

Today, they're Scientists in School ...



**SCIENTISTS**  
IN SCHOOL

## 2018-2019 SCIENTISTS IN SCHOOL PROGRAM CATALOGUE

Inquiry-based STEM workshops for Kindergarten to Grade 7  
**CALGARY AND THE SURROUNDING AREA**

## 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, curriculum-enriching experience with plentiful scientific materials
- ➔ Local presenters who are scientists, engineers, technologists and more
- ➔ The opportunity to highlight STEM careers
- ➔ Post-workshop extension packages to support your lessons
- ➔ Fun and relevant content that builds critical thinking, collaboration, creativity, communication, and problem-solving skills

We work with teachers, educators 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.

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.

## OUR ALBERTA IMPACT BY THE NUMBERS

(2016-2017)



40,400

Children and youth inspired through workshops



1,560

Half-day classroom workshops delivered



3,900

Parent volunteers joined in the classroom



101,000

Face time hours of investigation



9,000,000

Young scientists across Alberta and Ontario 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\* 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 conducted in 140 schools by Western University researchers



**K**

## Kindergarten Workshops

Fee: \$190.00

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 explore 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.

*“Scientists in School visits are one-of-a-kind in how they prepare, their depth of knowledge and their un-subtle sense of wanting students to have a blast while they learn. And trust me: They do.”*

## BOOK ONLINE - IT'S EASY!

Visit [www.scientistsinschool.ca](http://www.scientistsinschool.ca) to book your workshop, and find our cancellation and booking policies.



## Grade One Workshops

Fee: \$190.00

Maximum 30 students/workshop

**1**

### 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 identify 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.

*“Regardless of the years we’ve booked Scientists in School, one thing remained common: the instructors arrived with an overpowering sense of being delighted to be in our school.”*

## DOWNLOAD RESOURCES!

Visit [www.scientistsinschool.ca](http://www.scientistsinschool.ca) and discover our Teacher Resources and STEM-based activities.

# 2

## Grade Two Workshops

Fee: \$190.00

Maximum 30 students/workshop

### 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 discover an amazing fact about melting and temperature. Investigate buoyancy and solubility. Take up the challenge to produce the world's biggest bubble.

### 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.

*“Scientists in School has ALWAYS provided engaging workshops that my students talk about for days!”*

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## Grade Three Workshops

Fee: \$190.00

Maximum 30 students/workshop

# 3

### Don't Take Rocks For Granite

Topic A: Rocks and Minerals

Become a geologist as we 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.

### 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. Identify what an owl has eaten by dissecting an owl pellet. Take away a new appreciation for the beauty and fragility of life.

### 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.

*“This was the best in-school field trip ever! The kids were so engaged and they loved taking home their work.”*

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## 4 Grade Four Workshops

Fee: \$190.00

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 CO<sub>2</sub> 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.

### 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

Fee: \$190.00

Maximum 30 students/workshop

# 5

### Electricity: Get Charged

Topic A: Electricity and Magnetism

Step into the engineering 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 electro-magnets, simple motors and use your own energy to power a generator.

### It Really Matters

Topic C: Classroom Chemistry

Unravel the mysteries of matter in our chemistry lab. Perform a variety of chemical reactions that involve both physical and chemical changes. Use your problem-solving skills to determine the identity of a mystery compound. Explore solids, liquids, gases and changes in state.

### 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 and tornadoes and will take away a new understanding of the impact their actions have on our climate.

*“I overheard a Grade Five student proclaiming to his friends, ‘I didn’t know science could be this fun!’”*

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# 6

## Grade Six Workshops

Fee: \$190.00

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!

*“Scientists in School is a wonderful organization that really teaches our students that science is fun.”*

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## Grade Seven Workshops

Fee: \$190.00

Maximum 30 students/workshop

# 7

### What On Earth!

Unit E: Planet Earth

Become a geophysicist and discover the relationship between tectonic plates, and volcano and earthquake locations. Calculate the cost of exploration as you drill for oil. Discover that chocolate can become “weathered”, heated, cooled, and compressed as you create “sedimentary”, “metamorphic”, and “igneous” rocks. Analyze mystery minerals, and identify rocks to construct a geological map.



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# SCIENTISTS IN SCHOOL

Workshop Booking Form for Calgary and the Surrounding Area

## To Book A Workshop Online:

Choose your topic(s) and book online at [www.scientistsinschool.ca](http://www.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 the address listed below.
3. Your presenter will contact you within 1-2 weeks to schedule a date.

## Other Information:

1. Maximum class size: To ensure every child gets a hands-on experience, the maximum number of students is 30.
2. 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.
3. Booking Terms, Conditions and our Cancellation Policy can be found at [www.scientistsinschool.ca](http://www.scientistsinschool.ca).

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

## For more information, please contact:

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](mailto:calgary@scientistsinschool.ca)  
[www.scientistsinschool.ca](http://www.scientistsinschool.ca)

## 2018-2019 Workshop Fee: \$190.00

Book early to ensure that you get your preferred day!

Application Date: \_\_\_\_\_  
Board: \_\_\_\_\_  
Telephone: \_\_\_\_\_ 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.

# PARTNERS IN STEM

A joint commitment to deliver impactful  
STEM education

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 every single one of our 25,040 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

Amgen Canada | John and Deborah Harris Family Foundation  
Nuclear Waste Management Organization  
Ontario Power Generation | RBC

## Imagination

General Motors Canada  
McMillan LLP | Pure Green Earth Fund  
Superior Glove Works Ltd. | TELUS

## Discovery

Ajax Community Fund at Durham Community Foundation  
AtlasCare | Bruce Power | Cameco  
Hamilton Community Foundation | MilliporeSigma  
Ottawa Community Foundation | pharmaKARe consulting  
Syngenta | Systematix Inc. | The Johansen-Larsen Foundation  
The McLean Foundation | The Township of Tiny  
Waste Management

## Exploration

Brampton and Caledon Community Foundation  
Brockville and Area Community Foundation  
Consulting Engineers of Ontario  
Guelph Community Foundation  
Huron Community Foundation | Jackman Foundation  
Lee Valley Tools | Niagara Community Foundation  
Ontario Teachers Insurance Plan  
Rotary Club of Lethbridge Sunrise  
Siemens Milltronics Process Instruments  
The Source | Veridian Connections  
Whitby Mayor's Community Development Fund  
Youngs Insurance Brokers Inc.



... Tomorrow, they're our leaders and innovators.

**SCIENTISTS IN SCHOOL**   

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