	In this skill-building lesson, students will begin to understand how functions can be helpful!
	13	Functions with Artist	In this skill-building lesson, students will use functions with the Artist.
Conditionals	14	Conditionals in Minecraft: Voyage Aquatic	In this context-setting lesson, students will get the chance to practice content that they have learned up to this point, as well as getting a sneak peek at conditionals!
	15	Conditionals with the Farmer	This skill-building lesson focuses on a new type of programming puzzle, featuring a farmer who needs to prepare her fields for planting crops.
	16	Functions with Harvester	In this skill-building lesson, students will use conditionals with functions to harvest crops in Harvester.
Impacts of Computing	17	Designing for Accessibility	In this exploratory lesson, students will learn about accessibility and the value of empathy through brainstorming and designing accessible solutions for hypothetical apps.
Project	18	End of Course Project	This project lesson takes students through the process of designing, developing, and showcasing new projects!

Year 6: Course F

The course begins by looking at how users make choices in the apps they use. Students then learn to make a variety of Sprite Lab apps that also offer choices for the user. In the later lessons in the course, students will learn more advanced concepts, including variables and “for” loops. Students are given greater autonomy and more choices throughout this course. By the end of the course, students will have created interactive projects and artwork to share with their friends and family.

Concept Chunk	#	Lesson Name	Description
Sprites	1	Introducing Sprite Lab	In this context-setting lesson, students will discuss the role of computers and technology in their lives, focusing on how apps and tools give users choices about how to use them. Students will also explore apps similar to those they'll create themselves later on.
	2	Making Sprites	In this skill-building lesson, students will work through a series of programming levels on the computer, finishing with an open-ended “free play” task where they can build whatever they like. Students will write programs and learn about the two concepts at the heart of Sprite Lab: sprites and behaviours.
	3	Sprites in Action	In this skill-building lesson, students will work through a series of programming levels on the computer, finishing with an open-ended “free play” task where they can build whatever they like. Students will write programs that respond to timed events and user input.
	4	Mini-Project: Virtual Pet	Students will create an interactive Virtual Pet that looks and behaves how they wish in this mini-project lesson. Students will use Sprite Lab's "Costumes" tool to customize their pet's appearance. They will then use events, behaviours, and other concepts they have learned to bring their project to life.
Digital Citizenship	5	 The Power of Words	As kids grow, they'll naturally start to communicate more online. But some of what they see could make them feel hurt, sad, angry, or even fearful. Help your students build empathy for others and learn strategies to use when confronted with cyberbullying.
Variables	6	Blank Space Stories	In this context-setting lesson, students will use fill-in-the-blank stories (similar to Mad Libs®) as a context for understanding how computers take and store input from a user, then use it later as a program runs.
	7	Text and Prompts	In this skill-building lesson, students will get practice with variables in Sprite Lab.
	8	Mini-Project: User Input Programs	Students will apply their new skills with variables to one of three open-ended mini-projects . Students will explore sample programs, create a plan for their own project, and program it from scratch.
	9	Drawing with Loops	This skill-building lesson shifts the focus from Sprite Lab to the Artist, a new tool that students will explore throughout the remainder of the course.
	10	Using Variables with the Artist	In this skill-building lesson, students will explore the creation of repetitive designs using variables in the Artist environment. Students will learn how variables make code easier to write and easier to read. After guided puzzles, students will end in a free play level to show what they have learned and create new designs.
	11	Programming with the Bee	In this skill-building lesson, students will be encouraged to figure out how minor changes in loops will affect their program.
For Loops	12	Variables with the Bee	This skill-building lesson will help illustrate how variables can make programs more dynamic by allowing values to change while the code is running.
	13	For Loop Fun	In this skill-building lesson, students will use loops with a powerful, new structure.
	14	For Loops with the Bee	This skill-building lesson focuses on “for” loops and using an incrementing variable to solve more complicated puzzles.
Data & Simulations	15	For Loops with Artist	In this skill-building lesson, students practice “for” loops with Artist. Students will complete puzzles to create complex designs and unique art.
	16	Simulating Experiments	In this context-setting lesson, students will run and collect data from a simple simulation in Sprite Lab. After running the simulation multiple times, students will have an opportunity to predict how changing a variable in the simulation might impact the outcome and test that hypothesis.

Data & Simulations (contin)	17	Outbreak	In this skill-building lesson, students will model an outbreak simulator. Students will study the simulation to understand how a virus can spread and how to slow it down.
	18	AI for Oceans	In this exploratory lesson, students will train a machine learning model by classifying fish and other objects.
	19	The Internet	Students will pretend to flow through the internet while learning about connections, URLs, IP Addresses, and DNS in this exploratory lesson.
Project	19	End of Course Project	This project lesson takes students through the process of designing, developing, and showcasing new projects!