



**SCIENTISTS
IN SCHOOL**

2017-2018 PROGRAM CATALOGUE

**Inquiry-Based STEM Workshops
for Kindergarten to Grade 7**

**Calgary and the
surrounding area**



WE OFFER

EXPERIENTIAL SCIENCE, TECHNOLOGY, ENGINEERING, MATH (STEM) AND ENVIRONMENTAL WORKSHOPS FOR YOUR INQUISITIVE STUDENTS.

Under the guidance of STEM experts, your K-8 students become scientists, engineers and environmental stewards while developing the 21st century competencies needed for tomorrow's highly skilled workforce. Since 1989, 8 million students have discovered through our workshops that science, engineering and math are fun and relevant.

~ THE BENEFITS OF HAVING A ~
Scientists in School
WORKSHOP IN YOUR CLASSROOM

- An inquiry-based, curriculum-enriching experience with plentiful scientific materials
- Local presenters who are scientists, engineers, technologists and more
- Opportunity to highlight STEM career pathways
- Post-workshop extension package to support your lessons
- As a charity, every workshop is subsidized by our donors

WORKING TOGETHER TO PREPARE CANADIAN YOUTH FOR THEIR FUTURE



Critical Thinking



Collaboration

Like you, our goal is to inspire all children, regardless of their future aspirations. We want to work with you to help shape the confidence, interest and skills your students need to realize their dreams. Critical thinking, collaboration, communication, creativity and problem-solving are purposefully incorporated in our workshops and suggested extension activities.



Communication



Creativity

MAKING SURE OUR WORKSHOPS MEET YOUR NEEDS

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* of first-time users (teachers) of our workshops showed:

73% leveraged the ideas in our workshops to enhance their science lessons/teaching

83% felt Scientists in School encouraged their students to use critical-thinking skills, evidence-based reasoning and argumentation

86% felt our workshops helped their students better understand the work done in class

94% discovered new ideas to use in their science program

*Survey was conducted across 140 schools by Western University researchers

BOOK NOW!

Please visit scientistsinschool.ca to book our workshops. Booking early will help ensure you get the workshop you want, when you want it!



Activities shown may not be available in all regions.

KINDERGARTEN WORKSHOPS

Book online and find our booking terms, conditions and cancellation policy at scientistsinschool.ca

\$180/workshop
(Maximum 30 students/workshop)

Backyard Bugs

Meet some fascinating backyard bugs including members of the insect family. As an entomologist, investigate how bugs eat, see, hear and protect themselves. Create your own model insect to take home. Develop a new appreciation for the wonderful world of bugs.

I Can Be A Scientist

Become a working scientist in the Scientists in School lab. Explore the weather while making it rain in the classroom! Discover the Big Dipper in our constellation tent. Put on a lab coat and goggles and mix solutions. Experience the interesting things that meteorologists, astronomers, paleontologists, chemists, and marine biologists do every day.

Winter Wonders

Delve into the wonderful world of winter and embrace the cold. Conduct cool experiments and learn frosty facts about how people adapt to winter. Explore how local animals survive Canada's harsh climate. Identify winter birds, listen to their songs, and construct a bird feeder. Be a meteorologist and investigate winter weather.

GRADE ONE WORKSHOPS

Book online and find our booking terms, conditions and cancellation policy at scientistsinschool.ca

\$180/workshop
(Maximum 30 students/workshop)

Reasons For The Seasons

Topic B: Seasonal Changes

Adapt, hibernate or migrate? Investigate the variety of strategies people and wildlife use to survive the Canadian winter. Explore the insulating properties of animal coverings and discover some of the astounding distances animals travel to escape the cold. Uncover clues that the seasons are changing as you discuss the reasons for the seasons.

Sensational Science

Topic D: Senses

Explore the power of your senses and how they help you experience the world. Discover sound waves, 'see' with your hands, trick your sense of taste and investigate the impact of light on vision. Challenge yourself to communicate without speaking, and learn how different animal's senses help them survive.

Structures: Under Construction

Topic C: Building Things

Join our engineering team and build a structure capable of supporting your teacher. Discover the role of fasteners, the properties of materials, and the use of three dimensional shapes in structural strength, all important concepts in building a successful structure.



“With the rich resources and multitude of activities, Scientists in School takes science to another level. They transform the classroom environment into a science wonderland which excites even the most unmotivated student.”

GRADE TWO WORKSHOPS

Book online and find our booking terms, conditions and cancellation policy at scientistsinschool.ca

\$180/workshop
(Maximum 30 students/workshop)

GRADE THREE WORKSHOPS

Book online and find our booking terms, conditions and cancellation policy at scientistsinschool.ca

\$180/workshop
(Maximum 30 students/workshop)

Life's Like That

Topic E: Animal Life Cycles

Discover the life story of a variety of small animals including their changing needs and environmental relationships. Meet living animals and examine preserved specimens. Learn what an owl has eaten by dissecting an owl pellet. Take away a new appreciation for the beauty and fragility of life.

Looking At Liquids

Topic A: Exploring Liquids,
Topic B: Buoyancy And Boats

Explore the three states of matter and use this knowledge to create a delicious treat. Use a thermometer to measure the conditions necessary to produce a change in state. Investigate buoyancy and solubility. Take up the challenge to produce the world's biggest bubble.

Don't Take Rocks For Granite

Topic A: Rocks And Minerals

Learn about geological forces while making a metamorphic rock to keep. Test water erosion and observe how sediments settle in a Sedimentator. Use clues and tests to identify a mystery mineral. Explore igneous (extrusive and intrusive) rocks, shake the soil sieve, and prepare a soil profile to take home.

Structures: Stable And Strong

Topic B: Building Things
Topic C: Testing Materials

Build up your knowledge of structural strength and stability as junior engineers. Investigate forces and their impact on structures. Discover that the strength of a given material can be altered by its shape. Apply these concepts to design and build a successful bridge.

Magnet Mysteries

Topic C: Magnetism

Discover some powerful information about the world of magnetism and static electricity. Investigate magnetic and non-magnetic materials, different types of magnets, and magnetic strength. Create a temporary magnet, participate in magnetic car races and cause a magnetic field to become visible right before your eyes. You will be astonished at the role magnets play in our everyday lives.

Never Say Ugh To A Bug

Topic E: Small Animals

Develop a new appreciation for small animals as an entomologist. Examine a variety of living and preserved specimens. Explore behaviour, habitat, adaptations and food sources. Discover and compare the benefit and beauty of small crawling and flying animals.



“I said to one of my parent volunteers: ‘One of these children will go on in life to become a biologist or paleontologist’”.

GRADE FOUR WORKSHOPS

Book online and find our booking terms, conditions and cancellation policy at scientistsinschool.ca

\$180/workshop
(Maximum 30 students/workshop)

Light Up Your Life

Topic D: Light and Shadows

Join us on this optical adventure and discover how to see around corners and over walls. Discover the law of reflection. Explore how light travels, and split light into the colours of the rainbow. Check out interesting optical devices like periscopes, binoculars, and kaleidoscopes. Meet Ralph the very pink optical illusion.

Plants Do Amazing Things

Topic E: Plant Growth and Changes

Join this botanical adventure and explore how a plant breathes, grows and stores its food. Examine leaf characteristics, explore plant adaptations and make your own recycled paper. Use a CO₂ indicator to investigate what leaves need for photosynthesis.

What A Waste!

Topic A: Waste and Our World

Become an ecological steward! Learn about waste production and management, and how it is a result of natural processes and human technologies. Explore the impact of waste on our planet, and how consumer choices affect the environment. Build a mini composter and add some backyard friends to explore their role in waste management.



“I suggested a career in engineering to one student and he had already considered it during the workshop!”

Wheels In Motion: Pulleys, Gears, And Levers

Topic B: Wheels and Levers

Get your wheels moving in the physics lab with pulleys, gears, and levers. Build your own gear train and alter the direction of a force. Design and construct drive and pulley systems to discover the secrets of mechanics. Race your mousetrap car and discover the power of moving a fulcrum point.

GRADE FIVE WORKSHOPS

Book online and find our booking terms, conditions and cancellation policy at scientistsinschool.ca

\$180/workshop
(Maximum 30 students/workshop)

Electricity: Get Charged

Topic A: Electricity and Magnetism

Step into the physics lab and build a human battery. Explore the nature of electricity, its generation and use. Investigate how static electricity makes objects move. Design and build circuits. Test conductors, insulators and switches. Explore electromagnets, simple motors and use your own energy to power a generator.

It Really Matters

Topic C: Classroom Chemistry

Unravel the mysteries of matter. Explore solids, liquids, gases and changes in state. Perform a variety of chemical reactions that involve both physical and chemical changes. Use your discoveries to determine the identity of a mystery compound.

Weather Watch

Topic D: Weather Watch

Nothing has more impact on our everyday lives than weather! Students will explore how air movement, water and the sun affect local and global weather conditions. Your meteorologists will recreate weather phenomena such as clouds, thunder, lightning and tornadoes and will take away a new understanding of the impact their actions have on our climate.



“In my 39 years of teaching, I have never had such a worthwhile experience brought to my students directly in the classroom!”

GRADE SIX WORKSHOPS

Book online and find our booking terms, conditions and cancellation policy at scientistsinschool.ca

\$180/workshop
(Maximum 30 students/workshop)

Clued Into Forensic Science

Topic D: Evidence and Investigation

Be an amateur detective or forensic scientist and collect clues to investigate the scene of a crime. Discover evidence in your shirt sleeve when you analyze fibre samples. Test a mysterious white powder found at the scene. Analyze a ransom note using chromatography to identify the ink used to create it. It's a real whodunit.

Let's Take Flight

Topic A: Air and Aerodynamics,
Topic B: Flight

Explore the science behind powered and non-powered flight. Uncover the properties of air and the principles of flight. Find the best wing design and angle of attack for liftoff and experiment with the mechanics of propeller construction. Build a paper plane and become an aviator to investigate the speed of flight.

Space: Above And Beyond

Topic C: Sky Science

Space: the great unknown. Together with your colleagues from the Canadian Space Agency, this is your mission: explore space and all the bodies that it holds - the sun, stars, moons, and the planets, navigate using the constellations, survive by building and using the Canadarm End Effector, explore human reaction times, and taste a space treat. See our world from a whole new perspective!

GRADE SEVEN WORKSHOPS

Book online and find our booking terms, conditions and cancellation policy at scientistsinschool.ca

\$180/workshop
(Maximum 30 students/workshop)

What On Earth!

Unit E: Planet Earth

Travel Alberta to uncover the functional properties of the Earth's structure. Discover what happens at the Earth's surface and beneath. Learn how igneous, sedimentary and metamorphic rocks are formed. Examine the impact of mining while exploring energy alternatives. Investigate the rock cycle, the Earth's crust, fossils, mountain structure and more!



“My class has been talking and writing about the workshop for two weeks. They keep making connections with things they worked on at the workshop stations.”





Book early to get your preferred topic and date.

**HOW TO BOOK A
WORKSHOP:**

ONLINE:

Choose your topic(s) and book online at scientistsinschool.ca

BY FAX OR MAIL:

1. Choose your topic(s), complete this booking form and copy for your files.
2. Fax or mail this booking form to:
Scientists in School
47 Rutgers Road West
Lethbridge, Alberta T1K 5Y4
403-394-9804 / 1-844-794-9804
Fax: 403-394-9997
calgary@scientistsinschool.ca
3. Your presenter will contact you within 1-2 weeks to schedule a date. Book early to ensure that you get your preferred day.

OTHER INFORMATION:

Maximum class size: To ensure every child gets a hands-on experience, the maximum number of students is 30.

Allergy Advisory: Our presenters bring many different materials into the classroom. While we regularly maintain our workshop kits for cleanliness and safety, we cannot guarantee they are free from all allergens. Please advise us of any known allergies or special restrictions.

Booking Terms, Conditions and our Cancellation Policy can be found at scientistsinschool.ca/policies.

GET INVOLVED!

**2017-2018
BOOKMARK CONTEST
CALL FOR ENTRIES!**

Calling all Calgary and the surrounding area Kindergarten to Grade 7 students!

Our 2017-2018 Bookmark Contest theme is "Science is ...". Submit as many bookmarks as you wish for a chance to win one of three fun and exceptional prizes!

The deadline is June 2, 2018.

Download the entry package at:
scientistsinschool.ca

Application Date: _____ Board: _____

Tel: _____ Fax: _____ School: _____

BOOKING #1

Teacher: _____ Grade: _____ Class Size: _____

Email: _____ Preferred Month: _____

Topic: _____ Time: A.M. P.M.

Alternate Topic: _____ Time: A.M. P.M.

Special Notes: _____

Yes! Please add me to your email database to receive updates from Scientists in School.

BOOKING #2

Teacher: _____ Grade: _____ Class Size: _____

Email: _____ Preferred Month: _____

Topic: _____ Time: A.M. P.M.

Alternate Topic: _____ Time: A.M. P.M.

Special Notes: _____

Yes! Please add me to your email database to receive updates from Scientists in School.

BOOKING #3

Teacher: _____ Grade: _____ Class Size: _____

Email: _____ Preferred Month: _____

Topic: _____ Time: A.M. P.M.

Alternate Topic: _____ Time: A.M. P.M.

Special Notes: _____

Yes! Please add me to your email database to receive updates from Scientists in School.

BOOKING #4

Teacher: _____ Grade: _____ Class Size: _____

Email: _____ Preferred Month: _____

Topic: _____ Time: A.M. P.M.

Alternate Topic: _____ Time: A.M. P.M.

Special Notes: _____

Yes! Please add me to your email database to receive updates from Scientists in School.

Thank you for booking a Scientists in School workshop.
Contact us at any time to check on the status of your booking.

Book Your Scientists in School Workshop Today!

Our goal in every community is to become part of the educational fabric, where children become scientists in school in Kindergarten and experience workshops throughout their elementary years. We work with teachers, educators and school boards to ensure that our program aligns with curriculum, student and educator needs. With over two million face time hours of investigation each year, we know our program makes a lasting impression. Often, young adults who had the program as kids will share details of their favourite workshops and proclaim that "the days the scientists came were the best days of the whole year!"



Partners in STEM Education

Across our charitable organization everyone is committed to our mission, vision and impact and dedicated to engaging youth, teachers, and families with high quality STEM experiences. Partnerships allow us to subsidize the cost of every single one of our 24,000 annual classroom workshops by approximately 15%, and provide almost 2,000 complimentary workshops to schools serving low-income communities.

CATALYST

Natural Sciences and Engineering Research Council
TD Friends of the Environment Foundation | Toronto Pearson International Airport

INNOVATION

Google Canada | John and Deborah Harris Family Foundation
Nuclear Waste Management Organization | RBC Foundation

IMAGINATION

Amgen Canada | Amgen Foundation | McMillan LLP | Ontario Power Generation
Superior Glove Works Ltd. | TELUS

DISCOVERY

Cameco | Celestica | Community Foundation of Ottawa | J.P. Bickell Foundation | MilliporeSigma
Purdue Pharma | Syngenta | Systematix Inc. | The J.W. McConnell Family Foundation
The Maurice Price Foundation | The McLean Foundation

EXPLORATION

Ajax Community Fund at the Durham Community Foundation
Consulting Engineers of Ontario | Huronia Community Foundation
Isherwood Associates | Lee Valley Tools | Meridian Credit Union
Rotary Club of Lethbridge Sunrise | Siemens Milltronics Process Instruments
The Optimist Club of Ajax | Veridian Connections
Whitby Mayor's Community Development Fund

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