



STUDENT KIT

CURRICULUM GRID

Objective Number	Common Standard Concepts: Coding	Lessons										
		Overall	Lesson 1 - Electricity Fundamentals	Lesson 2 - Ohm's Law	Lesson 3 - Traffic Signals	Lesson 4 - Dimmer Switch	Lesson 5 - Project Holiday Lights	Lesson 6 - Sports Robot	Lesson 7 - Windshield Wipers	Lesson 8 - Musical Keyboard	Lesson 9 - Light Wave Radar	Lesson 10 - Project Greenhouse Control System
Coding - Concepts												
1	Flowcharts/Pseudocode	■	■		■	■	■	■	■	■	■	■
2	Program Structure	■	■		■	■	■	■	■	■	■	■
3	Graphical Programming											
4	Algorithms/Task Sequences	■	■		■	■	■	■	■	■	■	■
5	Digital Inputs & Outputs	■		■	■	■	■	■	■	■	■	■
6	Analog Inputs & Outputs	■			■			■	■	■	■	■
7	Mathematical Operators	■						■	■	■	■	■
8	Variables and Data Types	■			■			■	■	■	■	■
9	Conditionals	■			■			■	■	■	■	■
10	Loops	■				■				■	■	■
11	Nested Loops/Compound Conditionals	■								■	■	■
12	Functions	■									■	■
13	Data Validation											
14	Arrays	■								■		■
15	Classes & Objects								■			
Coding - Practices												
1	Organize Code for Reuse	■		■	■	■	■	■	■	■	■	■
2	Reuse Existing Code	■				■		■	■	■	■	■
3	Test & Refine Programs	■		■	■	■	■	■	■	■	■	■
4	Code Collaboratively	■						■	■	■	■	■
5	Debug Programs	■	■		■	■	■	■	■	■	■	■
6	Justify Code Structure	■									■	■

Objective Number	Common Standard Concepts: Electronics	Lessons									
		Lesson 1 - Electricity Fundamentals	Lesson 2 - Ohm's Law	Lesson 3 - Traffic Signals	Lesson 4 - Dimmer Switch	Lesson 5 - Project Holiday Lights	Lesson 6 - Sports Robot	Lesson 7 - Windshield Wipers	Lesson 8 - Musical Keyboard	Lesson 9 - Light Wave Radar	Lesson 10 - Project Greenhouse Control System
<p>■ = Fully covered</p> <p>□ = Partially covered</p>											
Electronics - Skills											
1	Electronic Safety	■	□	■	■	■	■	■	■	■	■
2	Breadboarding	■		□	■	■	■	■	■	■	■
3	Soldering / De-Soldering										
Electronics - Components											
1	Electrical Sources	■	□	■	■	■	■	■	■	■	■
2	Resistors	■		□		■	■	■	■	■	■
3	Diodes & LEDs	■		□		■	■	■	■	■	■
4	Switches / Buttons / Potentiometers	■			□		■	■	■	■	■
5	Microcontrollers	■	□			■	■	■	■	■	■
6	Piezo Buzzers / Speakers	■							□	■	■
7	Sensors	■				□				■	■
8	Motors/Servos	■						□		■	■
9	Fuses/Circuit Breakers										
10	Capacitors	■						□		■	■
11	Inductors										
12	Transformers										
13	Transistors									□	
Electronic - Concepts											
1	Electronic Measurements	■	□			■	■	■	■	■	■
2	Electronic Test Equipment / Meters	■		□		■	■	■	■	■	■
3	Schematic Diagrams	■			□		■	■	■	■	■
4	Simple Circuits	■	□			■	■	■	■	■	■
5	Series and Parallel Circuits	■				■	■	■	■	■	■
6	Electrical/Magnetic Properties	■			□					■	■
7	Ohm's Law	■		□		■	■	■	■	■	■