



Girl Scouts Volunteer Guide

Coding for Good, Badge 1: Coding Basics
Using TI Technology (For All Levels)



Overview

These Girl Scout Coding for Good, Badge 1 projects for Junior, Cadette, Senior and Ambassador levels are intended for Girl Scouts who are familiar with the basic operation of Texas Instruments (TI) graphing calculators. TI-84 Plus, TI-84 Plus CE, TI-Nspire™ CX and TI-Nspire™ CX II graphing calculators can be used to complete the projects (see each level for preferred device). No programming experience is necessary to get started.

The projects can be completed using the [online step-by-step experience](#), or the TI activity documents can be downloaded from the TI website, printed and used during in-person or virtual workshops.

Implementing this program

There are three, flexible options to earn this badge:

1. **Self-paced.** Individual Girl Scouts can use the TI graphing calculator they already own to complete lessons at home.
2. **Troop workshops.** Collaborate and complete lessons as a group. Troop leaders can borrow TI graphing calculators so everyone can work together.
3. **TI-facilitated event.** Ask a TI expert to host a virtual or in-person event. [Contact us](#), and we'll work out all the details to help your Scouts get coding.

Before you start

- » Coding novices should begin with the appropriate introductory lessons found at [TI Codes](#), as explained in the TI activity documents
- » On the following page, you'll find a brief description of the tasks that Girl Scouts will be presented with at each level as they earn their Coding for Good, Badge 1
- » If you have a mixed technology situation, some projects may have differing results due to differences in the capabilities of the graphing calculators



Need TI graphing calculators?

Troops interested in earning this badge may request equipment and assistance from TI. A TI expert can work with troop leaders to borrow TI technology for earning the Coding for Good or other coding badges. They can also create a fun, engaging STEM event for troops. Fill out [this form](#) to start the conversation and personalize an experience for your troop.

Descriptions of projects tasks

Each level is stand-alone and does not assume the Girl Scout has completed the Coding for Good badge at a previous level. Because of this, there is some overlap in the content. If the Girl Scout has already completed [TI Codes](#) lessons at a previous level, they can skip the introductory lessons, if needed.

Junior

Description: The Girl Scout will be challenged to create a [Number Guessing Game](#). She will create a program that will have the graphing calculator select a random number between 1 and 100, and the player must guess the number. The program will include “hints” to go higher or lower based on input.

Time needed: Approx. 1 hour, plus the time to complete the intro to TI Codes (consider splitting into two meetings)

Required materials:

- » TI-84 Plus or TI-84 Plus CE graphing calculator
- » TI-Nspire™ CX or TI-Nspire™ CX II graphing calculator
- » Internet access (or printed materials)

Optional materials:

- » “Junior Coding For Good” badge requirements guide
- » Grid paper for planning programs



Cadette

Description: The Girl Scout is challenged to [create a meme](#) using the DRAW feature on the graphing calculator. She will explore the ability to add a background image to the calculator, and get creative with her designs.

Time needed: Approx. 1 hour, plus the time to complete the intro to TI Codes (consider splitting into two meetings)

Required materials:

- » TI-84 Plus or TI-84 Plus CE graphing calculator*
- » TI-Nspire™ CX II graphing calculator**
- » Internet access (or printed materials)

Optional materials:

- » “Cadette Coding For Good” badge requirements guide
- » Grid paper for planning programs
- » [TI Connect™ CE](#) software application (for transferring a background image, if using the TI-84 Plus CE)



Senior

Description: The Girl Scout is challenged to complete [two](#) tasks at this level. She will first create [Part 1: Self-portrait](#) using the DRAW feature and some creativity. Next, she will create [Part 2: Quiz program](#).

Time needed: Will vary, as there are two project tasks (and the intro to TI Codes has been completed)

Required materials:

- » TI-84 Plus or TI-84 Plus CE graphing calculator*
- » TI-Nspire™ CX II graphing calculator**
- » Internet access (or printed materials)

Optional materials:

- » “Senior Coding For Good” badge requirements guide
- » Grid paper for planning programs



Ambassador

Description: The Girl Scout is challenged to [create a performance](#) using the Beatles song, “She Loves You,” or she can choose her own song. The Scout will create a program where words appear on the graphing calculator screen. If sound is wanted, she will need to also have a TI-Innovator™ Hub with TI LaunchPad™ Board and be using the TI-Nspire™ CX II or TI-84 Plus CE graphing calculator.

Time needed: Approx. 1 hour, plus the time to complete the intro to TI Codes (consider splitting into two meetings)

Required materials:

- » TI-84 Plus or TI-84 Plus CE graphing calculator†
- » TI-Nspire™ CX or TI-Nspire™ CX II graphing calculator
- » Internet access (or printed materials)

Optional materials:

- » “Ambassador Coding For Good” badge requirements guide
- » Grid paper for planning programs
- » TI-Innovator™ Hub



* The TI-84 Plus CE is preferred for an optimal experience with color.

** TI-Nspire™ CX II graphing calculator required for DRAW menus.

† The TI-84 Plus CE is required if you choose to use the TI-Innovator™ Hub for sound.

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