codeTeen Volunteer Handbook

# About codeTeen

## Description

In codeTeen, adult volunteers will help participants aged 13-17 learn coding skills as they work through tutorials or complete their own projects. Participants may choose to work individually or in teams, depending on the project. Peer to peer coaching is encouraged as participants gain confidence and experience.

## Program Goals

codeTeen is designed to:

* Build digital literacy, computer programming, and mentoring skills in teens
* Instill confidence in using technology
* Support social and emotional learning (SEL) and positive youth development

# Volunteer Role

codeTeen volunteers have been recruited for their experience in computer programming and computer science. They will act as mentors, working one-on-one with teens as they learn basic and intermediate coding skills.

Teens will learn through self-directed online courses, or by working on self-determined projects.

## What volunteers should be doing:

* Matching teens to online (and offline) coding courses and resources (see *Resources* section)
* Working through problems with teens
* Building mentoring relationships with teens
* Acting as positive adult role models
* Creating a positive, fun and enriching environment for participants

## What volunteers should not be doing:

* Teaching a class
* Solving problems for the teens
* Giving out or asking for any personal information (email or home address, phone number, social media profiles, etc.)
* Dealing with program logistics (attendance, setup, finding supplies, etc.)

Library staff will host the program at each location, including:

* Welcoming participants and taking attendance
* Introducing the program on the first day
* Program setup and cleanup
* Dealing with program logistics
* Helping volunteers find resources
* Enforcing library rules and dealing with problem behaviours if necessary

Your contact in Volunteer Resources is Maja Milavic: maja.milavic@calgarylibrary.ca.
The Service Design Lead for this program is Carrie Kitchen: carrie.kitchen@calgarylibrary.ca.

# A Typical Day at codeTeen

* The Library staff host welcomes everyone & takes attendance. He/she stays for the first 10-20 minutes to help everyone get set up and make sure volunteers have everything they need. The staff person also greets the teens by name and takes some time to talk to each of them.
* Teens grab computers and get set up – working solo or together.
* Volunteers circulate and make sure everyone has something to work on. Spend a few minutes with anyone new to explain how the program works and get them started.
* Sharing is encouraged, especially in the middle of each session; halfway through, ask “does anyone want to show us what they’re working on?” There’s a large screen TV with an HDMI cable, so teens can connect it and demo their projects.
* Volunteers work on (and show off) their own projects too – that’s one great way to inspire teens.
* 10-20 minutes before the program ends, the Library staff host comes back to help wrap things up.

# The First Day at codeTeen

* As you might expect, the first day will be a little chaotic as everyone figures out how this works.
* Your Library staff host will help welcome everyone, get things set up, and introduce the program.
* After the introduction, you will need to get everyone started with one of the resources listed on the next page. Depending on the number of teens, this can happen in different ways:
	+ If there is a large group, start by asking questions like “Ok, who here has never done any coding before? Put up your hand.” Ask those teens to sit together at one table, and have one volunteer head over there with the beginner coding workbooks (details below).
	+ Keep narrowing down the groups – “Who knows exactly what they want to work on? Ok, (pick one teen), what is it?”. Go through all the people who know what they want and split them into groups accordingly.
	+ That should leave the teens who aren’t sure what they want to work on – those will be one-on-one conversations. Ask open-ended questions to try to get at what the teen is interested in and what they will need to learn to accomplish that. If they’re really unsure, start them with the beginner coding workbook.
	+ If there is a small group of teens, you can skip the grouping and just talk to each of them individually.
* Some teens may be more advanced coders already and working on a specific project; in that case, your task is to help them troubleshoot and work through problems, rather than getting them to do a tutorial.

# Tips for Working with Teens

* The best advice for working with teens is to just be yourself! Be genuine and don’t try to use their slang; just speak the way you normally would. Treat teens with respect and empathy.
* Teens are often reluctant to ask for help, thinking it makes them look foolish or stupid. Encourage peer mentoring (teens helping each other), check in on teens frequently – and ask “what are you working on?” instead of “do you need help?”.
* Depending on your group, it might make sense to split the teens into pods – so everyone who is working on the code.org lessons is at one table, everyone who wants to do web design is at another, and so on. This will help facilitate peer mentoring, and makes it easier for volunteers to know where they are needed. That said, some teens will come with their friends and will be reluctant to split up, so don’t force it.
* Relationship building is a key part of teen services, so learn the teens’ names and a little bit about what they’re working on. Keep relationships appropriate and professional, and never exchange personal information like email addresses, phone numbers, or social media accounts.
* If there is an issue with a teen’s behaviour, remember that Library staff are there to support you. Your staff host knows the Library’s rules and is trained to deal with problem situations .

# Resources

This is a short list of quality beginner and intermediate resources; it is not intended to be a comprehensive collection of coding resources. Start with these, and if your teens are interested in something else that is not available here, we can help you find a good tutorial or other resource.

## Code.org

Teens who have done little or no programming previously should start with the essentials. [Code.org](https://code.org/learn) is a non-profit organization dedicated to computer science education, and a good place to start learning about fundamental coding concepts.

We use a modified curriculum from code.org in our Coding Buddies and Code Club programs, and this program can use the same coding workbooks. Teens should start with the beginner workbook, then complete the advanced one. Each workbook covers six modules and introduces concepts like sequencing, loops, conditionals, functions, and variables. Your staff host will have these workbooks, and links to the online modules can be found at [calgarylibrary.ca/coding](http://calgarylibrary.ca/coding/).

## Scratch

<https://scratch.mit.edu/>

Scratch is a drag-and-drop programming language similar to Blockly, but with much more freedom and flexibility than is offered by the code.org modules. Easy tutorials get students started, or they can pick an existing project from the massive user community and remix it (a great way to learn!).

## Khan Academy

Khan Academy’s computer programming courses can be found at <https://www.khanacademy.org/computing/computer-programming>.

Teens can self-select a course depending on their interests; two good starting points are “Intro to HTML/CSS: Making Webpages” and “Intro to JS: Drawing and Animation”. Participants do not need to sign up, but can track their progress by creating a free account.

## Codecademy

For more involved or advanced courses, Codecademy is a great free resource, covering more topics in more depth than Khan Academy. View the entire catalogue of courses at <https://www.codecademy.com/learn/all>.

## Resources by Activity

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Topic/Language** | **Code.org** | **Khan Academy** | **Codecademy** | **Scratch** |
| Basic Coding | 🗹 | 🗷 | 🗷 | 🗹 |
| Web Design (HTML, CSS) | 🗷 | 🗹 | 🗹 | 🗷 |
| Javascript | 🗷 | 🗹 | 🗹 | 🗷 |
| jQuery | 🗷 | 🗹 | 🗹 | 🗷 |
| SQL | 🗷 | 🗹 | 🗹 | 🗷 |
| Ruby on Rails | 🗷 | 🗷 | 🗹 | 🗷 |
| Block-based programming | 🗹 | 🗷 | 🗷 | 🗹 |
| PHP | 🗷 | 🗷 | 🗹 | 🗷 |
| Python | 🗷 | 🗷 | 🗹 | 🗷 |
| Ruby | 🗷 | 🗷 | 🗹 | 🗷 |
| Java | 🗷 | 🗷 | 🗹 | 🗷 |
| Game Design | 🗹 | 🗹 | 🗷 | 🗹 |
| Animation | 🗹 | 🗹 | 🗷 | 🗹 |

# Thanks!

Without great volunteers like you, this program could not exist.

Fall 2016 is our first time running codeTeen, and your feedback is vital. Let us know what is working, what isn’t, and what else you would like to see in this program. Any feedback about the program can go directly to Carrie Kitchen (Carrie.Kitchen@calgarylibrary.ca), the Service Design Lead for this project.

Thanks again, and most importantly, have fun!