Tenba Case

www.tenba.com

What is it? This case is used to include all the items in the MaKit Work discovery equipment for shipping and pickup. It is durable and weighs approximately 45 pounds when all items are packed in the case.

What's In The Box?

Robots:
- Bee Bot
- Lego Wedo
- MOSS Zombonitron 1600
- Sphero

Circuits:
- Little Bits
- 2 Makey Makey
- Snap Circuits

Computing:
- MinecraftEdu (installed on Laptop)
- Rasperry Pi
- Toshiba 2 in 1 Laptop

Engineering:
- MakeDo

Other:
- MaKit Work! Resource Guide Folder

Purchase Details

Date: 7/16/2015
Vendor used: Amazon.com (with Amazon Prime)
$ 249.95 (sale price paid)
$ 0 Shipping & Handling
$ 0 Tax

Bee-Bot

www.bee-bot.com

Category: Robotics

Difficulty Level: Beginner ★☆☆

Age Level: 4+

What is it? A simple robot that can be programmed to move in different directions.

Purchase Details

Date: 7/16/2015
Vendor Used: Bee-Bot
$89.95 per Bee-Bot
$24.95 per Command Cards
$15.00 Shipping (reflected purchase
    of 2 of each)
$0 Tax

What's in the box?

1 Bee-Bot
1 USB Charging Cable
1 Pack of Command Cards
Instruction packet

Getting Started

- Charge the Bee-Bot by plugging it into the laptop using the USB cord.

- Turn the device on using the power switch on the bottom. Use the sound on/off switch if you'd like to reduce noise.

- Find an open space of at least 5 square feet to explore.

- Press the buttons to go forward, right, left, back, and pause (II) .

- The "X" clears memory and the Bee-Bot starts over.

- The "GO" button starts the Bee-Bot on the course.

- The Bee-Bot can do up to 40 commands and then it goes no further.

- For a challenge, plan an obstacle course using books and other objects to clearly define a path. Writing arrows on sticky notes could help!

Sample Program

Obstacle Course: Rescue the Queen

Number of participants: 2 - 3 per Bee-Bot

Prep time: 1 hour

Goals: Teaches logic, instruction following, keeping cards in order, processing steps in order, ability for kids to work together to accomplish goal

Instructions:

Before the Program:

1. Charge the Bee-Bot fully before the program
2. Build walls out of books, cardboard or other materials
3. Make a cut out Queen or King and place at the end of the course

At the Program:

1. Show the children how to sequence the Bee-Bot.
2. Introduce the cards and use them for planning purposes.
3. Have kids work together by taking on different roles of:
   - Planner (determine which path to take and find appropriate card)
   - Recorder (for keeping track of how the list of steps was made)
   - Programmer
4. Let the children try to program the Bee-Bot to navigate through the course and reach the King or Queen.
5. For an extra challenge, see who can complete the course in the fastest time, or try programming the Bee-Bot to return to the finish line.

For More Information

- bee-bot.wikispaces.com
- www.edex.com.au/resource/teaching-activities/beebot-activities
- blocs.xtec.cat/roboticaalescola/files/2013/10/BeebotguideA4v2.pdf
- www.bee-bot.us/bee-bot/beebot-curriculum.html

Lego WeDo

Category: Robotics

www.education.lego.com/wedo

Difficulty Level: Advanced ★★★

Age Level: 7+

What is it? A lego robotics kit to build a robot and program it using Lego's software.

Purchase Details

Date: 8/2/2015
Vendor used: Lego Education
$ 136.75 Per 9580 Lego Education
  WeDo Construction
$ 89.95 Per LEGO WeDo Software
$ 25.44 Shipping & Handling
  (reflected purchase of 2 Kits)
$ 33.06 Tax

What's in the box?

- 1 Lego WeDo Construction Set, containing over 150 pieces, including a motor, motion and tilt sensors, and the LEGO USB Hub.
- 1 Inventory sheet
- Lego Wedo Software (pre-installed on laptop)

Getting Started

- Open the Lego WeDo software from the Desktop or Start Screen on the laptop
- Click the Activity Tab (Yellow Block Icon at the top)
- You will see a Getting Started guide displaying individual parts
- Click the Activity button (lego head icon at the top)
- Click the image of the project you want to create
- Use the arrows at the bottom of the screen to follow the instructions while you build using the lego blocks
- Connect the finished Lego Wedo robot to the laptop using the USB cord.
- The last screen shows a sample program to perform an action. Click and drag the blocks from the bottom of the screen to match the sample program, or create your own variation. Click the "Play" button to try out your program!
- When you are done, close the program by clicking the Yellow Block icon in the bottom, then click the "X" in the top right.

MaKIT Work!

Sample Program

Build a Drumming Monkey

Number of participants: 1 person per kit
**Prep time required**: At least an hour to become familiar with the software
Goals: Follow instructions, troubleshoot when something goes wrong, and have fun!

Instructions:
1. Build a drumming monkey using the attached instructions. (Instructions can also be found through the Lego Wedo Software)
2. Plug the monkey into the laptop using the USB cable
3. Open the Lego Wedo software using the shortcuts on the Desktop or Start screen.
4. Click and drag the "Start" and "Motor This Way" blocks to the center of the screen
5. Click "Start" to begin drumming, then experiment with other buttons!

Tip: If you're not sure what an icon does in the Lego WeDo software, hover over it with your mouse for a helpful screen tip.
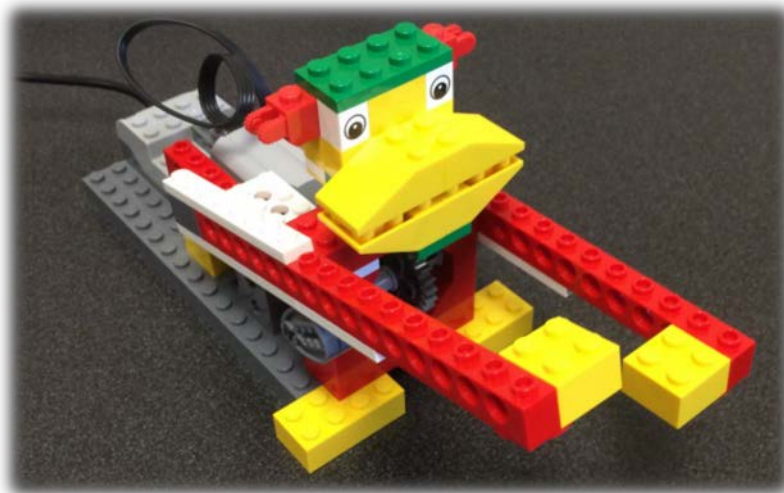
For More Information

- FAQs, downloads, activity sheets, and more
  www.education.lego.com/learn/elementary/wedo/support
- Lego Wedo Tutorials:
  http://aux.legoeducation.us/WeDoMastery
- Building Instructions:
  www.education.lego.com/en-us/lesi/support/product-support/wedo/wedo-base-set-9580/building-instructions

Lego WeDo Inventory
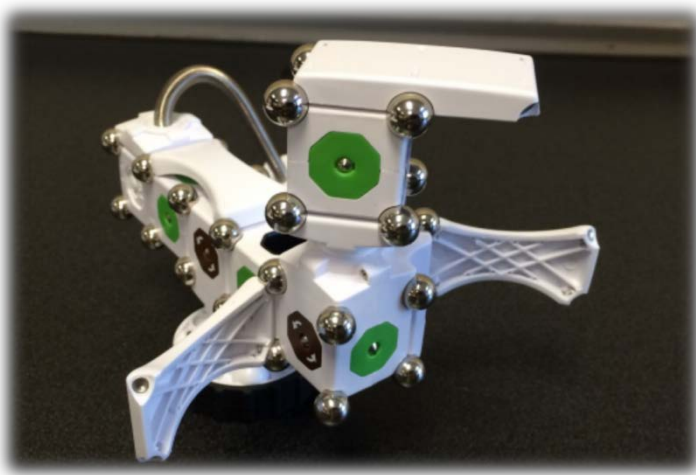
9580

MOSS Zombonitron

Category: Robotics

www.modrobotics.com/moss

Difficulty Level: Intermediate ★★☆

Age Level: 8+

What is it? A robot kit that snaps together with magnetic spheres. Each color has a different function. No programming required!

Getting Started

1. Charge the battery by connecting the battery cube to the laptop using the USB cable
2. Follow the instructions in the Getting Started guide to build one of three robots
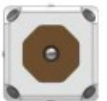3. Flip the switch on the battery block to power it on!

Face Colors

Power (Green)

Data Out (Red)

Data In (Brown)

Pass-through (Blue)

Purchase Details

Date: 8/18/2015
Vendor used: Amazon.com
    (with Amazon Prime)
$ 189.99 Per Zombonitron 1600 Kit
$ 0 Shipping & Handling
    (reflected purchase of 2 of each)
$ 0 Tax

What's in the box?

Getting Started Guide
1 Rechargeable Battery Block
2 Motors
2 Wheels
2 Corners
1 Brightness Sensor
1 Proximity Sensor
1 "Long Flexy"
1 "Hub" block
4 Arch Braces
1 Short Brace
1 USB Charging Cable
Approximately 56 Steel Spheres

MaKIT Work!

Sample Program

Robotics 101

Number of Participants: 3 - 4 per kit
Goals: Teach teens how data and power work together to operate robots.
Prep Time: 1 or 2 hours to review the content

Instructions:
1. Charge the battery and set out supplies
2. Follow the attached lesson plan for the first session of Robotics 101:
   Part 1: Introducing Sensors and Actuators
   Part 2: Understanding Power, Data, and Robot Actions
   Part 3: Adding Design Elements

Tip: A full course for Robotics 101 can be downloaded for free from modrobotics.com/ education!

For More Information

- Forums for suggestions, help, FAQs, and more
  www.modrobotics.com/forum
- Lesson Plans and Educational Resources
  www.modrobotics.com/education

Inventory: Individual Pieces

Sphero

www.sphero.com

Difficulty Level: Beginner ★☆☆

Age Level: 5+

What is it? Spherical robot that is "remote controlled" through apps.

Getting Started

- Charge the Sphero battery by placing the Sphero on top of its charging station. The light blinks while charging, and stays solid when it is fully charged.
- Strongly "Double Tap" the Sphero to wake it up. It should flash a series of three colors.
- Separate the monitor from the laptop by pressing down on the top to snap it out from the keyboard. This activates "tablet" mode.
- From the laptop, open the Sphero App. There is a shortcut on the Start Screen.
- After a few seconds, the Sphero should automatically connect to the app.
- Tap the Sync icon to align the steering.
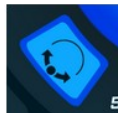
Note: The Sphero also works with iOS and Android apps. To set up additional devices, install the app and sync the Sphero via Bluetooth in your device's Wireless settings.

Many additional free Sphero apps are available for these devices, including Draw N' Drive, Sphero Gold, and FlappyBall for Sphero.

Purchase Details

Date: 7/30/2015
Vendor used: Sphero Store
$ 129.99 Per Sphero 2.0
$ 59.99 Per Accessory Pack
$ 0 Shipping
$ 0 Tax

What's in the box?

1 Sphero Robot
1 Charging Station
Small green ramps
"Terrain Park" ramps and accessories
1 Chariot accessory
2 Sphero Covers
1 Quick Start Guide

Sample Program

Bowling with Sphero

Recommended Number of Participants: 2 per Sphero

Prep Time: 15 minutes

Goals: Have fun competing with friends! Learn about how digital devices can interact with the physical world.

Instructions:

1. Follow the "Getting Started" instructions to turn on and sync the Sphero.

2. Set up disposable plastic cups as bowling pins. To make it easier, place the smaller end on the ground. Use masking tape to create lanes.

3. Allow participants to take turns using the app to control the Sphero to go bowling.

4. For more variety, allow participants to build obstacle courses or free play.

For More Information

- Sphero "Self Help" page
    www.sphero.zendesk.com

- Sphero Tech Support
    www.support.gosphero.com

- Detailed lesson plans and STEM activities
    www.sphero.com/education

MinecraftEdu

Category: Computing

www.minecraftedu.com

Difficulty Level: Advanced ★★★

Age Level: 5+

What is it? Computer game that allows players to build and explore collaboratively and competitively.

Getting Started

Opening the Server with a Tutorial World:

1. On the laptop, double-click on the MinecraftEdu Launcher icon on the Desktop
2. Click "Start MinecraftEdu Server Launcher"
3. Choose "Start Server with Tutorial World"
4. Notice the IP Address printed at the top of the window.
5. Leave this window open while the game is being played. Afterwards, click "Stop Server" and close the window.

Opening the Game & Playing on the Server:

1. Double-click on the MinecraftEdu Launcher icon on the Desktop
2. Click "Start MinecraftEdu"
3. Login details should be saved. Click "Launc."
4. Type in any name and click "Continue"
5. Click "Multiplayer"
6. Click "Add server"
7. Type in the IP address from the Server Window (noted in the "Opening the Server" section)
8. Click "OK"
9. Select the new server and click "Join Server"
10. Click "Connect"
11. You are now playing on the server Tutorial World!

Purchase Details

Date: 7/31/2015
Vendor used: Teacher Gaming
$ 41.00 per Server Software
$ 18.00 per User License
    (Volume discounts available)
$ 0 Shipping
$ 0 Tax

What's in the box?

MinecraftEdu Server Software
    (pre-installed on laptop)
MinecraftEdu User Software
    (pre-installed on laptop)
One user license

Note: An abundance of features are available in MinecraftEdu.
Experiment with single player and multiplayer worlds to see what you can do!

Purchasing Tips

- MinecraftEdu licenses are available to libraries at a discounted rate compared to the commercial version of Minecraft

- MinecraftEdu licenses can also be used with the commercial version of Minecraft. However, the commercial licenses can not be used to access MinecraftEdu.

- Libraries can purchase a server license to host their own server for multiplayer games.

- To avoid maintaining their own server, libraries can rent server space for a monthly fee.

Program Ideas for Libraries

A single user license is not enough for use in a library program, which should be multiplayer events. We recommend that it is used to practice and decide if purchasing MinecraftEdu would be a good investment for your library.

With one server licenses and several user licenses, a library could:

- Host competitions

- Set up live, social gaming events on library computers

- Allow teens to "check out" an account and play in the library

For More Information

- Facebook Group for Libraries using Minecraft
    www.facebook.com/groups/minecraftinlibraries
- Highlights creative projects
    https://twitter.com/minecraftedu
- Encyclopedia for teaching with Minecraft
    http://services.minecraftedu.com/wiki
- The Official Minecraft Wiki (Commercial Edition)
    http://minecraft.gamepedia.com
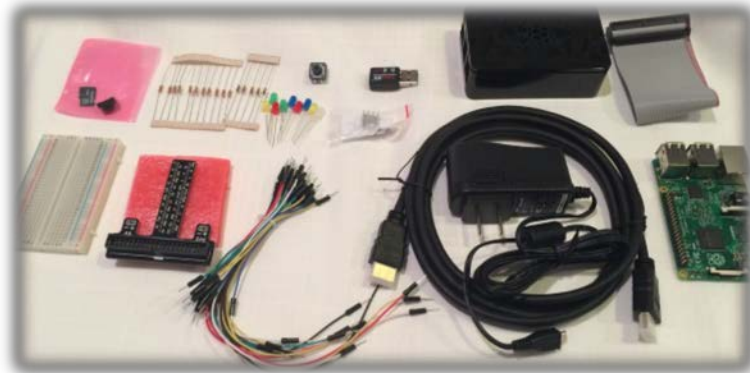
Raspberry Pi 2

Category: Computing

www.raspberrypi.org

Difficulty Level: Advanced ★★★

Age Level: 5+

What is it? A mini computer, running the Raspian (linux-based) operating system. Must provide a HDMI monitor, keyboard and mouse to fully use.

Purchase Details

Date: 7/16/2015
Vendor used: Amazon.com
    (with Amazon Prime)
$ 84.99 CanaKit Raspberry Pi 2 (1GB)
    Ultimate Starter Kit
$ 0 Shipping
    (reflected purchase of 2 of each)
$ 0 Tax

Getting Started

PART 1 - Hardware Setup (Basic)

1. You will need to provide your own HDMI enabled display, USB Keyboard and Mouse.
2. Attach the USB Mouse and Keyboard to an available USB Port
3. Use the provided HDMI cable to connect the Raspberry Pi to your TV or monitor.
4. (Optional) Insert wifi USB dongle into device
5. Verify that the micro SD card has been placed in the microSD card slot
6. Plug Insert the 2.5A Micro USB Power Supply cord into an electrical with powered outlet.

General Use Login

1. After the device is turned on and connected, a square block with multi color changes will appear on the monitor. This is normal.

2. A series of prompts will appear. Type the following information:
    User ID: **makitwork**
    Password: **makitwork**

3. To get a graphical user interface, type: **startx**
(continued on page 2)

What's in the box?

- Raspberry Pi 2 (RPi2) Model B
- 8 GB MicroSD Card
- WiFi Adapter RT5370 chipset
- 2.5A Micro USB Power Supply
- Raspberry Pi 2 Case
- HDMI Cable with CEC support
- Heat Sink
- GPIO and Resistor Colors Quick Reference Cards
- Quick-Start Guide
- GPIO to Breadboard Interface Board
- GPIO Ribbon Cable
- Breadboard
- 32 x Jumper Wires
- 8 RGB LEDs
- 2 x Push Button Switches
- 10 x 220 Ohm Resistors
- 5 x 10K Ohm Resistors

MaKIT Work!

PART 3 - Device Settings for WiFI

- Use drop down menu and look for Wi-Fi Configuration

- From the wi-fi option screen, select the Wi-Fi signal of interest and follow prompts. If there is any password required, generally the "PSK" box is for the password.

PART 4 - Shutdown

To shut down the device, type the command: **sudo shutdown -h now**

Sample Program

Blinky Light Display

Number of participants : 2-4
Prep Time Required: 1 to 2 hours
Goals: Basic programming integration with hardware, understanding of what a GPIO is of general purpose input / output

Items needed (included in kit)

- Raspberry pi
- USB Micro Power supply (2.5Amps)
- Breadboard
- GPIO Breakout for Raspberry Pi (looks like a single major pronged pitchfork)
- GPIO Ribbon Cable (big cable that fits on the GPIO Breakout board and Raspberry Pi)
- Jumper wires (have a single pointy stick on both ends)
- LED lights
- *10K Ohm Resistors
- * 220 Ohm Resistors
- (Anything under 1000 Ohms should work fine)

Additional Items Needed:

- USB Keyboard
- USB Mouse
- HDMI enabled TV or Monitor

Instructions:
Follow the Instructions at: https://youtu.be/R6s_7UaOSKA

For More Information

- www.raspberrypi.org
- www.canakit.com
- raspberrypi.stackexchange.com

Toshiba 2-in-1 13.3 " Touch-Screen Laptop

Category: Computing

What is it? This laptop has been pre-loaded with software for use with several items in the kit.

What's In The Box?

- 1 laptop
- 1 laptop power cord
- 1 laptop sleeve

Laptop Features:

- Windows 10 with Touch Screen

- 2 USB ports, HDMI, an SD Card slot, and connections for headphones and power are along the back edge of the laptop.

- "Tablet" mode: Converts to a tablet if desired. Press down on the top edge of the screen to detach the monitor. Open the on-screen keyboard using the icon in the Notifications area in the bottom-right corner.

- Helpful websites are saved under "Favorites" in Internet Explorer

- PDF Guides are saved in the "Resources" folder on the Desktop

Available Software:
- MinecraftEdu
- Lego Wedo
- BirdBrain Robot Server (with SNAP and Scratch)
- Sphero App *(Detach the monitor to use the laptop in tablet mode for this app.)*

*Note: Files saved on the laptop **will erase** after restarting. Please save any files you wish to keep on a USB flash drive.*

Purchase Details

Date: 7/23/2015
Vendor used: BestBuy.com
$ 839.99 Per Toshiba 2in1 13334 TouchScreen Laptop Intel Core i7 8GB Solid State Drive Satin Gold Model P35W-B3226 SKU: 7629008
$ 169.99 1 Year Accidental Protection Plan Geek Squad SKU 9978102
$ 0 Shipping & Handling
$ 85.84 Tax
TOTAL $1095.82

Additional Add on:
Date: 7/30/2015
Vendor: DRI Faronics
www.faronics.com

$45.00 per Deep Freeze Standard for Windows with 1 year Maintenance Package
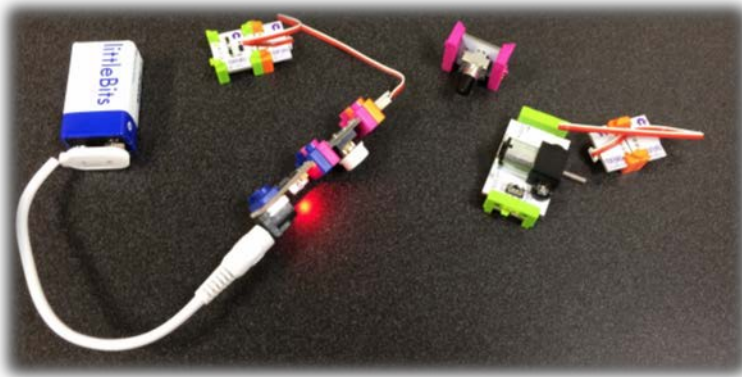
Little Bits Base Kit

Category: Circuits

www.littlebits.cc

Difficulty Level: Beginner ★☆☆

Age Level: 3+

What is it? A circuits kit made up of color-coded "bits" that snap together.

Purchase Details

Date: 07/22/2015
Vendor used: stemfinity.com
$ 99.00 per LittleBits Base Kit
$ 0 Shipping & Handling
    (reflected purchase of 2 of each)
$ 0 Tax

Getting Started

- Connect the power cable to the battery
- Connect the power cable and battery to the power module
- Flip through the included booklet to see sample programs & gain basic knowledge of kit
- Identify 4 types of modules: blue, pink, green, and orange

What's in the box?

1 9V battery
1 power cable + 1 power module
1 screwdriver
    (little plastic purple thing)
1 dc motor module + motor
    attachment
1 buzzer module
1 light sensor module
1 bargraph module
1 button module
1 dimmer module
1 bright led module
2 wire modules
1 booklet

Sample Program

Explore Circuitry with Little Bits

Sample Program: Explore Circuitry with Little Bits
Number of Participants: 1 - 3 per kit
Prep time: 15 minutes to unpack kit and flip through booklet
Goals: Introduction to circuitry, problem solving and critical thinking

Instructions:

1. Lay all of the modules out on the table

2. Point out the power module to the participants, and show them the on/off switch

3. Demonstrate how 2 modules connect to each other
   Magnets at the end help hold the modules together to complete a circuit

4. Have participants start connecting modules to each other

5. Ask participants what they think will happen when they connect two modules together

6. Once they are connected, have participants explain what did happen and if it met their expectations

Tip: There are simple projects included in the booklet using cardboard, rubber bands, and cups.

For More Information

Tech Support: support@littlebits.cc or 917-464-4577
Other helpful websites:
- www.littlebits.cc/kits/base-kit#make
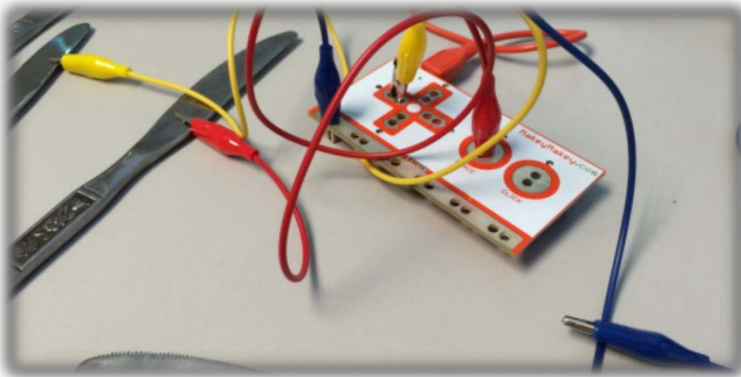- www.littlebits.cc/users/littlebits

Makey Makey

www.makeymakey.com

Difficulty Level: Intermediate ★★☆

Age Level: 8+

What is it? A kit that allows you to connect anything that conducts electricity to a computer to operate as an input device like a controller or keyboard.

Getting Started

- Open the box and familiarize yourself with the Makey Makey board and components

- The front side of the board is for more simple connections or computer controls, the backside of the board has more controls.

- For an illustrated guide, visit:
  makeymakey.com/howto

Image Credit: "Banana Piano" by Jayahimsa, flickr, www.flickr.com/photos/49822796@N00/7167025186 is licensed by CC 2.0.

Purchase Details

Date Purchased: 07/16/2015
Vendor used: Amazon.com (with Amazon Prime)
$ 49.95 per kit
$ 0 Shipping
$ 0 Tax

What's in the box?

- Makey Makey Board
- USB Cable
- 7 Alligator Clips
- 6 Connector Wires
- Instructions with Visual Project Start Guide

Sample Program

Play Pacman with Makey Makey

Number of participants: 1 - 3 per kit
Prep time: 30 minutes to become familiar with the contents of kit
Goal: Help users find creative ways to interact with their computers

Instructions:
1. Gather supplies - pencil, blank computer paper, makey makey, and a computer
   - You will need to download software if using a different computer than the one included in the Makit Work! Kit. Use quick start guide included in the Makey Makey kit box or these directions:
     https://learn.sparkfun.com/tutorials/makey-makey-quickstart-guide
2. Plug the standard USB end of the red USB cable into a USB port on the computer and the micro USB end into the Makey Makey board
3. Draw and fill in 4 half circles along one edge of the paper using the pencil
4. Draw and fill in 4 circles using the pencil in the middle of the paper
   - Make sure the circles do not touch each other
   - Each of these 4 circles will represent a directional arrow on the computer keyboard: Up, Down, Left, Right
5. Draw one solid line from each of the half circles on the edge of the page to one of the circles in the middle of the page
   - Make sure none of the lines cross each other or touch more than one half circle or full circle because it will disrupt the connection
6. Attach one end of 4 connector wires to each of the half circles on the edge of the page
7. Attach the other end of each of the 4 connector wires to a different directional arrow on the front side of the Makey Makey board
   - The claw end connecting to the Makey Makey board should have one side of the claw in each of the two circles in the directional arrow on the board
   - Note which connector wire is connected to each direction on the Makey Makey and which circle on the your paper so that you know what direction the circles correspond to
8. Go to **www.webpacman.com** and start playing!

Tip: experiment with what else you can connect to in order to complete the circuit and control the keyboard, such as bananas or coins instead of pencil circles.

For More Information

Tech Support: support@joylabz.com
Other helpful websites:
- makeymakey.com
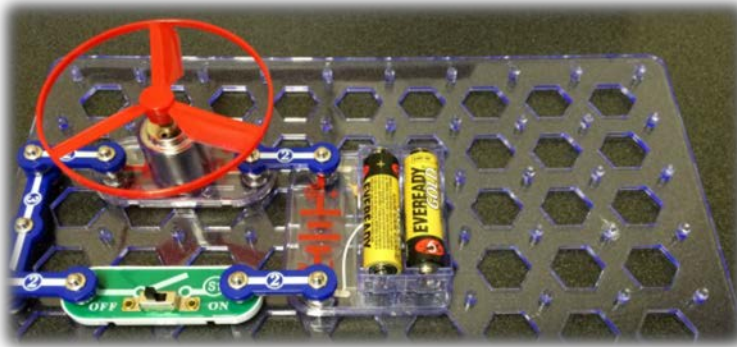- learn.sparkfun.com/tutorials/makey-makey-quickstart-guide

Snap Circuits

Category: Circuits

www..snapcircuits.net

Difficulty Level: Beginner ★☆☆

Age Level: 8+

What is it? Building blocks with snaps to build electrical and electronic circuits and projects.

Getting Started

Just open the box, choose a project from one of the manuals, select components needed for that project, put down base grid, read directions, follow circuit diagram carefully, insert (4) AA batteries in battery holders and start snapping.

Sample Program

Alarm Circuit (Project #17 in manual of experiments 1-101)

Number of Participants: 1-4 per kit
Age Range: 8 & up with adult supervision
Prep Time: Very little prep required.
Goals: Shows an integrated circuit can be used to make real alarm sounds.

Instructions:
1. Place grid on table.
2. Choose components 1 - (5) snap, 1- (4) snap, 1 - (3) snap, 4 - (2) snap, (U2), (SP),(B1), (S1).
3. Put components on grid for level one as labeled in manual diagram. 1- (5) snap, 1-(4) snap, (U2), (B1),(SP)
4. Attach components labeled for level two as labeled in manual diagram. 1-(3) snap, 4-(2) snap, (S1)
5. Close Slide Switch to start alarm sound.

Purchase Details

Date: 7/16/2015
Vendor: Amazon.com
    (with Prime Shipping)
$ 45.51 per SC-300 Electronics
    Discovery Kit
$ 0 Shipping
$ 0 Tax

Ordering through 4-H

Can also be ordered through SC 4-H at **shopping.clemson.edu**

What's in the box?

- Two Instruction Manuals with 305 projects
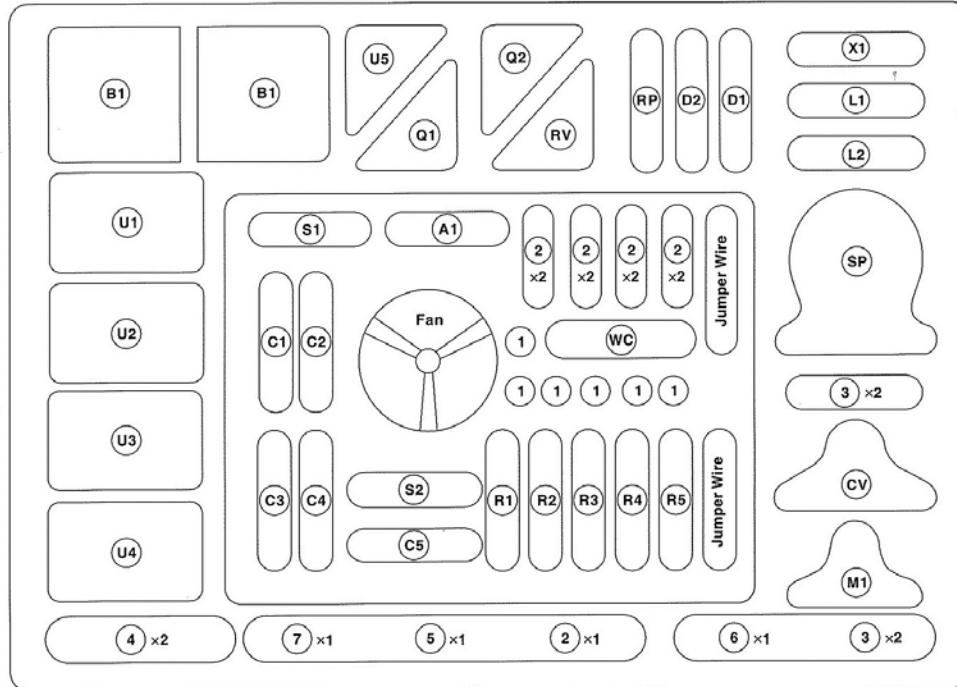- 60 color coded lettered and/or numbered components

For More Information

SC-300 Snap Circuits Block Layout

Important: If any parts are missing or damaged, **DO NOT RETURN TO RETAILER**. Call toll-free (800) 533-2441 or e-mail us at: help@elenco.com. Customer Service • 150 W. Carpenter Ave. • Wheeling, IL 60090 U.S.A.

Quantity	Name	ID	Quantity	Name	ID
1	Base Grid		2	Battery Holders	(B1)
1	Speaker	(SP)	1	0.02μF Capacitor	(C1)
1	Motor Fan	(M1)	1	0.1μF Capacitor	(C2)
6	1-Snap Wire	(1)	1	10μF Capacitor	(C3)
9	2-Snap Wire	(2)	1	100μF Capacitor	(C4)
4	3-Snap Wire	(3)	1	470μF Capacitor	(C5)
2	4-Snap Wire	(4)	1	100Ω Resistor	(R1)
1	5-Snap Wire	(5)	1	1kΩResistor	(R2)
1	6-Snap Wire	(6)	1	5.1kΩ Resistor	(R3)
1	7-Snap Wire	(7)	1	10kΩ Resistor	(R4)
1	Whistle Chip	(WC)	1	100kΩ Resistor	(R5)
1	Slide Switch	(S1)	1	High Frequency Integrated Circuit	(U5)
1	Press Switch	(S2)	1	PNP Transistor	(Q1)
1	Photoresistor	(RP)	1	NPN Transistor	(Q2)
1	Red Light Emitting	(D1)	1	Adjustable Resistor	(RV)
1	2.5V Lamp	(L1)	1	Variable Capacitor	(CV)
1	Antenna Coil	(A1)	1	6V Lamp	(L2)
1	Green Light Emitting Diode (LED)	(D2)	1	Music Integrated Circuit	(U1)
1	Microphone	(X1)	1	Alarm Integrated Circuit	(U2)
1	Jumper Wire – black		1	Space War Integrated Circuit	(U3)
1	Jumper Wire – red		1	Power Amplifier Integrated Circuit	(U4)

MakeDo

www.make.do

Category: Engineering

Difficulty Level: Beginner ★☆☆

Age Level: 4+

What is it? A "low tech" kit of child-safe tools for building and creating with cardboard and similar materials.

Purchase Details

Date: 7/17/2015
Vendor used: MyMakeDo.com
$ 12.50 Per Toolkit Starter
$ 5.00 Shipping
    (reflected purchase of 2 of each)
$ 0 Tax

What's in the box?

30 pieces total:
- "Scru" x 21
- "Scru XL" x 7
- "Scrudriver" x 1
- "Safe-saw" x 1

Getting Started

- Gather cardboard and other paper materials for building

- Saw through cardboard with the safe-saw.

- Use the Scrudriver and Scrus to connect pieces of cardboard to create something.

Sample Program

Make a Cardboard Vehicle

Number of participants: 1 per kit
Goals: be creative and make something, learn about tools and building
Ages: 4 - 8

Additional Materials needed (per child):
- 1 cardboard box
- 5 paper plates or cardboard circles
- Markers, construction paper, and glue sticks

Instructions:
- Help the child draw a line where a door should go
- Use the Safe-saw to cut out the door, leaving one side attached as a hinge
- Attach the paper plates using the Scrus and Scrudriver to become the four wheels and a steering wheel
- Decorate the car adding door handles, windows, headlights, and more using markers and construction paper
- Be creative and try other additions and designs! For example, attach wings to make an airplane or spaceship!

For More Information

- Tool Information, Tips & Tricks, and More:
  www.make.do/pages/how-to
- Official Facebook page:
  www.facebook.com/makedo
- MakeDo on Pinterest:
  www..pinterest.com/makedo