

York University

SCIENCE ENGAGEMENT PROGRAMS

Digital Literacy Workshops



Bring STEM Alive in Your Classroom!

At Science Explorations, our objectives align directly with yours! Our In-School Workshops are designed to excite youth about STEM and ignite a genuine passion for learning. Our hands-on workshops complement your regular classroom instruction and directly support the learning expectations of the Ontario Elementary Curriculum.

Our Hands-On Approach

Our high-energy and interactive workshops use a hands-on, discovery-based approach to learning. Students work in teams through guided projects and experiments to gain an understanding of abstract STEM concepts. Our instructors also share related scientific research taking place at York University and discuss real-world applications of topics, making the learning relevant to the students' day-to-day lives.

Our Instructors

Our team consists of enthusiastic undergraduate science and engineering student instructors. They have an infectious passion for STEM, magnetic personalities, and a genuine desire to inspire youth. In addition to STEM subject matter expertise, our instructors have extensive training in pedagogy, best practices in teaching and instruction, effective classroom management and conflict resolution. They also have training in community building, diversity, and inclusion. Our team reflects the diversity of today's GTA classrooms – meaning they make for great role models for your students!

A PROUD MEMBER OF ACTUA

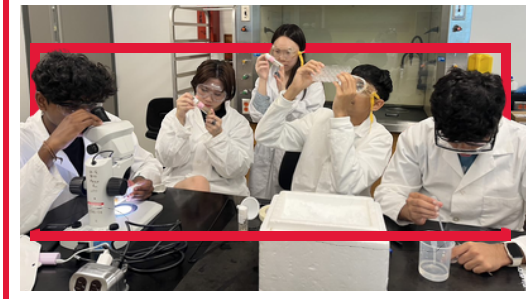
Actua is a national organization of 40 university-based STEM outreach programs. Our pedagogical approach is shared by Actua members across Canada, and has been rigorously tested and evaluated. This approach is based on the supposition that the skills, knowledge, and attitudes of scientifically literate people are the same skills, knowledge, and attitudes of 21st century thinkers and leaders. This means that regardless of whether or not a child pursues a STEM field, developing these STEM skills will help better prepare them for the future.

ABOUT THE FACULTY OF SCIENCE

York University is proud to have one of the leading Faculties of Science in Canada. The Faculty is an emerging research powerhouse and is home to 140 professors, many of whom are recognized internationally as leaders in their fields. The Faculty has particular research strengths in the areas of genetics, neuroscience, regenerative medicine, astrophysics, pharmaceutical chemistry, epidemiology and mathematical disease modeling, computational biology, high-energy and particle physics, ecology and evolutionary biology, atmospheric chemistry, and actuarial science.

For more visit: yorku.ca/science/youth-programs

Program Information



Digital Literacy workshops can be conducted at your location or on campus, subject to room availability. Some workshops are Unplugged and do not require technology, while others will require students to have access to a computer and internet.

Cost:

\$50 non-refundable Booking Fee
+ \$200 Workshop Fee

Students:

Maximum 30 per class

Subsidies

Funding may be available to fully subsidize our digital literacy workshops.

For the 2023-2024 school year, subsidies are reserved for schools and community groups who offer programming for all-girl, gender diverse, or Black youth. Any funding not allocated by January 2023 will be re-assessed

With funding from
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Great science plays here.

Unplugged Workshops

Have fun beyond the screen time! These interactive workshops will teach students about circuits and coding without the need for devices.

A-Mazing Circuits

Help Wally the Whale find their way home! Students will work in teams to design a helmet with light signals built inside to assist their friend back home through dark, dangerous waters. Through this interactive activity, students will explore ideation to innovation and user-centred design.

Curriculum Connections: Electricity and Electrical Devices, Light and Sound, Form and Function, Forces Causing Movement

Workshop Length: 2- 3 hours

Suggested Grades: 5 to 8

Perler Pixels

Why did early computer images look so pixelated? Students will learn about pixels and how computers use them to show images, and how computers have developed to enhance imagery. Using this knowledge, they will create their own pixel art!

Curriculum Connections: Properties of and Changes in Matter, Patterning and Algebra, Geometry and Spatial Sense

Workshop Length: 2 hours

Suggested Grades: 3 to 8

Binary Secret Code

Did you know that computers use only zero and one? Everything that you see or hear on the computer— words, pictures, movies and even sound is stored using just those two numbers! Learn how to send secret messages to your friends using exactly the same method as a computer.

Curriculum Connections: Patterning and Algebra, Form and Function Workshop

Length: 1.5 hours

Suggested Grades: 6 to 8

My Robotic Friend

Explore how computers work by modelling computer functions and learning about programming logic.

Curriculum Connections: Systems in Action, Patterning and Algebra, Geometry and Spatial Sense

Workshop Length: 1 hour

Suggested Grades: 3 to 8

To register, please visit our website: yorku.ca/science/youth-programs

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Circuits 101 with Makey Makey

All Makey Makey workshops are conducted in groups of 3-4 students. Each group will require a laptop with a USB-A connector and internet to access the program.

Water Piano*

Students will make connections between the chemical properties of water and apply circuit concepts to create a piano with water! An interdisciplinary activity, students will have fun making music while learning about digital concepts.

Curriculum Connections: Patterning and Algebra, Music, Electricity and Electrical Devices, Light and Sound, Form and Function

Workshop Length: 2-3 hours

Suggested Grades: 3 to 8

Circuit Harps*

Learn about simple circuits and how they are used within industry, as well as for entertainment. Students will use this knowledge to create a harp that plays music when connected to a computer.

Curriculum Connections:

Measurement, Electricity and Electrical Devices, Light and Sound, Music, Making Connections

Workshop Length: 2-3 hours

Suggested Grades: 3 to 8

Musical Art*

Discover the joys of STEAM by creating an interactive art piece that plays music with the touch of a finger. Students will spend time designing how circuits will interact with their art piece and code musical results.

Curriculum Connections: Geometry and Spatial Sense, Music, Electricity and Electrical Devices, Light and Sound, Form and Function

Workshop Length: 3 hours

Suggested Grades: 5 to 8

Game Controller*

Create your own remote to play games like Mario and Flappy Bird! Through the use of Makey Makey, students will learn the concept of circuitry.

Curriculum Connections: Geometry and Spatial Sense, Light and Sound, Electricity and Electrical Devices

Workshop Length: 2 hours

Suggested Grades: 3 to 8

* Indicates that this workshop requires computers

To register, please visit our website: yorku.ca/science/youth-programs

Great science plays here.

Website Development

It's hard to imagine a day where we don't visit more than a dozen websites. It takes a special skill to create an awesome website. That's why all the cool kids are coding and so should you!

All Website workshops are conducted individually. Each student will require a laptop with access to the internet.

Website Manipulation*

It's hard to imagine a day where we don't visit more than a dozen websites. It takes a special skill to create an awesome website. That's why all the cool kids are coding and so should you! Join us and learn how to design your own website using drag and drop programs.

Curriculum Connections: Patterning and Algebra, Geometry and Spatial Sense, Computer Technology
Workshop Length: 1.5 hours
Suggested Grades: 3 to 8

Structure of a Website: HTML*

Learn how to create a website using HTML! Students will analyze syntax errors in a website code and design their own simple website.

Curriculum Connections: Patterning and Algebra, Geometry and Spatial Sense, Computer Technology
Workshop Length: 1.5 hours
Suggested Grades: 6 to 8

* Indicates that this workshop requires computers

Actua provides training, resources and support to its national network of members located at universities and colleges across Canada in the delivery of science, technology, engineering and mathematics (STEM) education outreach programming. Each year, these members engage over 225,000 youth in 500 communities nationwide. Please visit Actua at www.actua.ca.

To register, please visit our website: yorku.ca/science/youth-programs

YORK UNIVERSITY'S SCIENCE ENGAGEMENT PROGRAMS

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OUR STEM OUTREACH

The Faculty of Science at York University has a long history of supporting grade 3–12 STEM outreach in the GTA. In 2023 we reached more than 8,000 youth through our programming. In addition to Specialty Day Programs, we offer Community Workshops in schools and libraries, organize custom Campus Visits for schools and organizations, and host on-campus programs throughout the year to engage youth with STEM.

Elementary Programs

- Science Explorations Summer Camp
Grades 3–8 | Summer
- March Break Science Camp
Grades 3–8 | March Break

High School Program

- Spark Lab Program
Grades 9–12 | Summer

Cancellation Policy

Booking fee is non-refundable, as it reserves the event date, materials purchases, and staff. Cancellations made in writing within 48 business hours will receive a refund of all student costs. Changes to student count will be accepted until 48 business hours before the event.



CONTACT US

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