

SCIENTISTS IN SCHOOL™

2016-17 WORKSHOP CATALOGUE

Kindergarten to Grade 7 science, technology, engineering and math (STEM) programs



CALGARY AND THE SURROUNDING AREA



Book online at scientistsinschool.ca. Book early to get your preferred topic and date.

Since 1989, Scientists in School™ has inspired elementary students and teachers to explore and investigate science, technology, engineering, math, and the environment through fun workshops where students become the scientists. Our presenters have expertise in different STEM fields, and extensive experience working with children.

Our workshops:

- ✓ Are inquiry-based and hands-on
- ✓ Are half-day, in-class
- ✓ Enrich and extend the Alberta science program
- ✓ Help to develop critical thinking, problem-solving and teamwork skills

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. Mail a deposit of \$25 per workshop with a copy of this booking form, or the email confirmation, to:
NEW ADDRESS
 Scientists in School
 975 Dillingham Road, Unit 2
 Pickering, Ontario L1W 1Z7
 Note: Please make the cheque payable to Scientists in School.
4. 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.

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.

2016-17 SCIENTISTS IN SCHOOL™ CLASSROOM WORKSHOPS

Book your workshop today at scientistsinschool.ca or by using the provided booking form



KINDERGARTEN

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

Journey into the Scientists in School lab and become a working scientist: explore the weather while making it rain in the classroom, discover the Big Dipper in our constellation tent, put on your lab coat and safety 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

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 compare animal, insect and human sight.

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.

"We learned a lot and the kids had a lot of fun. Love the fact that they ... connect their learning between home and school. I was so impressed by your *Reasons for the Seasons* presentation! The children had access to incredible artifacts like animal pelts and monarch butterfly slides. A frog and worms brought wonder and excitement into our classroom too. Connecting with a real scientist was inspiring, educational and a lot of fun for our students. This is truly an awesome experience for students to have!"

- Grade 2 Teacher after *Reasons for the Seasons*

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GRADE TWO

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.

MAGNET MYSTERIES

Topic C: Magnetism

Discover some powerful information about the world of magnetism and static electricity as you investigate different types of magnets, magnetic strength and magnetic and non-magnetic materials. 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.

GRADE THREE

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.

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.

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 an amazing experience for both myself and my students. We will be booking again. I wish it was the whole day! My students were so engaged."

- Grade 2 Teacher after *Never Say Ugh to a Bug*

Young scientists develop critical thinking, problem-solving, teamwork and other 21st century skills

GRADE FOUR

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, kaleidoscopes and Ralph the very pink optical illusion.

NEW! WHAT A WASTE!

Topic A: Waste and Our World

Cultivate an interest in ecological stewardship by exploring the science behind waste production and management. Discover that waste production is the result of both natural process and human technology. Explore the impact of waste on our planet by charting the life flow of a consumer product. Shop in a classroom market to calculate how consumer choices affect the environment. Build a mini composter to house some backyard friends and explore their role in waste management.



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.

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

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: from the clothes we wear to our daily work and school activities. 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 of their actions on our climate.



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GRADE SIX

CLUED INTO FORENSIC SCIENCE

Topic D: Evidence and Investigation

Become an amateur detective or forensic scientist and investigate this classroom caper. Collect and examine clues found at the scene of the crime. Discover evidence hidden on your shirt sleeve as you learn how to analyze fibre samples. Take your own fingerprints and examine prints gathered as evidence. Analyze a ransom note using chromatography to identify ink used to create this notorious note. It's a real whodunit.

LET'S TAKE FLIGHT

Topic A: Air and Aerodynamics
Topic B: Flight

Soar as you explore the science behind powered and non-powered flight. Uncover the properties of air and the principles of flight by levitating a ping pong ball, finding the best wing design and angle of attack for lift-off and discovering the correct mechanics of propeller construction. Build your own paper plane and become an aviator to investigate factors affecting the direction and speed of flight.

NEW!

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



WHAT ON EARTH!

Unit E: Planet Earth
(Nature of Science Emphasis)

COMING SOON!
This **NEW** topic is
UNDER CONSTRUCTION!



"Would absolutely book another workshop! My students were very engaged. You know that what you're doing is working when they complete an experiment and immediately ask to try it again!"

- Grade 5 Teacher after *Weather Watch*

FUN WAYS TO GET INVOLVED WITH SCIENTISTS IN SCHOOL™!

2016-17 KIDZ LAB MASCOT CHALLENGE



CALL FOR ENTRIES!

CREATE A BRAND NEW MASCOT TO REPRESENT SCIENTISTS IN SCHOOL!

Hey kids, it's time to get creative! Our beloved mascot, Mr. Scientist, is retiring and we need a NEW Kidz Lab Challenge mascot to take his place! This new mascot may be featured on our website, social media, and other communications materials, and the winner will receive some fantastic prizes. Download the entry package at:

scientistsinschool.ca/kidz-lab.php

PARTICIPATE IN THE CALGARY 2016-17 BOOKMARK CONTEST!

CALL FOR ENTRIES!

Calling all Calgary Kindergarten to Grade 7 students! Our 2016-17 Bookmark Contest theme is 'Science Around Us'. Submit as many bookmarks as you wish for a chance to win one of three awesome prizes!

Contest deadline is June 3, 2017.

Download the entry package at scientistsinschool.ca/kidz-lab.php



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Scientists in School
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Lethbridge, Alberta T1K 5Y4
403.394.9804 / 1.844.794.9804
Fax: 403.394.9997
calgary@scientistsinschool.ca

Please note:

One coupon per order.
Space is limited so book today!

BACK TO SCHOOL OFFER EXPIRES SEPTEMBER 30, 2016

By September 30, 2016, book a workshop to take place in
September or October, 2016 and receive

\$10 OFF THE REGULAR WORKSHOP PRICE*

In order to receive the discount, please mention the Back to School offer
when booking by phone or email.

Offer code BTS-16 must be entered into the Notes section
of the online or printed booking forms.

*Only workshops booked to take place in September and October, 2016 are eligible.



**SCIENTISTS
IN SCHOOL**

Scientists in School is a leading Canadian science charity dedicated to sparking children's interest in science, technology, engineering, math, and the environment through hands-on discovery. 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.

Scientists in School

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scientistsinschool.ca

STEM EDUCATION THROUGH PARTNERSHIP

Scientists in School relies upon the generous support of partners to subsidize the cost of workshops for all schools. Thank you to all of our partners.

CATALYST LEVEL

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

INNOVATION LEVEL

Cameco | RBC Foundation

IMAGINATION LEVEL

Amgen Canada | Amgen Foundation | CST Inspired Minds Learning Project | Gay Lea Foundation | Google Canada
Hydro One | John and Deborah Harris Family Foundation | McMillan LLP | Nuclear Waste Management Organization
Ontario Power Generation | Superior Glove Works Ltd. | TELUS

DISCOVERY LEVEL

2016 Pickering Mayor's Gala | Celestica | Community Foundation of Ottawa
Consulting Engineers of Ontario | Hamilton Community Foundation
Isherwood Associates | MilliporeSigma | The Maurice Price Foundation

EXPLORATION LEVEL

Ajax Community Fund at Durham Community Foundation | Huronia Community Foundation | Lee Valley Tools
Rotary Club of Lethbridge | Siemens Milltronics Process Instruments | Syngenta | Systematix Inc.
The Optimist Club of Ajax | The Source | Veridian Connections
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Printed by Britannia Printers Inc.



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