



**scientists**  
IN SCHOOL  
**scientifiques**  
À L'ÉCOLE

2021/2022 Curriculum-Aligned

# VIRTUAL STEM WORKSHOPS

Kindergarten to Grade 8 | Ontario



After 32 years, **Scientists in School** is branching out. We are now delivering our engaging **hands-on STEM workshops virtually**. All of the highly investigative activities you expect, **delivered safely and seamlessly** to your classroom.

**Cost: \$230**

Class size: 27 Students Maximum

Duration: 1 hour

**Click here  
to book!**

## Age Groups

Click on the grade below to access descriptions of the virtual workshops available for your students:

Kindergarten

Grade 1

Grade 2

Grade 3

Grade 4

Grade 5

Grade 6

Grade 7

Grade 8

We understand how important virtual security and privacy are to you. We ensure our seamless workshop delivery through Microsoft Teams is secure and private.

## Value Proposition

Your inquisitive students, under the guidance of experts, will become scientists, engineers and environmental stewards while developing the global competency skills they need to become tomorrow's STEM workforce.

## Our virtual classroom workshops bring:

- + Individually packaged investigative materials provided in advance.
- + Fun and relevant investigations that build critical thinking, creativity, and problem-solving skills.
- + The opportunity to highlight STEM careers and professional opportunities for students.
- + Dynamic presenters, who are scientists, engineers, and technologists.

## How it works:



Browse through this catalogue and select a workshop.



Book a workshop by visiting the booking portal [here](#).



Receive mini science bags and distribute to students.



Join the Microsoft Teams meeting.



Presenters lead the workshop remotely.



# Kindergarten

Virtual STEM workshops delivered across Canada | [www.scientistsinschool.ca](http://www.scientistsinschool.ca)

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## Let's Be Scientists!

Kindergarten

Explore all kinds of amazing things as a scientist. Investigate what makes yeast grow. Take your animal for a walk and examine how it moves. Analyze a mystery footprint and identify who came to visit. Engineer a structure to keep your friends dry when it rains. Ready? Steady? Let's be scientists!

## On the Move!

Kindergarten

Explore how things move! Discover the science behind a magic trick, defy gravity by creating a balancing bird, engineer a car and race it to the finish line. We'll be on the move!

## Sense of Wonder

Kindergarten

The world around us is a feast for our senses! Investigate sound and design your own shakers. Explore how our sense of taste and smell are connected. Trick your eyes with 3D glasses you make and keep.

## Sticky Science

Kindergarten

Get sticky with it! Discover the science of sticky. Make your own glue from food products and test them to see how they hold. Create your own sticky art. And of course, there will be silly putty!



Our Kindergarten friends were SO engaged during our virtual workshop. They had a blast being little scientists and experimenting with different materials to learn about physics. I'm looking forward to continuing our exploration and extending the learning after our workshop!

Kindergarten Teacher

Participants  
receive their own  
MINI SCIENCE BAG  
and get to keep  
all of the  
materials!



# Grade 1

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Duration: 1 hour

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## Intriguing Invertebrates

Grade 1

Who has thousands of teeth? Who can float on water? Are you intrigued? Students will learn about the invertebrates in their own backyards by creating models of these creatures. Physical characteristics, habitats they live in, the way they move and eat will be investigated with hands-on and engaging activities.

## Our World of Energy

Grade 1

Follow the influence of the sun as we study the impact energy has in our world. Investigate light and sound energy. Transform chemical energy into heat while making bubbles. Discover how to conserve heat and experiment with your own little house. Create a storyboard to follow the path of energy from the sun to all living things.

## Structures, Materials and More

Grade 1

Follow an engineer's journey from materials to structure. Explore a variety of materials to understand their qualities. Then, through trial and observation, test for structural effectiveness. Learn about attaching items with a fun fastener challenge. Finally, build with materials to understand the purpose of structures.



Scientists in School provided an engaging, real life learning opportunity for my students. I love that each student has their own Mini Science Bag to allow students to further the concepts that we experienced as a class.

Grade 1 Teacher

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# Grade 2

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Cost: \$230

Class size: 27 Students Maximum

Duration: 1 hour

**Book here!**

## I Like To Move It!

Grade 2

Push, pull, lift and roll! Hone your building and observation skills as you make things move. Investigate pulleys, wheels and inclined planes. Combine all these simple machines to create an awesome mechanism that helps us move objects.

## Properties Really Matter

Grade 2

Liquids and solids are everywhere! Explore household solids and liquids and how they interact. Investigate the properties of solubility, absorption and buoyancy. Then engineer the solution to a common problem. Create an unusual concoction from an everyday solid and watch it dance!

**Participants receive their own MINI SCIENCE BAG and get to keep all of the materials!**



The workshop was engaging, extremely hands-on and interactive. The kids were interested and participating the entire time. They loved the Mini Science Bags that went along with the lesson. Yet another great experience!

Grade 2 Teacher



# Grade 3

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Cost: \$230

Class size: 27 Students Maximum

Duration: 1 hour

**Book here!**

## Amazing Forces!

Grade 3

Amazing forces are all around us! Get creative by engineering a maze, then use gravity and magnetic force to navigate it. Investigate friction caused by different surfaces and its effect on movement. Design and build your own launching device, exploring stored energy and control of force.

## Get the Dirt on Plants!

Grade 3

Dig into the connected world of soil and plants! Explore the importance of soil by investigating soil layers and experimenting with water retention. Uncover the relationship between plants and everyday items. Students will dissect a seed, learn about seed dispersal, and end the workshop planting seeds - encouraging weeks of tracking and observing plant growth!

## Strong Structures

Grade 3

Build your knowledge of structural strength as a junior engineer. Discover how to design a structure to withstand both tension and compression. Test different materials for strength, and investigate how the strength of a material can be altered by manipulating its shape!



I'm using this workshop as a model for ways to improve my teaching and science program. I love the ongoing questions and surplus of materials that students keep to continue their exploration and discovery. Fantastic!

Grade 3 Teacher

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# Grade 4

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**Cost: \$230**

Class size: 27 Students Maximum

Duration: 1 hour

**Book here!**

## Hooo's in the Owl Pellet?

Grades 4-6

Experience being a real-life biologist! Use an integrated STEM approach to investigate the diet of an owl and estimate the prey number and type. Dissect an owl pellet, sort and identify bones. Opportunities pre- and post-workshop to enhance your student's literacy, numeracy and visual arts activities by integrating owl pellet dissection and analysis into your program.

## Shine a Light

Grade 4

Join us on this optical adventure and discover how light passes through objects and forms shadows. Bounce and bend light to investigate reflection, refraction, and fibre optics. Demonstrate how light travels with a flashlight that you can keep!

## Sounds Like Science

Grade 4

Follow the vibrations to discover the properties of sound: pitch and volume. Design and build ear protectors, while experimenting with materials that absorb or reflect sound. Use your newfound knowledge to create a unique musical instrument.

## Wetland Wonders

Grade 4

Become immersed in the world of wetlands. Discover who makes a home here and how they influence their environment. Create a food chain and explore invasive species. Build a wetland and learn the importance of preserving this habitat. Wetlands are truly a wonder.

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# Grade 5

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**Cost: \$230**

Class size: 27 Students Maximum

Duration: 1 hour

**Book here!**

## As a Matter of Fact...

Grade 5

Discover why chemistry matters! Explore solubility, crystallization and a change in state while writing your initials. Create a situation where nothing remains the same and observe and identify the indicators of a chemical change. Solve a mystery using the physical and chemical properties of materials found in the cupboard!

## Every Body Moves:

Grade 5

Pop into the inner workings of the Human Body. Create a model to learn how systems work together to put an arm in motion. Experiment to find which fuel source works best to energize us. Explore the digestion process as food travels down the tract. Movement is in every body!

## Fending Off Forces

Grade 5

Fend off external and internal forces by exploring the techniques engineers use to keep buildings standing tall and strong. Shake off an earthquake, support a load, and balance your way to structural stability.

## Hoo's in the Owl Pellet?

Grades 4-6

Experience being a real-life biologist! Use an integrated STEM approach to investigate the diet of an owl and estimate the prey number and type. Dissect an owl pellet, sort and identify bones. Opportunities pre- and post-workshop to enhance your student's literacy, numeracy and visual arts activities by integrating owl pellet dissection and analysis into your program.



[The workshops] are always so engaging and provide a hands-on learning experience. Even with the pandemic, Scientists in School delivered a safe, exciting and informative session. They were so adaptable and flexible. Can't wait to book again next year!

Grade 5 Teacher

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# Grade 6

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Cost: \$230

Class size: 27 Students Maximum

Duration: 1 hour

**Book here!**

## Electricity: Close the Circuit!

Grade 6

Explore the nature of electricity and its use. See how static electricity makes objects move. Design and build circuits to learn how a house is wired. Test conductors, insulators and switches.

## Genetic Diversity and You!

Grades 6-8

Explore the genetic diversity in plants, animals and humans through genetic traits. Find out which traits are common and how they are passed down. Read chromosomes, examine families and calculate the probability of traits passing to the next generation. Enhance your understanding of mutations by making a DNA model of your name.

## Hooo's in the Owl Pellet?

Grades 4-6

Experience being a real-life biologist! Use an integrated STEM approach to investigate the diet of an owl and estimate the prey number and type. Dissect an owl pellet, sort and identify bones. Opportunities pre- and post-workshop to enhance your student's literacy, numeracy and visual arts activities by integrating owl pellet dissection and analysis into your program.

## Our Place in Space

Grade 6

Explore Earth's relationships within our solar system. Discover how to tell time using the sun and an instrument you keep in your pocket. Examine the phases of the moon with the help of a special device. Construct and test technology used at the International Space Station. Find out more about our place in space!

## Up in the Air!

Grade 6

It's all about balance when exploring flight. Coanda effect, the properties of air and Newton's third law are all important when soaring above the clouds. Experiment with a variety of materials to construct the perfect parachute and make a glider that will boggle your mind.

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# Grade 7

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**Cost: \$230**

Class size: 27 Students Maximum

Duration: 1 hour

**Book here!**

## **Engineer It: Up, Out and Across**

Grade 7

Your students will use sophisticated building techniques to test the limits of three different structures. Build up to new heights with a tower challenge; build out to explore cantilevers; and build across while learning about the wonders of suspension bridges.

## **Finding Solutions!**

Grade 7

Be part of our STEM start-up company and design a planet-friendly bath product. Check out the competition and define criteria which will differentiate your creation. Explore the properties of matter and learn about acidity and basicity. Use the particle theory to communicate the results of investigations into concentration and rate of dissolving. Then use your science savvy to plan, design and test your own magic formula.

## **Genetic Diversity and You!**

Grades 6-8

Explore the genetic diversity in plants, animals and humans through genetic traits. Find out which traits are common and how they are passed down. Read chromosomes, examine families and calculate the probability of traits passing to the next generation. Enhance your understanding of mutations by making a DNA model of your name.



The Scientists in School workshops are a fun and exciting way to engage students in curriculum-connected STEM learning. I was impressed by the quality of the activities in the workshop, and found the scientist to be knowledgeable and friendly.

Grade 7 Teacher

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# Grade 8

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**Cost: \$230**

Class size: 27 Students Maximum

Duration: 1 hour

**Book here!**

## All Systems Go!

Grade 8

Get a grip on systems! Build an assistive hand device like those created by biomedical engineers to aid with fine motor skills. Explore inputs and outputs as you design and analyze linkages, incorporate pneumatics, assess mechanical advantage and consider tradeoffs in force, distance and materials. It's all systems go!

## Go with the Flow

Grade 8

Explore fluids and their properties! Build a colourful but salty density column. Find a boat while exploring buoyancy. Compare viscosities while racing liquids. Discover the difference between gases and liquids under pressure.

## Genetic Diversity and You!

Grades 6-8

Explore the genetic diversity in plants, animals and humans through genetic traits. Find out which traits are common and how they are passed down. Read chromosomes, examine families and calculate the probability of traits passing to the next generation. Enhance your understanding of mutations by making a DNA model of your name.



Although the workshops were online, students were actively engaged in activities, and they participated in every aspect of the scientific inquiry process. I learned a great deal as well, especially about various careers in science and genetics. I highly recommend this program to any teacher who wishes to spark the imagination of their students.

Grade 8 Teacher

Participants receive their own **MINI SCIENCE BAG** and get to keep all of the materials!



# OUR ANNUAL IMPACT

2020-2021:  
Organization-wide



## Our Mission

Our Mission is to ignite scientific curiosity in children so that they question intelligently; learn through discovery; connect scientific knowledge to their world; are excited about science, technology, engineering and math; and have their interest in careers in those fields piqued.

## Our Vision

Our Vision is for all young Canadians to be actively engaged in the seeing, doing and understanding of science.

We are very grateful to have engaged 185,000 children in rich, engaging virtual experiences, during a year of challenging health restrictions. We're looking forward to expanding our reach with both in-person and virtual experiences in the future.



**400**

Communities across Canada



**8,000**

Virtual classroom and community workshops delivered



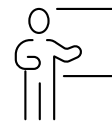
**185,000**

Children and youth inspired through workshops



**185,000**

Mini Science Bags packed and delivered



**10,800,000**

Face time minutes of investigation



**10,000,000+**

Young scientists inspired since 1989!



# PARTNERS IN STEM

Scientists in School is a leading science education charity that has reached over 10 million young scientists since our founding in 1989. Through our hands-on, inquiry-based STEM classroom and community workshops, we strive to ignite scientific curiosity in children so that they question intelligently; learn through discovery; connect scientific knowledge to their world; get excited about STEM; and have their interest in careers in those fields piqued.

None of this would be possible without the support of our corporate, community, government and individual donors who provide funding that is used to subsidize the cost of all workshops, provide complimentary workshops to schools and organizations in marginalized and under-resourced communities, develop new programs and improve existing programs, and expand to new communities across Canada.

A registered Canadian charity:  
#867139537RR0001.

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## Catalyst

- Natural Sciences and Engineering Research Council of Canada
- Ontario Trillium Foundation

## Innovation

- Investment Readiness Program
- John and Deborah Harris Family Foundation
- Nuclear Waste Management Organization
- Ontario Power Generation
- TD Friends of the Environment Foundation

## Imagination

- ArcelorMittal Dofasco
- Canadian Nuclear Safety Commission
- MilliporeSigma, the U.S. and Canada Life Science Business of Merck KGaA, Darmstadt, Germany
- Nissan Canada Foundation

## Discovery

- Alectra Utilities
- AMD Canada
- City of Hamilton – City Enrichment Fund Program
- CST Inspired Minds Learning Project
- Edith H. Turner Foundation, Hamilton Community Foundation
- Edmonton Community Foundation
- F. K. Morrow Foundation
- G. Murray and Edna Forbes Foundation Fund, South Saskatchewan Community Foundation
- General Motors
- Hamilton Community Foundation
- Hunter Family Foundation
- Kiwanis Club of Ottawa Foundation
- Municipality of Clarington
- Ottawa Community Foundation
- Pendle Fund, Community Foundation of Mississauga
- S. M. Blair Family Foundation
- Superior Glove Works
- Syncrude
- Systematix Inc.
- The Arthur & Audrey Cutten Foundation

- The Catherine & Maxwell Meighen Foundation
- The Gordon & Ruth Gooder Charitable Foundation
- The Lorne and Evelyn Johnson Foundation, South Saskatchewan Community Foundation
- The McLean Foundation
- The Saint John's Legacy Foundation
- The Township of Tiny
- Vesta Energy

## Exploration

- Ajax Community Fund at Durham Community Foundation
- Brant Community Foundation
- Cajole Inn Foundation
- Cambridge & North Dumfries Community Foundation
- Canadian Foundation of University Women Owen Sound and Area
- City of Brantford
- Community Foundation for Lennox & Addington
- Community Foundation of Grey Bruce
- Durham Community Foundation
- Elexicon Energy
- Lab X Media Group at Huronia Community Foundation
- Martin Foundation Fund at Hamilton Community Foundation
- Municipality of South Bruce (South Bruce Community Liaison Committee)
- Niagara Community Foundation
- Perth and District Community Foundation
- Scarborough Garden & Horticultural Society
- Siemens Canada Limited, Peterborough
- Society of Petroleum Engineers Canadian Educational Foundation
- The Community Foundation of Orillia and Area
- Town of Whitby, Mayor's Community Development Fund

We are also thankful to Ernst & Young, Giant Tiger, McMillan LLP, Northern Biologics and Stewart McKelvey for providing in-kind support to Scientists in School during this challenging period.