



## Computer Science Fundamentals - Level 2 & 3

### Computer Science Fundamentals - Level 2

Students will create programs with sequencing, loops, and events. Translate your initials into binary, investigate different problem-solving techniques, and learn how to respond to cyberbullying. At the end of the course, create your very own game or story you can share!

Concepts include digital citizenship, sequencing, binary, loops, events, and data.

#### Digital Citizenship

Lesson 1: Putting a STOP to Online Meanness

Lesson 2: Password Power-Up

#### Sequencing

Lesson 3: My Robotic Friends Jr.

Lesson 4: Programming with Angry Birds

Lesson 5: Debugging in Maze

Lesson 6: Collecting Treasure with Laurel

Lesson 7: Creating Art with Code

#### Binary

Lesson 8: Binary Bracelets

#### Loops

Lesson 9: My Loopy Robotic Friends Jr.

Lesson 10: Loops with Rey and BB-8

Lesson 11: Harvesting Crops with Loops

Lesson 12: Looking Ahead with Minecraft

Lesson 13: Sticker Art with Loops

#### Events

Lesson 14: The Big Event

Lesson 15: Build a Flappy Game

Lesson 16: Chase Game with Events

#### Data

Lesson 17: Picturing Data

#### Project

Lesson 18: End of Course Project

### Computer Science Fundamentals - Level 3



## Computer Science Fundamentals - Level 2 & 3

The course begins with a review of the concepts found in Courses Level 1 & 2. This review helps introduce or refresh basic ideas such as repeat loops and events. Students will develop their understanding of algorithms, nested loops, while loops, conditionals, and events. Lessons on digital citizenship are also included.

Concepts include sequencing, events, loops, conditionals, binary, and digital citizenship.

### **Sequencing**

- Lesson 1: Graph Paper Programming
- Lesson 2: Introduction to Online Puzzles
- Lesson 3: Relay Programming
- Lesson 4: Debugging with Laurel

### **Events**

- Lesson 5: Events in Bounce
- Lesson 6: Build a Star Wars Game
- Lesson 7: Dance Party

### **Loops**

- Lesson 8: Loops in Ice Age
- Lesson 9: Drawing Shapes with Loops
- Lesson 10: Nested Loops in Maze

### **Conditionals**

- Lesson 11: Conditionals with Cards
- Lesson 12: If/Else with Bee
- Lesson 13: While Loops in Farmer
- Lesson 14: Until Loops in Maze
- Lesson 15: Harvesting with Conditionals

### **Binary**

- Lesson 16: Binary Images
- Lesson 17: Binary Images with Artist

### **Digital Citizenship**

- Lesson 18: Be A Super Digital Citizen

### **Project**

- Lesson 19: End of Course Project