



Program Proposal

Choose Your Own Adventure: Twine for Tweens



A semi-structured STEAM program for girls aged 9 to 12



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The Need for STEAM

Despite the growing emphasis on STEM education and significant investments in gender equity by the Canadian government, women remain substantially underrepresented in the fields of science, technology, engineering, and mathematics. According to Statistics Canada, women make up only 23% of Canada's active STEM workforce (Wall, 2019). This gender gap not only limits opportunities for women but also reduces Canada's capacity for scientific advancement, innovation, and economic growth. As our workforce continues to evolve, the need for STEM skills is becoming increasingly important. Unicef (n.d.) estimates that over 90% of global jobs will demand digital proficiency, making it more important than ever to close the gender gap in STEM.



Research has found that the middle school years are a critical period for developing the confidence and foundational skills required for future STEM careers (Christensen et al., 2014 as cited in Wu-Rorrer, 2019). This is also the time, however, when many girls begin to disengage from STEM. A 2018 Microsoft study found that girls' confidence and interest in STEM subjects often decline by 15 due to a lack of female role models, pervasive stereotypes about who belongs in STEM, and social pressures (Choney, 2018). Encouragingly, the same study found that when provided with equal access to inclusive, bias-free and project-based STEM learning, not only do tween girls actively participate in STEM, they also excel.



Why the A Matters

Incorporating the arts into STEM education offers students a richer and more engaging learning experience that helps spark and sustain their interest in science, technology, engineering, and math (Hunter-Doniger & Sydow, 2016). For girls in particular, who may not view themselves as technically inclined, emphasizing the creative side of coding and engineering broadens participation in STEM activities (Graßl et al., 2025).

Our Role

The **Twine for Tweens** program aims to bridge this critical gender gap by providing girls with hands-on, collaborative STEAM programming during the pivotal middle school years. Through creative, project-based learning that integrates technology, design, storytelling, and problem-solving, participants will develop both technical skills and self-confidence in a supportive, girl-centred environment.

Program Description

Choose Your Own Adventure: Twine for Tweens is a hands-on STEAM program for girls ages 9 to 12. Over the course of six weeks, participants will learn how to create and publish their own interactive stories and text-based games using Twine, a free, open-source storytelling platform. Through a combination of formal instruction, collaboration, and hands-on experimentation, participants will explore the fundamentals of interactive storytelling, learn how to use Twine's visual editor, and be introduced to the basics of CSS, HTML, and game design.

Following a modified HOMAGO (Hang Out, Mess Around, Geek Out) learning model, which prioritizes exploration over instruction, the program is designed to encourage participants to express their creativity and learn at their own pace. In this supportive, girl-centred environment, participants will have the opportunity to explore new skills, share ideas, solve problems together, and receive guidance from the program facilitators as they develop their projects. By connecting participants with inclusive, bias-free, hands-on learning opportunities, the **Twine for Tweens** program aims to empower girls to see themselves as future innovators and leaders.



Program Overview

01 Theme: STEAM and Storytelling

Participants will have the opportunity to engage in creative writing, game design, and entry-level coding.

02 Target Audience: Girls 9 to 12

No previous Twine experience, technical skills, or coding knowledge needed.

03 Number of Participants: 10

A smaller group size ensures that all participants will receive sufficient individual mentorship and allows for collaboration within the group.

04

Program Duration: 6 weeks

Participants will meet every Saturday for 6 weeks.

05

Session Length: 1 hour

Program sessions will be held from 10am until 11am. The meeting room will be reserved from 9:30am until 11:30am to accommodate set-up and take-down.

06

Program Cost: Free

Registration required. Library laptops will be available for participants to use during each session.



Learning Objectives

By the end of the 6 week program, participants will be able to:

- * Create an interactive digital story or game using Twine
- * Customize their game using basic coding and/or Twine's built-in tools
- * Publish their game/story to share with family and friends

STEAM Concepts Explored

01

Conditional Logic

Conditional logic is a foundational programming concept that uses cause-and-effect rules, such as “if-then”. Participants will use conditional logic when designing their interactive narratives in Twine.

02

Creative Writing

Participants will explore interactive narrative techniques and practice their creative writing skills.

03

Web Design and Coding Basics

Participants will be introduced to basic HTML and CSS. They will have the option of enhancing the look of their story using the built-in tools or by manually editing the code.

04

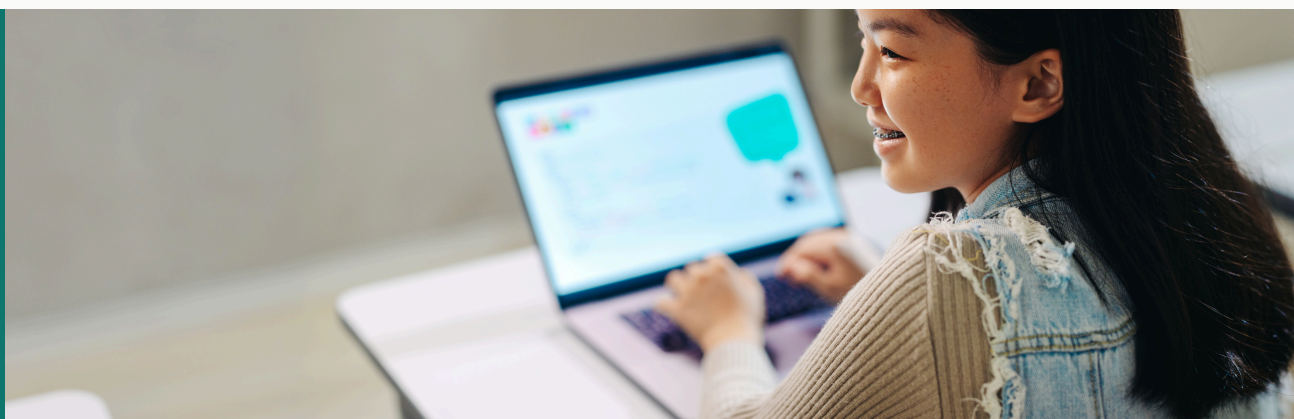
Game Design

In writing their interactive stories and games, participants will have the opportunity to consider different aspects of game design including conceptualizing and defining game rules and mechanics.

Program Impact

The **Twine for Tweens** program aims to achieve the following outcomes:

- * Increased confidence and interest in STEAM
- * Improved digital literacy and problem-solving skills
- * Increased engagement with library resources and STEM/STEAM programming





Program Structure

Session 1: Guided Instruction on Twine and interactive storytelling

Session 2 to 5: HOMAGO studio model

Session 6: Story sharing and program debrief

Learning Experience

Research has found that girls engage best with STEM education that involves creative and collaborative hands-on projects rather than lecture-heavy instruction (Merayo & Ayuso, 2022). For this reason, the Twine for Teens program takes a hybrid approach to learning, using both formal instruction and HOMAGO style studio sessions.

Guided and Formal Instruction (Session 1)

Due to the technical nature of the program, the first session will be used to provide the participants with formal instruction. In this session they will be introduced to the Twine platform and receive instruction on how to use the tools. Participants will also be introduced to the basics of CSS and HTML. Handouts will be available for participants to reference as needed throughout the program.

HOMAGO Sessions (Sessions 2 to 5)

Sessions 2 to 5 will follow a HOMAGO (Hang Out, Mess Around, Geek Out) model. During these sessions, participants will be free to experiment with the Twine platform, collaborate with other participants, and work on their stories at their own pace. Facilitators will be available to help and provide further instruction as needed. The HOMAGO sessions will allow the girls to feel empowered and take ownership over their projects and their learning trajectory as they can choose how much they want to explore and engage with each of the STEAM concepts. Because Twine is an online platform, participants will also have the opportunity to work on their stories at home, if they wish.

Program Debrief

The final session will include an opportunity for the participants to share their stories with each other and to discuss what they liked and disliked about the program, the challenges they encountered using the Twine program, and their overall experience creating their stories.

Meeting Room & Resources

01

Meeting Room and Wifi Access

One meeting room will be reserved each week for program purposes. The meeting room will be equipped with two tables pushed together to ensure participants have sufficient space to spread out, and enough chairs for all the participants. Wifi access will be required to access the online Twine platform.

02

Printed Handout Materials

Printed instructional handouts will be provided for participants to reference, as needed.

03

Projector and Screen

To be used for instruction portion of the session.

04

Laptops

Participants will have the option of bringing their own laptop or using a library provided one. Enough laptops will be reserved each week for all participants.

Staffing Needs

01

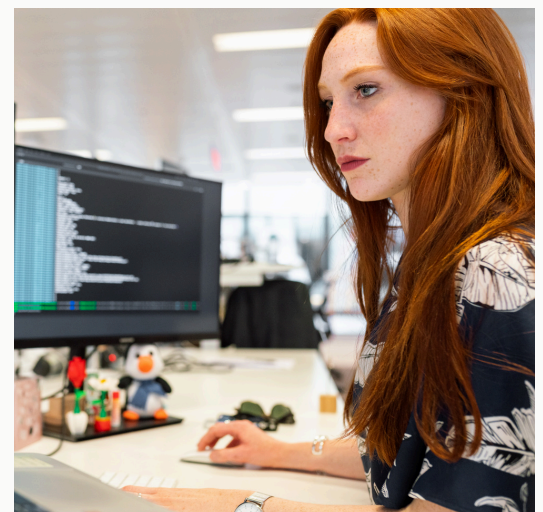
Emerging Technologies Librarian - Instructor and Mentor

They will provide instruction during the first session and act as a mentor for the remaining sessions.

02

Library Assistant - Facilitator

They will provide additional support, if needed, and assist in evaluating the success of the program.



Instruction and staffing will be minimal to allow participants to explore, collaborate, and create on their own terms. Light instruction will be provided, as needed, and library staff will primarily act as mentors and facilitators.

Marketing & Promotion

Marketing materials and promotion for the **Twine for Tweens** program will emphasize the program's creative, collaborative, and hands-on approach to STEAM. The marketing will also highlight the program as an opportunity for girls to explore technology in a supportive and inclusive environment.

To reach girls in grades 5-8 and their families, the program will be promoted through a combination of channels. These channels include online and social media marketing, and in-library and community promotion. Promoting the program to both current library patrons as well as the broader community will help reach a wider audience and encourage participation from girls with diverse interests and backgrounds.



01

Social Media

Instagram and Facebook posts promoting the program will be published on the library's official accounts.

02

Library Newsletter and Website

The program will be published on the library website's events page and will be highlighted in the monthly email newsletter.

03

Program Poster

A program poster will be created and posted in the library. Additional posters will be sent to the local middle school and community centre to promote the program within the greater community.

Marketing Description:

Choose Your Own Adventure: Twine for Tweens is a free six-week STEAM workshop for girls ages 9–12 who love stories, games, and creativity. In a small group setting, participants will learn to design and publish their own interactive stories and text-based games using Twine, a free interactive storytelling platform. Over the course of the program girls will have the opportunity to experiment, create, and share their ideas in a fun, supportive environment that builds confidence, digital skills, and creativity. No coding or programming experience necessary! Spots are limited.



Program expenses will consist primarily of promotional materials (posters) and participant handouts.

Program Costs

Twine for Tweens is a low-cost and sustainable program that makes use of existing library resources including the following:

Software: Twine is a free, open-source platform. No software licensing fees required.

Equipment: Participants will use either their own laptops or library-owned laptops. Projectors, screens, and power bars are already owned by the library. No additional technology purchases needed.

Staff: Program will be facilitated by the existing Emerging Technologies Librarian and an existing library assistant.

Program Evaluation

01

Participant Feedback

Program feedback will be collected during the final debrief session and through participant surveys. This feedback will be used to assess enjoyment of the program, skill development, the participants' interest and confidence in STEAM, program strengths and areas of potential improvement, as well as interest in future STEAM programming.

02

Facilitator Observations

Informal facilitator observation and discussions will provide insight into participant engagement, and program satisfaction.

03

Program Outcomes

Program success will also be measured through participant registration, attendance, and retention numbers, as well as Twine project completion.

References

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