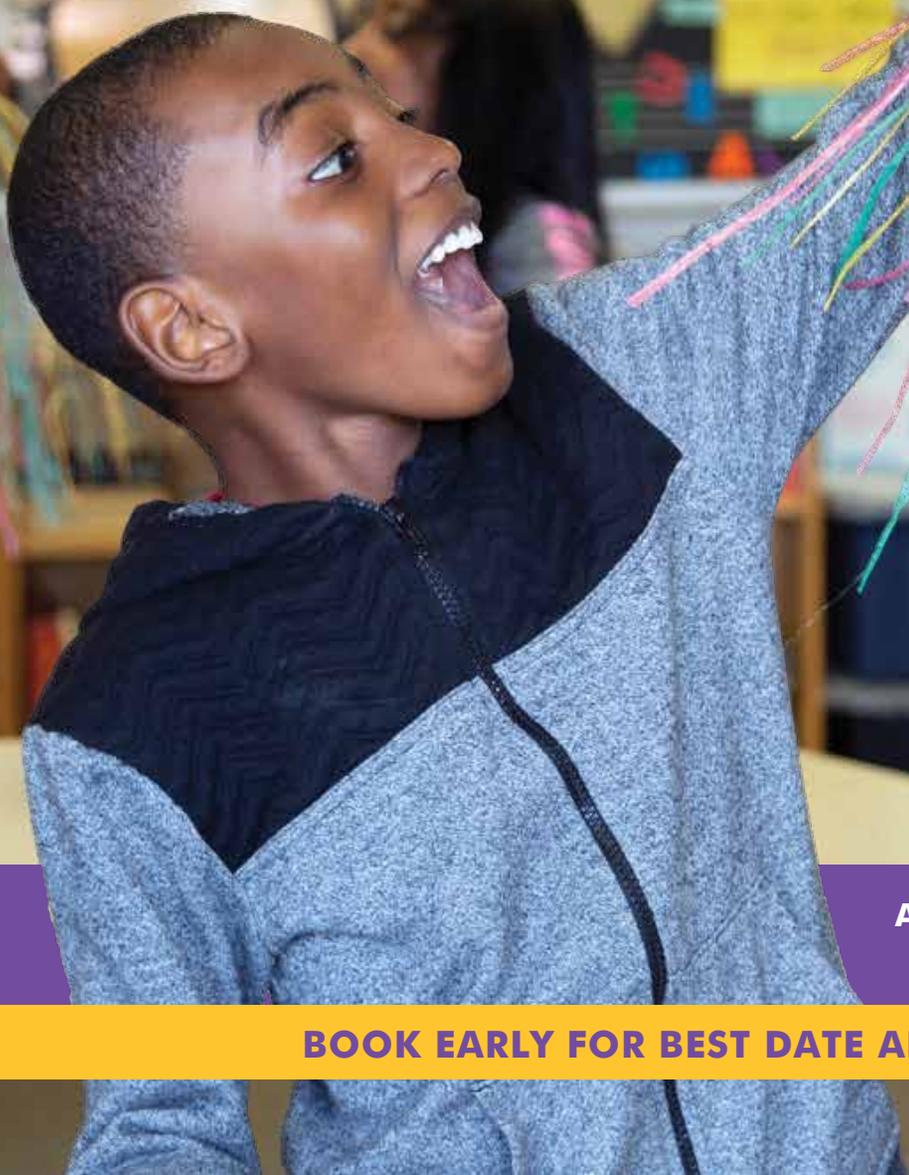




SCIENTISTS IN SCHOOL PROGRAM CATALOGUE

Curriculum-aligned STEM workshops for Kindergarten to Grade 8

2019
2020



**AVON MAITLAND DSB, HURON-PERTH CATHOLIC DSB,
BLUEWATER DSB, AND BRUCE-GREY CATHOLIC DSB**

BOOK EARLY FOR BEST DATE AND TOPIC CHOICE!

SCIENTISTS IN SCHOOL

A non-profit offering experiential science, technology, engineering, math (STEM), and environmental workshops.

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

Our workshops offer:

- ~ An inquiry-based, real-world experience with plentiful scientific materials and equipment
- ~ Local presenters who are scientists, engineers, technologists and more
- ~ The opportunity to highlight STEM careers, helping students see themselves as future STEM professionals
- ~ Post-workshop extension packages to support your lessons
- ~ Fun and relevant investigations that build critical thinking, collaboration, creativity, communication, and problem-solving skills

We work with teachers, school administrators and school boards to ensure that our program aligns with curriculum, student and educator needs. Like you, our goal is to inspire all children to realize their dreams, regardless of their future aspirations.

30 YEARS STRONG



Thank you! Together, we have shaped the curious minds of ten million students since 1989. We're here because of your dedication to providing your students with life-shaping opportunities. Here's to 30 more years of exploration, discovery, and meaningful collaboration. Let's continue to ensure that all children believe they can dream big and achieve the impossible.

OUR ANNUAL IMPACT BY THE NUMBERS

(2018-2019: Organization-wide)



700,000+

Children and youth inspired through workshops



24,872

Half-day classroom workshops delivered



62,000+

Parent volunteers joined in the classroom



2,000,000+

Face time hours of investigation



10,000,000

Young scientists across Ontario and Alberta since 1989!

COLLABORATORS IN EDUCATION

We use an evidence-based approach to provide high-impact workshops that enhance curriculum and provide real-world experiences for your students. A recent post-workshop survey* showed:



97%

of teachers said Scientists in School was very to extremely effective in encouraging students to make discoveries



92%

of teachers said Scientists in School was very to extremely effective in enhancing students' understanding of scientific principles



92%

of teachers said Scientists in School was very to extremely effective in enhancing students' interest in STEM

* Post-workshop survey completed by over 5,000 teachers across Ontario and Alberta in 2019.

ABOUT SCIENTISTS IN SCHOOL

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

For information about our booking terms, conditions, and cancellation policy, please visit www.scientistsinschool.ca/policies/

KINDERGARTEN WORKSHOPS

Fee: \$220.00

Maximum 30 students/workshop

Backyard Bugs

Follow-up Teacher Resources | Volunteers Required

"Bee" an entomologist. Meet the insect family and their relatives. Develop a new appreciation for bugs by investigating how they behave, eat, see and hear. Camouflage as a butterfly and see the world through the eyes of a dragonfly. Identify interesting backyard bugs and make an insect to take home.

NEW!

I Can Be A Scientist

Follow-up Teacher Resources | Volunteers Required

Become a working scientist as you dig for dinosaur bones and make a fossil as a paleontologist. Investigate sea life as a marine biologist and fly into outer space as an astronaut. Experiment with mixing and dissolving to create an erupting volcano as you try out the sciences of chemistry, physics and geology.

Simply Marvellous Machines

Follow-up Teacher Resources | Volunteers Required

Discover how simple machines help you every day. Find simple machines at an imaginary playground as you experiment with inclined planes, dig with wedges and make a lever to test at home. Investigate how pulleys make work easier and explore how to make bubbles using gears. Measure the difference a machine makes!

BOOKING IS EASY!

Email wco@scientistsinschool.ca,
or call 1-855-900-3950
to book your workshop!

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sign up to receive STEM activities
in our e-newsletter.

"I think it dissolved. What do you think?"



“By engaging our students so deeply, they begin exploring the world around them and asking questions, taking them on a path of discovery that they pursue with passion. This is science at its very best!”



"Look, we're painting with a solar spinner!"

GRADE ONE WORKSHOPS

Fee: \$220.00

Maximum 30 students/workshop

Animal Coverings And Adaptations

Earth and Space Systems | Combined Grade Content 1-2
Follow-up Teacher Resources | Volunteers Required

How does beaver fur feel compared to raccoon fur? What does a butterfly wing really look like? Explore some of nature's most unusual coverings including quills, shells, scales, feathers and fur. Investigate the insulating properties of animal coverings and discover some of the amazing adaptations animals use to survive their environment and seasonal changes.

Energy Makes It Happen

Matter and Energy

Follow-up Teacher Resources | Volunteers Required

Investigate the sun's power by exploring the impact energy has on our lives. Make a bubble grow using heat from thermal energy. Discover the energy needed to power different devices and learn about energy conservation. Build a sun chain to learn that the sun is the Earth's primary energy source. Create paintings using solar power.

Kitchen Chemistry For Curious Kids

Special Interest | Combined Grade Content 1-2

Follow-up Teacher Resources | Volunteers Required

As a food scientist, investigate what yeast needs to grow and how to blow up a balloon by mixing a solid with a liquid. Challenge your powers of observation while making a surprise drink and make a mystery substance that could be both a liquid and a solid.

Never Say Ugh To A Bug

Life Systems | Combined Grade Content 1-2

Follow-up Teacher Resources | Volunteers Required

Develop a new appreciation for bugs as an entomologist. Examine a variety of living and preserved specimens on a scavenger hunt in the classroom. Explore insect life cycles. Discover the benefit and beauty of pollinators and how critical their role is to life on earth.

Structures: Under Construction

Structures and Mechanisms

Follow-up Teacher Resources | Volunteers Required

Join our engineering team and build a structure capable of supporting your students. Discover the concepts you need to make this happen. Explore the role of fasteners and the properties of materials using real tools. Test 3-D shapes for structural strength. Build a framework and test for strength and stability.

GRADE TWO WORKSHOPS

Fee: \$220.00

Maximum 30 students/workshop

Animal Coverings And Adaptations

Life Systems | Combined Grade Content 1-2

Follow-up Teacher Resources | Volunteers Required

How does beaver fur feel compared to raccoon fur? What does a butterfly wing really look like? Explore some of nature's most unusual coverings including quills, shells, scales, feathers and fur. Investigate the insulating properties of animal coverings and discover some of the amazing adaptations animals use to survive their environment and seasonal changes.

Get Moving With Toys

Structures and Mechanisms | Volunteers Required

Discover how simple machines make work easier for us. Learn about movement on inclined planes. Send a secret message using a pulley system. Discover the importance of wheels and axles as you build your own car. Investigate the power of levers and make a screw to take home.

Kitchen Chemistry For Curious Kids

Special Interest | Combined Grade Content 1-2

Follow-up Teacher Resources | Volunteers Required

As a food scientist, investigate what yeast needs to grow and how to blow up a balloon by mixing a solid with a liquid. Challenge your powers of observation while making a surprise drink and make a mystery substance that could be both a liquid and a solid.

"Exploring solutions is so much fun!"



“Scientists in School is invaluable in supporting and promoting science. The workshops are fun, challenging, competitive and promote cooperation. The most reluctant student is always drawn in - who wouldn't be?”



"Who knew water could exist in so many forms?"

Let It Flow: Air And Water

Earth and Space Systems

Follow-up Teacher Resources | Volunteers Required

Discover the properties of air and water. Learn that air has weight, takes up space and can be used to save an accident victim. Explore the water cycle, uncover the hidden power of a water wheel and race your own yacht to experiment with sail size.

Looking At Liquids

Matter and Energy

Follow-up Teacher Resources | Volunteers Required

Marvel as you explore the three states of matter and change a liquid to a solid. Compare the flow rate of different liquids and test their ability to absorb into a solid. Investigate buoyancy through manipulation of materials. Discover how liquids and solids interact. Accept the challenge to produce the world's biggest bubble.

Never Say Ugh To A Bug

Life Systems | Combined Grade Content 1-2

Follow-up Teacher Resources | Volunteers Required

Develop a new appreciation for bugs as an entomologist. Examine a variety of living and preserved specimens on a scavenger hunt in the classroom. Explore insect life cycles. Discover the benefit and beauty of pollinators and how critical their role is to life on earth.

BOOKING IS EASY! Email wco@scientistsinschool.ca, or call 1-855-900-3950 to book your workshop! Visit www.scientistsinschool.ca to sign up to receive STEM activities in our e-newsletter.

GRADE THREE WORKSHOPS

Fee: \$220.00

Maximum 30 students/workshop

Force, Of Course!

Matter and Energy | Follow-up Teacher Resources

Step into the physics lab to investigate friction, elastic, magnetic and gravitational forces. Use a catapult to measure the impact of force on a projectile. Discover the science behind removing a tablecloth from underneath dishes without any breaking. Learn how to defy gravity!

NEW!

Soil: It's Too Important To Be Treated Like Dirt!

Earth and Space Systems

Follow-up Teacher Resources | Volunteers Required

Become a pedologist and get dirty with a variety of soil types. Discover that soil is composed of earth materials and decaying organisms. Test soil samples for essential nutrients and learn how soil supports plant growth. Investigate erosion and learn about decomposers by studying earthy creatures.

Structures: Stable And Strong

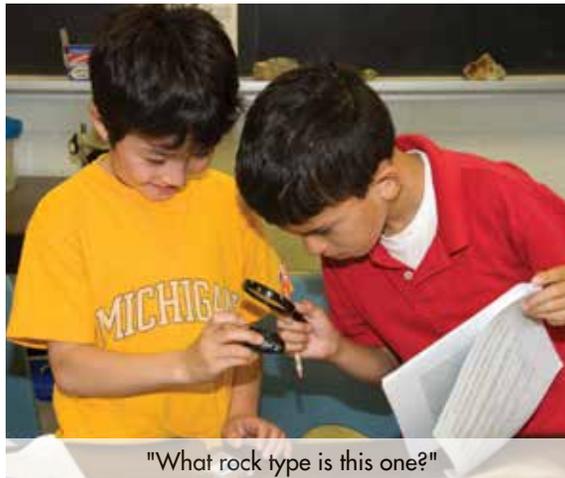
Structures and Mechanisms | Follow-up Teacher Resources

Build your knowledge of structural strength and stability as a junior engineer. Investigate how the strength of a material can be altered by its shape. Create structures and learn the impact of forces acting upon them. Take up the challenge to design, build and test a bridge.

"I wonder how much water these soil types will hold?"



“Scientists in School has been an integral part of my students’ curriculum for many years. The workshops are engaging, motivating and spark critical thinking while integrating STEM skills.”



"What rock type is this one?"

GRADE FOUR WORKSHOPS

Fee: \$220.00

Maximum 30 students/workshop

Battles In The Tropical Rainforest

Life Systems | Volunteers Required

Join our research team, travel around the world and explore tropical rainforest habitats. Discover the benefits of using renewable rainforest resources, and learn about special adaptations of rainforest plants by constructing a tree from the roots up. Build a rainforest food web and learn the impact of species extinction.

Don't Take Rocks For Granite

Earth and Space Systems

Follow-up Teacher Resources | Volunteers Required

Become a junior geologist and dig into the rock cycle. Test the hardness of minerals and examine igneous, sedimentary and metamorphic rocks. Identify mystery minerals all around us and mine some edible ore. Experience the life of a paleontologist in the field and unearth real fossils!

Gearing Up: Fun With Pulleys And Gears

Structures and Mechanisms

Follow-up Teacher Resources | Volunteers Required

Become a physicist and discover how pulleys and gears can make work easier. Construct gear trains and identify gears used in our daily lives. Build and design pulley systems to change an applied force. Be part of a human pulley and devise how to move something bigger than you!

NEW!

Sound Is Music To My Ears

Matter and Energy | Follow-up Teacher Resources

Discover the science of sound as musical maestros. Explore sound waves and learn how sound can make your desk hum. Play the bucket bass to explore factors affecting pitch. Create a laughing chicken to investigate amplification. Build your own pan flute and perform in a classroom orchestra.

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GRADE FIVE WORKSHOPS

Fee: \$220.00

Maximum 30 students/workshop

Body Works

Life Systems | Follow-up Teacher Resources

Join us on a journey around the human body to explore its many complexities. Assemble a urinary system to filter simulated plasma. Build a model of the respiratory system. Test your reflexes and measure your vital capacity. Follow a cell as it travels through a large-scale model of the heart.

May The Force Be With You

Structures and Mechanisms | Follow-up Teacher Resources

Join our engineering team to discover how structures resist the internal and external forces acting upon them. Use an earthquake generator to determine the factors that affect structure stability. Investigate centre of gravity and its effect on structural stability. Design, build and test a freestanding structure.

What In The World Is Matter?

Matter and Energy | Follow-up Teacher Resources

Explore solids, liquids and gases as detectives seeking clues to the mysteries of matter. Compare physical and chemical changes by carrying out some cool chemistry. Discover the work of some fascinating insect chemists. Determine the identity of a mystery compound using your chemical intuition and some crafty experimentation.



"Exploring how to close a circuit is fun!"

“Giving students the opportunity to experiment, investigate, create and think critically about how things work in daily life is truly an unforgettable and authentic experience. I highly recommend this program.”



"Are your fingerprints loops too?"

GRADE SIX WORKSHOPS

Fee: \$220.00

Maximum 30 students/workshop

Air And Flight

Structures and Mechanisms | Follow-up Teacher Resources

Discover the properties of air and the principles of flight by levitating a ping pong ball. Find the best wing design and angle of attack for liftoff. Discover the correct mechanics of propeller construction. Build your own plane and investigate factors affecting the direction and speed of flight.

Celestial Sleuths

Earth and Space Systems | Follow-up Teacher Resources

Explore the solar system and the bodies within it to finally understand the real definition of “space”. Orbit through the phases of the moon and reflect on the changes we see from Earth. Discover the challenges astronauts face in space and build your own working model of the Canadarm End Effector.

Classy Critters

Life Systems | Follow-up Teacher Resources

Become a taxonomist, classify and create order from the vast diversity of living things. Examine real preserved specimens for adaptations that help them survive and discover wildlife on a smaller scale. Explore important connections between humans, invasive species and other impacts on biodiversity.

Electricity: Get Charged

Matter and Energy | Follow-up Teacher Resources

Explore the nature of electricity, its generation and use. Investigate static electricity through the use of an electro-scope. Design and build circuits to learn how a house is wired. Test conductors, insulators and switches. Explore electromagnets, simple motors and use your own energy to power a generator.

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GRADE SEVEN WORKSHOPS

Fee: \$220.00

Maximum 30 students/workshop

Battles In The Tropical Rainforest

Life Systems

Travel around the world and explore the tropical rainforest. Experiment with adaptations of rainforest plants and discover the importance of each creature while building a rainforest food web.

Engineering Challenges

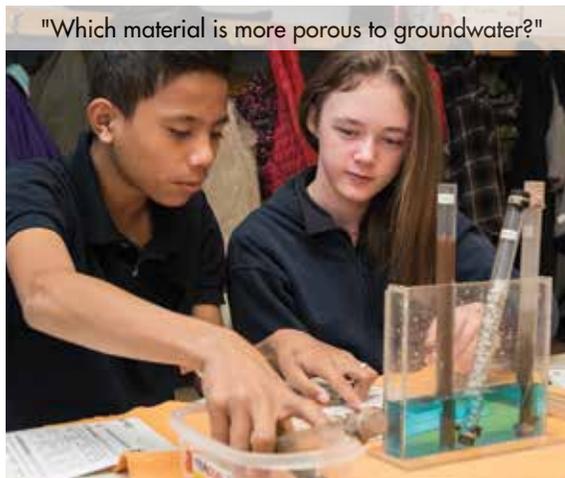
Structures and Mechanisms | Follow-up Teacher Resources

Discover the secrets of structural strength and stability. Design and build a functioning cantilever able to withstand a substantial load. Investigate how to fortify bridges. Join a class-wide challenge to build a newspaper and tape truss bridge resistant to static and dynamic loads and internal forces.

Hot Stuff!

Earth and Space Systems | Follow-up Teacher Resources

Discover the secret workings behind a candle-powered putt putt boat. Investigate if heat is generated by moving molecules and how heat moves through space, solids and liquids. Use this information to analyze how conduction, convection and radiation work together to propel the putt putt boats.



“For the last 20 years, I have been inviting Scientists in School into my classroom. They are an invaluable, engaging, and hands-on resource for children and youth.”



"I designed this experiment and I know what's reacting!"

GRADE EIGHT WORKSHOPS

Fee: \$220.00

Maximum 30 students/workshop

Fluid Power

Matter and Energy | Follow-up Teacher Resources

Explore fluids and their application in mechanical systems. Study density to determine the composition of mystery cubes. Investigate the relative density of a variety of liquids. Move loads with dump trucks to compare hydraulic and pneumatic systems. Build and operate models of hydraulic equipment including a robotic arm.

Groundwater Investigations

Earth and Space Systems | Follow-up Teacher Resources

Discover nature's filtration system while exploring groundwater processes. Test for pollutants such as salt, petroleum and fertilizers and discover their possible sources. Examine local watersheds to choose the best site for your next home. Learn hands-on how to become stewards of our water systems and the importance of maintaining our water supply.

NEW!

Systems At Work

Structures and Mechanisms | Follow-up Teacher Resources

Discover the work done by simple machines, how they create mechanical advantage, and how they can be used to overcome obstacles. Explore inclined planes, wheels, levers and pulleys. Analyze how friction affects mechanical advantage. Investigate how simple machines can be combined to create complex systems used in building communities and disaster relief.

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SCIENTISTS IN SCHOOL™

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PARTNERS IN STEM

Across our organization we are dedicated to engaging children, teachers and families through high-quality STEM enrichment. As a charity, donors help us to subsidize the cost of our 24,872 annual classroom workshops by approximately 15%, and provide over 2,000 complimentary workshops to schools serving low-income communities.

CATALYST

Natural Sciences and Engineering Research Council of Canada - TD Friends of the Environment Foundation

INNOVATION

Amgen Canada - John and Deborah Harris Family Foundation - Nuclear Waste Management Organization
Ontario Power Generation - Toronto Pearson International Airport

IMAGINATION

ArcelorMittal Dofasco - General Motors Canada - McMillan LLP - Superior Glove Works Ltd. - TELUS

DISCOVERY

Alectra Utilities - Aviva Community Fund - Cadillac Fairview - CAE - Canadian Nuclear Safety Commission
Cameco Corporation - Carolyn Sifton Foundation - Celestica - Hamilton Community Foundation - MilliporeSigma
Modern Niagara - Niagara Community Foundation - Pendle Fund at the Community Foundation of Mississauga
Purdue Pharma - Society of Petroleum Engineers Canadian Educational Foundation - S.M. Blair Family Foundation
Syngenta Canada Inc. - Systematix Inc. - The McLean Foundation

EXPLORATION

Ajax Community Fund at Durham Community Foundation - Brant Community Foundation - Cajole Inn Foundation
City of Brantford - Community Foundation Grey Bruce - Dwight and Karen Brown Family Fund - Ottawa
Community Foundation - Elexicon Energy (Formerly Veridian Connections) - LabX Media Group Charity Fund
at the Huronia Community Foundation - Siemens Millitronics Process Instruments - The Community Foundation
of Orillia and Area - The County of Wellington - The Source - The Township of Tiny
Whitby Mayor's Community Development Fund



SCIENTISTS
IN SCHOOL

