



## Computer Science Discoveries - Level 8

Computer Science Discoveries (CS Discoveries) is an introductory computer science course that empowers students to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun.

- Audience: Middle and high school students, grades 6 - 10
- Curriculum length: 40 hours
- Prior knowledge: None! Just bring your curiosity.

CSD Unit 5 - Data and Society

CSD Unit 6 - Physical Computing



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### CSD Unit 5 - Data and Society

- Lesson 1: Representation Matters
- Lesson 2: Patterns and Representation
- Lesson 3: ASCII and Binary Representation
- Lesson 4: Representing Images
- Lesson 5: Representing Numbers
- Lesson 6: Keeping Data Secret
- Lesson 7: Combining Representations
- Lesson 8: Create a Representation
- Lesson 9: Problem Solving and Data
- Lesson 10: Problem Solving with Big Data
- Lesson 11: Structuring Data
- Lesson 12: Making Decisions with Data
- Lesson 13: Interpreting Data
- Lesson 14: Automating Data Decisions
- Lesson 15: Project - Make a Recommendation



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### CSD Unit 6 - Physical Computing

- Lesson 1: Innovations in Computing
- Lesson 2: Designing Screens with Code
- Lesson 3: The Circuit Playground
- Lesson 4: Input Unplugged
- Lesson 5: Board Events
- Lesson 6: Getting Properties
- Lesson 7: Analog Input
- Lesson 8: The Program Design Process
- Lesson 9: Project - Make a Game
- Lesson 10: Arrays and Color LEDs
- Lesson 11: Making Music
- Lesson 12: Arrays and For Loops
- Lesson 13: Accelerometer
- Lesson 14: Functions with Parameters
- Lesson 15: Circuits and Physical Prototypes
- Lesson 16: Project - Prototype an Innovation