

The Lindsay Makerspace

An Initiative of the Pinnguaq Association

November 2019



PINNGUAQ

Contents

- The Pinnguaq Association** **2**
- About Us 2
- The Lindsay Makerspace** **3**
- Mission 3
- Vision 3
- Values 3
- Membership 4
- Space 5
- Equipment 5
- Software 6
- School Programs and Workshops 6
 - Coding and Robotics 6
 - Coding and Video Game Design 6
 - Electronics and Circuitry 7
 - 3D Design and Printing 7
 - Sewing and E-textiles 7
 - Digital Comics and Visual Storytelling 7
- Schedule 7

The Pinnguaq Association

About Us

The Pinnguaq Association is a not-for-profit organization that incorporates STEAM (Science, Technology, Engineering, Arts, Math) into unique learning applications that promote storytelling, art, health, wellness and growth in partnership with rural and remote communities. Pinnguaq Association achieves this mandate by considering the full lifecycle of a students growth, which includes:

EDUCATION

Pinnguaq develops and delivers interactive learning experiences that push the limits of technology and cultural expression. Our STEAM education model (Science, Technology, Engineering, Arts, and Math) encourages learners to be active, have fun, and become engaged in their community.

RESOURCES

Providing fundamental resources helps ensure students are able to succeed. This includes physical materials and tools, along with spaces and networks of support. Connecting communities with responsive and engaging resources can be a transformative learning experience that bridgers cultures and gives space and voice to individuals with different worldviews.

MENTORSHIP

Pinnguaq is committed to providing meaningful mentorship through capacity building opportunities delivered by the training and education programs in each community that we work with. We also work to connect students with relevant Employers to support the application and upskilling of their digital skills.

PRODUCTION

Pinnguaq aims to provide support for production by offering space and tools for creative expressions and storytelling through a variety of digital mediums; as well as work-learn opportunities that support individuals who need professional experience and skill application.

EMPLOYMENT

We support students beyond the classroom by providing internship and employment opportunities that advance community-based economic development and increased local capacities in technology and innovation.

ADVOCACY

Listening and understanding the unique needs of the communities we serve can help ensure our programmes and support are meaningful contributions to the community. We follow their lead and listen to their needs when advocating for change.

At its core, Pinnguaq embraces diversity and creates opportunities in order to empower all people. The Association's goal is to create and deliver a broad digital skills curriculum to nurture and grow a labour force with a multilingual and multicultural approach to technology that embraces and supports culturally diverse knowledges in rapidly changing industries and labour markets.

The Lindsay Makerspace

Mission

The Lindsay Makerspace is a community space for people to explore, make, create, think, play, share, learn, unlearn, hack, and discuss. We are focused on supporting digital justice and building gender and racial equity in STEAM by providing access to space, educational workshops, tools, and resources; along with opportunities for mentorship.

Vision

Our goal is to implement equitable practices in digital literacy initiatives that harness the strength of culturally diverse ways of being and doing to build agency and ownership in the use of technology as a creative tool.

We do so by offering access to space, tools, educational programs and additional learning resources to enable and empower individuals to critically understand and use new media and technologies in creative and experimental ways.

Values

We operate with a **sense of history and place**, and situate ourselves in the City of Kawartha Lakes, on traditional Michi Saagig Territory and lands that are part of the Williams Treaties and Treaty 20. Within this context we place emphasis on **collaboration** with First Nations and other communities in the region as an opportunity to build relationships based on trust and respect.

We channel the **strength of rural innovation** to amplify the creative capacity of our community, and place emphasis on the role of new technologies alongside varying traditional and land-based knowledge in supporting agricultural and environmental stewardship.

We situate **cultural diversity** as the foundation and driving force for creativity, collaboration and innovation - and will build on our region's unique cultural, human, and social capital to increase the capacity and foster talent for technology and innovation.

We use media and technology as pathways for communities and individuals to **connect with each other** with an emphasis on building empathy and belonging.

We support and encourage the participation **of all genders and nonbinary people**, including those who are trans, cis, queer, straight, as well those not identified by these labels.

We find value in **process rather than end results**, and offer a **play-based approach** where individuals are encouraged to experiment through trial and error - providing a supportive space to exercise curiosity.

We emphasize practice over innate or biologically determined ability in order to foster **a growth mindset** and enable individuals to reach their full potential.

We model the behaviour we wish to see in others - placing **respect, tolerance, understanding, empathy and equity** at the center of our practice.

Membership

Membership to the Lindsay Makerspace is free and provides the following benefits:

- Access to structured drop-in programs providing the following:
 - Access to instructor for guidance and trouble-shooting;
 - Access to use of high tech tools and all other available resources;
- Access to monthly newsletter;
- Access to private, full-speed WiFi Network;
- Access to a library of STEAM books;
- Access to online STEAM/Computer Programming Curriculum;
- Invitation to participate in applied community projects
- Bin to store personal items;
- ***Children younger than 7 need to be accompanied by an adult at all drop-in programs.**

Space

- Our **computer Lab and planning room** features a wonder wall, projector, modular tables and chairs, along with versatile individual or small group workstations. Maximum student occupancy: 15
- Our **making and craft room** features several modular tables and chairs, a small Tool station, 3D printing station, Sewing station, Craft and Cutting station, along with versatile workstations for individual or group work. Maximum student occupancy: 15
- Our **lounge** features a lego wall, giant jenga, library, and a relaxing station to decompress between projects.

Equipment

Electronics

- [Makey Makey](#) sets
- [Snap Circuits](#) sets
- [SparkFun Lilypad](#) e-textiles
- [Circuit Scribe](#)
- [Chibitronics](#)
- Squishy Circuits
- [LittleBits](#)

Microcontrollers

- [Arduino](#)
- [Raspberry Pi](#)
- [Micro:bit](#)

Robotics

- [Dash and Dot](#) Robots
- Bee Bots
- [Vex Robotics](#)
- [Lego Mindstorms](#)

Printing

- [Prusa 3D printer](#) - New
- Cube 3D printer - Refurbished

Cutting

- [Cricut Maker](#) and tools

Board Games

- Robot Turtles
- Code Master
- Bloxels
- Turing Tumbler

Sewing

- Singer Heavy Duty Sewing Machine
- Thread, varying colours
- Fabric, varied textures and patterns

Building and Engineering

- Lego bricks
- K'nex connectors

Tools

- Mastercraft Carving Tools
- Mastercraft Hand Tools
- Power Drill and Accessories

Crafting

- Assortment of paint and crafting supplies

Software

We use open source software to complement educational resources. These include but are not limited to:

- Scratch 3: The latest in the world's most popular 'introduction to programming' software.
- TWINE: Open Source narrative storytelling engine.
- Lua/Love: More advanced but accessible programming engine for advanced programming.
- GraphicsGale: An open source pixel art program that is the subject of at least 5+ te(a)ch lessons
- GIMP: An open source competitor to the Photoshop series.
- KRITA: An open source alternative for 2D digital drawing/painting
- Voxel Busters: An open source voxel art program for the creation of voxel based 3D models.
- Blender: An open source 3D modeling program used throughout the te(a)ch curriculum.
- LibreOffice: The latest version of the open source project to compete with the Microsoft Office Suite
- Inkscape 0.92.4: An open source professional vector graphics editor for Windows, Mac OS X and Linux.

Programs & Workshops

The Lindsay Makerspace welcomes a relationship with all school districts and community organizations in the region to host class field trips and special programs. At the same time, our staff will be open to visiting your classroom with their traveling maker-kits to complement your programs. Some of our general programs include:

Coding and Robotics

Explore the world of coding and robots! Through a variety of games like Robot Turtles and Turing Tumbler, along with activities with Bee Bots and Dash and Dot Robots, participants will gain an introduction to computational thinking alongside basic coding concepts like sequencing, loops and conditionals.

Coding and Video Game Design

This session introduces participants to computational thinking and basic coding concepts through video game design. With the open-source software Scratch, and games like Bloxels, Mario Maker and others, participants will explore coding for video games and computer animation. Participants will gain an understanding of how computers think and how computers can be used to create fun and interactive experiences.

Electronics and Circuitry

What is Electricity, where does it come from and how does it work? How do we use it in our day-to-day? In this themed session, participants are introduced to the building blocks of electricity and electrical circuits and are guided and inspired in creating electrically-powered Arts & Crafts.

3D Modeling*

Step into the world of 3D modeling to create and print something from your imagination! Using the open-source software Blender, learn the basics of moving and transforming objects in 3D space, creating and moving vertices, edges and faces; using modifiers to create simple and complex objects.

*Recommended sessions for 3D modeling are 3-hour sessions. 3D modeling sessions can be delivered at your school.

Sewing and E-textiles

Explore the world of electronic sewing through a series of introductory activities using the LilyPad system. Spark your creativity with a fun, new way of building and exploring circuits by combining traditional craft processes (sewing, fashion design, and textile design) with electrical engineering, computer science, and hardware skills. This session provides a guide to basic sewing techniques and a simple circuit project, with options to move into more advanced options including multiple circuits, buttons, and switches.

2D Digital Art and Storytelling

Explore visual storytelling using digital tools to create and share stories. In this session, participants will learn about traditional comic techniques, story and visual development, pencilling, inking, and colouring, preparing images for print, and how to share stories in physical and digital form. Students will work with both traditional media and using the free and open-source software, GIMP, and KRITA.

Schedule + Contact

Please visit www.lindsaymakerspace.com or on Facebook @PinnguaqKawarthaLakes for an updated schedule of programs or contact Maria Coates, maria@pinnguaq.com for inquiries.