

Course D

Overview

Course D was created for students who read at roughly a third grade level. Angles and mathematical concepts are introduced with helpful videos and hints.

The course begins with a review of the concepts found in Courses A, B, and C. This review can be used to introduce or refresh basic ideas, such as loops and events. Afterward, students will develop their understanding of algorithms, nested loops, while loops, conditionals, and events, as well as learn about digital citizenship. This course is crafted to build a strong foundation of basic concepts before opening up to a wide range of new and exciting topics.

Core concepts:

- Sequencing
- Events
- Loops
- Conditionals
- Binary
- Digital Citizenship

Attitudinal goals:

- Struggle is good and a sign that I'm growing.
- I can read programs and predict their outcomes.
- Programs can be written to make simple choices.

Key teaching tips:

- Talk with students before you begin about how they may experience frustration.
- Use pair programming and encourage students to help each other.
- Provide lesson examples to set students off on the right foot.
- Remind students of the importance of persistence.
- Begin to teach students the importance of solving their own issues.
- Encourage students to use a journal during and after activities.
- Give students the opportunity to share successes.

Course D: Lesson Outlines

Online lessons are in regular text and unplugged lessons are in **bolded** text.

Concept Chunk	#	Lesson Name	Description
Sequencing	1	Graph Paper Programming	In this lesson, students will program their friends to draw pictures.
	2	Introduction to Online Puzzles	This lesson will give students practice in the skills they will need for this course.
	3	Relay Programming	This lesson builds on the previous lessons by introducing teamwork.
	4	Debugging with Laurel	In this lesson, students will learn about the secrets of debugging.
Events	5	Events in Bounce	Students get to make their own video game in this lesson.
	6	Build a Star Wars Game	Students build their own Star Wars game in this lesson.
	7	Dance Party	Time to celebrate! In this lesson, students will program their own interactive dance party.
Loops	8	Loops in Ice Age	As a quick update (or introduction) to using loops, this lesson will have students using the repeat block to get Scrat to the acorn more efficiently.
	9	Drawing Shapes with Loops	In this lesson, loops make it easy for students to make even cooler images with Artist.
	10	Nested Loops in Maze	This lesson will teach students what happens when they place a loop inside another loop.
Conditionals	11	Conditionals with Cards	It's time to play a game in which students earn points only under certain conditions.
	12	If/Else with Bee	Now that students understand conditionals, it's time to program Bee to use them when collecting honey and nectar.
	13	While Loops in Farmer	This lesson will teach students about a new kind of loop: while loops.
	14	Until Loops in Maze	Students learn to use until loops in this lesson.
	15	Harvesting with Conditionals	This lesson will help students practice deciding when to use each conditional.
Binary	16	Binary Images	Students learn how computers store pictures using simple ideas like on and off.
	17	Binary Images with Artist	In this lesson, students will learn how to make images using binary.
Digital Citizenship	18	Be A Super Digital Citizen	Created by Common Sense Education, students learn how they can be upstanders when they see cyberbullying.
Project	19	End of Course Project	This capstone lesson takes students through the process of designing, developing, and showcasing their own projects!