CONCEPT Soldering, breadboards, and circuit design are all related to electronics projects and refer to different aspects of building and prototyping electronic circuits.

In Sparkfun projects, these techniques are often used in combination to create a wide range of electronic projects, from simple LED circuits to complex microcontroller-based systems. By understanding the principles of soldering, breadboarding, and circuit design, makers and engineers can create custom electronics projects that meet their specific needs and requirements.

EXAMPLES

www.SparkFun.com
SparkFun Inventor's Kit - v4.1.2 - KIT-21301

- **Project 1: Light**
  - Circuit 1A: Blinking an LED
  - Circuit 1B: Potentiometer
  - Circuit 1C: Photoresistor
  - Circuit 1D: RGB Night-Light
- **Project 2: Sound**
  - Circuit 2A: Buzzer
  - Circuit 2B: Digital Trumpet
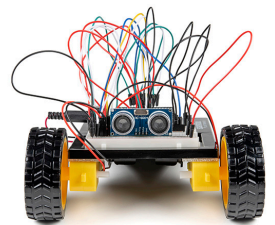 - Circuit 2C: "Simon Says" Game
- **Project 3: Motion**
  - Circuit 3A: Servo Motors
  - Circuit 3B: Distance Sensor
  - Circuit 3C: Motion Alarm
- **Project 4: Display**
  - Circuit 4A: LCD "Hello, World!"
  - Circuit 4B: Temperature Sensor
  - Circuit 4C: "DIY Who Am I?" Game
- **Project 5: Robot**
  - Circuit 5A: Motor Basics
  - Circuit 5B: Remote-Controlled Robot
  - Circuit 5C: Autonomous Robot

APPLICATION

One of the best ways to start implementing Sparkfun projects into the classroom is with their Inventor's Kit. Each Kit comes jam packed with engaging exercises to develop student's knowledge base focused on programming and hardware interaction with the Arduino language.

Recommended for Beginners ages 10 and up, it will have you programming in no time following their detailed guidebook. Building upon each lesson, by the end of their tutorial, you will be able to code your own autonomous robot! Beyond this kit, their website has all the resources you need to fuel your imagination and creativity.

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