



## Computer Science Fundamentals - Level 4 & 5

### Computer Science Fundamentals - Level 4

Start coding with algorithms, loops, conditionals, and events and then you'll move on functions. In the second part of this course, design and create a capstone project you can share with your friends and family.

Concepts include sprites, digital citizenship, impacts of computing, nested loops, and functions.

#### Ramp-up

- Lesson 1. Sequencing in the Maze
- Lesson 2. Drawing with Loops
- Lesson 3. Conditionals in Minecraft: Voyage Aquatic
- Lesson 4. Conditionals with the Farmer

#### Sprites

- Lesson 5. Simon Says
- Lesson 6. Swimming Fish with Sprite Lab
- Lesson 7. Alien Dance Party with Sprite Lab

#### Digital Citizenship

- Lesson 8. Private and Personal Information
- Lesson 9. About Me with Sprite Lab
- Lesson 10. Digital Sharing

#### Nested Loops

- Lesson 11. Nested Loops in Maze
- Lesson 12. Fancy Shapes using Nested Loops
- Lesson 13. Nested Loops with Frozen

#### Functions

- Lesson 14. Songwriting
- Lesson 15. Functions in Minecraft
- Lesson 16. Functions with Harvester
- Lesson 17. Functions with Artist

#### Impacts of Computing

- Lesson 18. Designing for Accessibility

#### End of Course Project

- Lesson 19. End of Course Project



## Computer Science Fundamentals - Level 4 & 5 Computer Science Fundamentals - Level 5

Learn to use different kinds of loops, events, functions, and conditionals. Investigate different problem-solving techniques and discuss societal impacts of computing and the internet. In the second part of this course, design and create a capstone project you can share with friends and family.

Concepts include sprites, digital citizenship, data, variables, for loops, and functions.

### **Ramp-Up**

- Lesson 1: Functions in Minecraft
- Lesson 2: Swimming Fish with Sprite Lab
- Lesson 3: Alien Dance Party with Sprite Lab
- Lesson 4: Drawing with Loops
- Lesson 5: Nested Loops in Maze

### **Digital Citizenship**

- Lesson 6: The Power of Words

### **Variables**

- Lesson 7: Envelope Variables
- Lesson 8: Variables with Artist
- Lesson 9: Changing Variables with Bee
- Lesson 10: Changing Variables with Artist

### **Data**

- Lesson 11: Simulating Experiments
- Lesson 12: AI for Oceans
- Lesson 13: The Internet

### **For Loops**

- Lesson 14: For Loop Fun
- Lesson 15: For Loops with Bee
- Lesson 16: For Loops with Artist

### **Sprites**

- Lesson 17: Behaviors in Sprite Lab
- Lesson 18: Virtual Pet with Sprite Lab

### **End of Course Project**

- Lesson 19: End of Course Project