Smart Buddies™

teaching everyone to code

46160

Quick-Start Guide

Intro to Smart Buddies™

With Smart Buddies, we are on a mission to help more children identify with STEM, be much more inspired to continue their coding and STEM education journey, and ultimately contribute to bringing much-needed diversity to the STEM workforce.

Getting Started

This quick-start guide explains what is included in your Smart Buddies single set and introduces you to each of the basic activities.

What's in the Box

Your Smart Buddies single set includes one buddy and one Siggy. The pack also includes a cable to charge the Siggy when it's low on energy.

1 charging cable   1 programmable vehicle   1 buddy of your choice

Charge Your Siggy

The Siggy is installed with a powerful li-ion rechargeable battery and comes with about 50% charge. When fully charged, the Siggy will run for five to seven hours, depending on activity level.

Start Siggy

1. Attach your Smart Buddy to the Siggy using the wrist clips on the vehicle. Also, to ensure the Siggy is able to balance properly, it is important that the buddy's feet be placed inside the footings on the base of the vehicle.

2. Turn on the Siggy, and it will beep.

3. Carefully place the Siggy upright on its wheels on a smooth surface away from edges and obstacles. Hold it in that position for a few seconds until you hear a beep. The headlight should be off.

4. Let go of the Siggy and it will balance.

5. After three to five seconds, the Siggy should self-calibrate and double beep. It is now ready to connect to your device. The headlight should now be blinking.

6. Launch the Smart Buddies app and tap the **Choose Siggy** tab on your device to connect your Siggy to the app. **Note:** Be sure that your device has Bluetooth turned on.

7. The Siggy is marked with a unique identifier in the form of a license plate on the front and back of the vehicle. Be sure to choose the Siggy in the app that matches the license plate number of your vehicle. After you choose your Siggy, a green check mark should appear. The headlight on your Siggy should now constantly be on.

Smart Buddies Activities

On the app, there are six different activities. Activities are designed to move the control of the Siggy from free playing with the tablet to coding with block code. Some activities introduce problems to be solved and show hints and answers when required.

Choose Activity

- E-books
- Free Play
- Path
- Learn
- Sandbox
- Missions

E-books

The E-books icon brings up a library of eight books, one for each character, as well as a primary and intermediate reading level to choose from. The arrow in the lower-right corner will bring up the next shelf of e-books.

Free Play

The Free Play icon brings up a joystick that gives the user full and free control of the Siggy. Additionally, there are preprogrammed moves available.

All Free Play moves can be recorded and stored for later replay using the Record, Save, and Load buttons.

Path

Path gives the user the ability to draw a path for the Siggy to follow. The path is to scale of the Path grid.

- Tap **Show on screen**, and a virtual Siggy will drive the path.
- Tap **Drive on floor,** and the path will be downloaded to and executed by your Siggy.
  - Note that **Drive on floor** will be visible (green) only when a Siggy is connected.

Learn

Learn takes the user through 10 coding lessons that teach basic block coding elements. Each lesson poses a problem that introduces new elements that build on knowledge acquired from previous lessons.

After Learn code is executed by the Siggy or on-screen, the result is displayed on-screen thereafter. Learn also gives the user hints and eventually the solution if he or she has problems.

Sandbox

In the Sandbox activity, users implement their knowledge gained from the Learn activity. All coding elements are available including some additional blocks to explore, such as the Dance blocks.

Missions

Missions are the real thing! In each of the four tasks, the user has to code the Siggy's path through a maze using techniques previously acquired. The task has to be solved accurately. Missions will correct the user and give hints to solutions as needed.

Settings

The Settings tab gives a number of possible initial settings for the Smart Buddies app, including the option to select the use of metric or imperial measurements.

Software Blocks Overview

Move	Speed	The **Speed** block sets the speed at which the Siggy will move.	Speed 50
	Move	The **Move** block sets the direction the Siggy will move for a set distance.	Move forward 25 cm
	Turn	The **Turn** block moves the Siggy right or left for a set number of degrees and distance.	Turn left degree 90° radius 10 cm
Audio and Visual	Horn	The **Horn** block enables users to control the use of the built-in horn on the Siggy.	Horn on
	Lights	The **Lights** block controls all the lights on the Siggy. Users can turn on/off the headlight, front lights, back lights, and blinkers.	Lights on LED headlight
	Music	The **Music** block enables users to use the SmartGurlz theme song within their code.	Music on
Execution	Repeat	The **repeat** block repeats the enclosed blocks a defined number of times.	repeat 2 times do
	Pause	The **Pause** block pauses the Siggy for the amount of time entered.	Pause 1
	Load file	The **Load file** block enables users to load a previously saved program created in Free Play, Path, or Sandbox into a new program.	Load file Click to select a file
	Distance	The **Distance** block uses the Siggy's built-in ultrasonic sensor, which detects the Siggy's distance from an object. In the example to the right, the block is set for the ultrasonic sensor to detect when the Siggy is 20 cm from an object.	Distance 20

Dance	Shake It	The dance blocks are prerecorded dance moves for the Siggy to execute.	Shake It
	Swirlin Left		Swirlin Left
	Swirlin Right		Swirlin Right
	Cha Cha Cha		Cha Cha Cha
	Zumba Left		Zumba Left
	Zumba Right		Zumba Right

Getting to Know the Siggy

The Siggy is self-balancing like a Segway, which gives it the unique ability to perform agile zero-radius turns and operate in a small area. It also gives users full visibility of the buddy at all times.

However, this also means that the Siggy has a bit of its own volition because it always tries to remain balanced; this means it cannot be physically forced while it's running. So, help the Siggy balance when it falls, but otherwise control the Siggy with the app.

If the Smart Buddy is picked up at any point, the wheels will speed up and stop; you'll hear two beeps. When this happens, the Smart Buddy can no longer balance on its own. To reset the Smart Buddy, stand it on a flat surface until it can balance on its own again.

Visit Smart Buddies

- Watch getting-started tutorials for a quick introduction to Smart Buddies coding concepts.
- Find out where to buy Smart Buddies.
- Access technical support.

https://smartbuddies.com

Siggy Power

The Siggy comes with a built-in power module that can be charged with a phone or tablet USB charger. The power module secures five to seven hours of operation time, and charge time is about two to three hours.

The headlight tells you the Siggy's status.

- When the Siggy is connected to the app, the headlight is constantly on. A green check mark will appear next to the Siggy in the Choose Siggy tab of the app. If you're having problems, check to be sure your Siggy is not connected to a device other than yours.
- When the Siggy is not connected to the app but is ready to connect, the headlight is blinking. On all devices in range, the Siggy will appear on the Choose Siggy tab of the app without a green check mark.
- When the Siggy is not ready to connect to the app, the headlight is off. This can happen when the Siggy is balancing but not yet self-calibrated or when it is driving on a surface not conducive to Siggy like shag carpet.

Take Care of the Siggy

Do not disassemble the Siggy. Doing so will void any warranties, implied or otherwise. Be careful with handling the Siggy. Applying excessive force or dropping it might cause permanent damage.

To reduce the risk of fire and burns, do not attempt to open, disassemble, or service the battery pack. Do not crush, puncture, short external contacts, expose to temperatures above 60°C (140°F), or dispose of battery pack in fire or water.

Battery chargers used with the device are to be regularly examined for damage to the cord, plug, enclosure, and other parts and, in the event of such damage, must not be used until the damage has been repaired. Battery is 7.4 V, 600 mAh. The maximum operating current is 1,300 mAh.