



# SCHOOL visit GUIDE

2017-2018



Book online [sciencenorth.ca/schools](http://sciencenorth.ca/schools)



# WELCOME BACK TO SCIENCE NORTH, FOR THE 2017-2018 SCHOOL YEAR!

Science is everywhere around us and has a great impact on our lives. We, at Science North, come to work every day to learn, teach and play and make connections with the science that surrounds us! One of the best parts of our day is the opportunity to involve your students in hands-on science. We love to see that *spark* in their eyes, when they get inspired and live an ‘Aha!’ moment.

A solid science foundation and an appreciation of science can truly foster lifelong learning. At Science North, our goal is to ignite that *spark* for students, by connecting them to the science in the world around them, and providing the tools required for them to explore their world, ask questions, and get involved.

Our Bluecoat scientists are dedicated professionals that develop and deliver hands-on, curriculum based school programs. Bring your students to Science North and Dynamic Earth and let our scientists provide interactive and kinesthetic learning through hands-on science fun!

Let us help you make the science come alive! We look forward to welcoming your class at Science North and Dynamic Earth during the 2017-2018 school year.

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Dynamic Earth is a Science North attraction. IMAX® is a registered trademark of IMAX Corporation.  
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# GENERAL INFORMATION

Science North school memberships are a great value! Pay once, visit often during the school year!\*

## ADMISSION RATES

	Science North OR Dynamic Earth			IMAX® Theatre			Planetarium			IMAX Theatre & Planetarium		
 Student												
 Supervising Adult												
 Additional Adult												
Member Schools	FREE	FREE	\$10.50	\$6	\$6	\$11	\$3	\$3	\$8	\$8	\$8	\$18
Non-Member Schools	\$10.50	FREE	\$10.50	\$6	\$6	\$11	\$5	\$5	\$8	\$10	\$10	\$18

Prices are subject to applicable taxes.

We recommend the following student/supervisor ratio:



JK to Grade 2



Grades 3 to 8



Grades 9 to 12

Supervising adults are admitted free of charge at the recommended ratio. Additional supervisors beyond the recommended ratio must pay admission. Supervisors are required to remain with their students at all times.


## SCHOOL MEMBERSHIPS

As a Science North member school, your school can benefit from unlimited weekday visits\* to Science North and Dynamic Earth\*\* from **September 6, 2017 to June 1, 2018**, which can include hands-on, curriculum-linked programming to complement your classroom lessons. Science North member schools are also exempt from deposit fees and receive savings on special school events held throughout the school year.

\*NOTE: All visits must be booked one (1) week in advance. Book online at [sciencenorth.ca/school](http://sciencenorth.ca/school).

\*\*NOTE: The Underground Tour will be unavailable from September 24, 2017 to November 6, 2017.

## SCHOOL MEMBERSHIP RATES

Elementary	Secondary - School memberships may be purchased two ways:
 Each registered student* in the school pays \$5.25 per student, plus applicable taxes.	Each registered student* in the school pays \$5.25 per student, plus applicable taxes. <b>OR</b> Each registered student* in an entire grade level pays \$5.25 per student, plus applicable taxes.

\* Schools with a student population of 60 students or less must pay a minimum of \$315, plus applicable taxes for a school membership.

## HOURS OF OPERATION

**Science North** 10 a.m. to 4 p.m.

September 6, 2017 to June 29, 2018

**Dynamic Earth** 10 a.m. to 4 p.m.

September 6, 2017 to September 24, 2017  
November 6, 2017 to June 29, 2018

Does a 9 a.m. start time suit you better? Contact our booking agents and we will accommodate your request.



## IMPORTANT INFORMATION

### Program Length

All educational experiences are booked in one-hour intervals. School programs are generally 50 minutes in length, with some exceptions. School programs are not offered on weekends, holidays or during the summer.

### Science North



School Programs



Object Theatres



Live Science Shows



IMAX Film or Planetarium Experience

### Dynamic Earth



School Programs



Object Theatres



HD Films in the Atlas Copco Theatre



Vale Chasm Show and Underground Tour - In The Footsteps of Sudbury's Miners

Rules of Conduct

Science North welcomes school groups along with the general public during operating hours. Please be respectful of others who may be enjoying the same experience as your group.

Belongings

Open-access coat racks are available. Please leave valuables at home. Science North is not responsible for lost or stolen belongings. All forgotten items found will be taken to the admission desk and held for a short period of time. Please call 705.523.4629 if you have lost an item.

Lost Children

Students of all ages should stay with their supervisors. Lost children should approach a Bluecoat who will conduct a radio search to locate the group. If a supervisor realizes a student is missing, the supervisor must approach a Bluecoat with a description of the child.

BOOKING YOUR VISIT

Book your visit online at [sciencenorth.ca/schools](http://sciencenorth.ca/schools), call one of our friendly booking agents between 8 a.m. and 4 p.m. weekdays at 705.523.4629 or send an email to [schoolvisit@sciencenorth.ca](mailto:schoolvisit@sciencenorth.ca).

Book early!  
All bookings are confirmed on a first-come, first-served basis.

Booking Your Visit

A class visit includes up to two (2) hands-on school programs and up to two (2) additional educational experiences, which include Object Theatres, live science shows (Science North only) or the Underground Tour (Dynamic Earth only).

Add any value-priced additional attractions; an IMAX film and/or a digital Planetarium school program experience and/or an Escape Room experience (Science North only).

You will receive acknowledgement of your tentative booking by e-mail including a copy of your proposed itinerary and your invoice. However, confirmation of your visit will not be given until we have received and successfully processed your deposit (not applicable for member schools). Please note that there is a 48-hour turnaround for e-mail confirmation to member schools.

Changes

In an effort to give all schools equal access to booking spaces, we ask that you limit changes to your itinerary (the date of your visit or the selection of programs) to one. **More than one change will result in a \$25 administrative fee (plus applicable taxes) per change.**

Cancellations

The cancellation of your visit, including failing to attend a confirmed visit, will result in a **\$25 administrative fee (plus applicable taxes) per booking, except in severe weather.**

Payment

A non-refundable deposit of \$100 per school group (not applicable for member schools) is required to confirm your booking. A non-refundable deposit of \$300 per Ultimate School Field Trip or the Sunset to Sunrise Camp-in experience is required to confirm your booking. **Full payment is required upon arrival at Science North or Dynamic Earth.** Please bring a cheque, VISA or MasterCard to pay the full amount of the invoice, less your deposit. Make cheque payable to Science North. Be sure to include your school's name, invoice number and visit date with your payment.

Accessibility accommodations are available upon request.






MEAL  
OPTIONS

Your pre-ordered lunch is prepared and delivered to your group in your reserved seating area.


*NOTE: Vegetarian and gluten-free options are available, please request at time of booking.*

Teachers eat lunch FREE! One free educator lunch meal per 15 student lunches ordered for a school visit.

SCIENCE NORTH SCHOOL MEAL PACKAGES

	(Smaller Size) \$9 per person (tax incl.)	INCLUDES · Whole fruit · 1% milk · Individual cheese portion · Grilled chicken (2 oz.) sandwich on whole grain bread
	(Larger Size) \$11 per person (tax incl.)	INCLUDES · Whole fruit · 1% milk · Individual cheese portion · Grilled chicken (3 oz.) sandwich on whole grain bread · Broccoli and cauliflower with dip
	\$9 per person (tax incl.)	INCLUDES · Slice of pizza (pepperoni or cheese) · Bag of chips or a small salad · Beverage (300 ml)
	DINNER \$12 per person (tax incl.)	OPTION A · Grilled chicken breast · Potato wedges or mashed
		OPTION B · Spaghetti and meatballs
		<i>Both dinner options include rolls and butter, salad, choice of beverage and dessert.</i>
	IMAX \$4 per person (tax incl.)	Small popcorn & pop

DYNAMIC EARTH SCHOOL MEAL PACKAGE

	LUNCH \$9 per person (tax incl.)	· One slice of pizza* · Bag of chips · Beverage (300 ml). <i>*Each extra slice of pizza is \$2.25.</i>
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# JUST FOR TEACHERS!

## SCIENCE-ATIONAL NEWS!

Stay up to date on the world of science and technology!

Sign up to receive our monthly electronic newsletter. Be the first to know about upcoming school events at Science North.


Visit [www.sciencenorth.ca/schools/teacher-resources](http://www.sciencenorth.ca/schools/teacher-resources) to sign up.

## TEACHER WORKSHOPS

### Do you aspire to become a classroom science hero?

Science North can help! We have developed a series of dynamic teacher workshops that cover the Ontario Science and Technology Curriculum.

Each workshop is designed to give teachers the confidence and resources they need to investigate and explore the science concepts involved. These workshops involve teachers in fun, hands-on activities that they can take directly to the classroom. All activities are easily reproduced for the classroom at little or no cost.

 Workshops are three (3) hours long and cost \$600 each (plus applicable taxes) with a maximum capacity of 30 attendees.

*Looking for a one or two hour customized workshop? Want us to come to you? Contact Sarah Chisnell at 705.522.3701 ext. 317.*



TEACHERS  
VISIT FREE  
WITH A TEACHER  
ACCESS PASS\*

Did you know your valid Ontario College of Teachers card grants you a free Teachers Access Pass, giving you no charge admission to Science North and Dynamic Earth, during designated periods\*?

Visit  
[sciencenorth.ca/oct](http://sciencenorth.ca/oct)  
for more information  
and restrictions.

*\*Free admission benefit does not apply during select annual special events and times, including March Break, summer school break, Halloween at Dynamic Earth, Christmas school break, and New Years Eve Family Fun Day at Science North.*



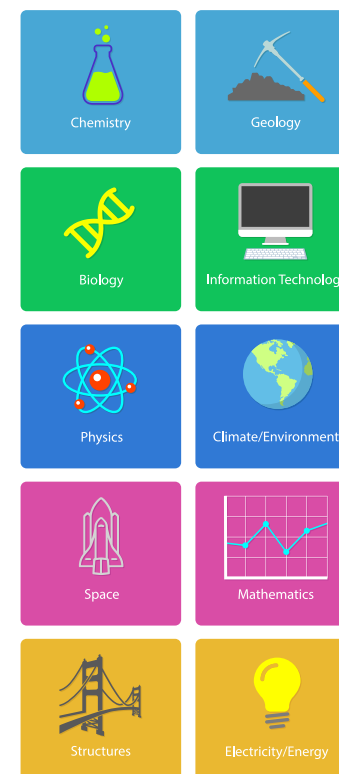
## Educator Resources

Do you want to do hands-on, innovative science with your students right in your own classroom? Our online lesson plans were designed with you and your students in mind. They are easy to find, simple, and you won't need any elaborate equipment to do them! The comprehensive resources include:

- Lesson plans for K to Grade 12 for every strand
- Ready to use worksheets, answer keys and assessment tools
- Instructional videos to help you feel more confident in the science classroom, with mini lessons from our Bluecoats and,
- Dynamic, energizing classroom videos

Wow your students with engaging science activities and experiments that meet the elementary and secondary Ontario Science and Technology curriculum.

Booking one of our hands-on school programs at either Science North or Dynamic Earth? Be sure to check out the resources to see if there is a pre or a post activity that you can do with your students to enhance and extend their learning.



Explore our resources at: [education.sciencenorth.ca](http://education.sciencenorth.ca)

*Support for this project provided by the Ministry of Education*



SCIENCE NORTH CURRICULUM CONNECTIONS

These tables match Science North’s educational programs with the Ontario Science and Technology Curriculum strands and topics for kindergarten to grade 8.

	Science & Technology	Mathematics	Health & Physical Activity
Grade K	<ul style="list-style-type: none"><li>• Healthy Me 🖐️</li><li>• Butterflies 🖐️</li><li>• I Touch I Discover Animals 🖐️</li><li>• NEW! Science Wonders! ⭐</li><li>• NEW! The Needs of Plants and Bees 🖐️</li></ul>	<ul style="list-style-type: none"><li>• Shape it Up! 🖐️ ÷</li></ul>	<ul style="list-style-type: none"><li>• Healthy Me 🖐️</li><li>• NEW! Ready, Set, Move! 👁️</li></ul>

Life Systems							
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
<p>Needs and Characteristics of Living Things</p> <ul style="list-style-type: none"><li>• Healthy Me 🖐️</li><li>• Insects in their Environment 🖐️</li><li>• Legends of the Great Lakes 👁️</li><li>• NEW! Numbers in Nature 🖐️ ÷</li><li>• NEW! The Needs of Plants and Bees 🖐️</li></ul>	<p>Growth and Changes in Animals</p> <ul style="list-style-type: none"><li>• Legends of the Great Lakes 👁️</li><li>• NEW! Numbers in Nature 🖐️ ÷</li></ul>	<p>Growth and Changes in Plants</p> <ul style="list-style-type: none"><li>• Nature Exchange 🖐️</li><li>• Insects in their Environment 🖐️</li><li>• NEW! Power Plants 🖐️</li><li>• NEW! Numbers in Nature 🖐️ ÷</li></ul>	<p>Habitats &amp; Communities</p> <ul style="list-style-type: none"><li>• Animal Super-senses! 🖐️</li><li>• Nature Exchange 🖐️</li><li>• Our Planet, Our Climate! 🖐️</li><li>• Legends of the Great Lakes 👁️</li><li>• NEW! Ocean Ecosystems 🖐️ ÷</li><li>• NEW! Predators 🖐️</li><li>• NEW! Under the Same Stars: Minwaadiziwin 💰</li></ul>	<p>Human Organ Systems</p> <ul style="list-style-type: none"><li>• Human Organ Systems 🖐️</li><li>• NEW! Under the Same Stars: Minwaadiziwin 💰</li></ul>	<p>Biodiversity</p> <ul style="list-style-type: none"><li>• Animal Super-senses! 🖐️</li><li>• Nature Exchange 🖐️</li><li>• Legends of the Great Lakes 👁️</li><li>• NEW! Ocean Ecosystems 🖐️ ÷</li><li>• NEW! Predators 🖐️</li></ul>	<p>Interactions in the Environment</p> <ul style="list-style-type: none"><li>• Nature Exchange 🖐️</li><li>• Legends of the Great Lakes 👁️</li><li>• NEW! Under the Same Stars: Minwaadiziwin 💰</li></ul>	<p>Cells</p> <ul style="list-style-type: none"><li>• NEW! Cellular Mystery 🖐️</li></ul>
Structures & Mechanisms							
<p>Materials, Objects &amp; Everyday Structures</p> <ul style="list-style-type: none"><li>• NEW! Mix It Up! 🖐️ ÷</li></ul>	<p>Movement</p> <ul style="list-style-type: none"><li>• Pushing &amp; Pulling 🖐️ ÷</li><li>• NEW! Energy Everywhere! ⭐</li></ul>	<p>Strong &amp; Stable Structures</p> <ul style="list-style-type: none"><li>• Tremendous Towers 🖐️</li></ul>	<p>Pulleys &amp; Gears</p> <ul style="list-style-type: none"><li>• Pushing &amp; Pulling 🖐️ ÷</li><li>• NEW! Energy Everywhere! ⭐</li></ul>	<p>Forces Acting on Structures &amp; Mechanisms</p> <ul style="list-style-type: none"><li>• Tremendous Towers 🖐️</li><li>• Light, Forces and Energy in Space 💰</li></ul>	<p>Flight</p> <ul style="list-style-type: none"><li>• Wildfires! A 3D Firefighting Adventure 👁️</li><li>• Flight! ⭐</li></ul>	<p>Form and Function</p> <ul style="list-style-type: none"><li>• Make a Mechanism 🖐️ ÷</li></ul>	<p>Systems in Action</p> <ul style="list-style-type: none"><li>• Make a Mechanism 🖐️ ÷</li><li>• Planetary Science 🖐️ ÷</li></ul>
Matter & Energy							
<p>Energy in our Lives</p> <ul style="list-style-type: none"><li>• NEW! Science Wonders! ⭐</li></ul>	<p>Properties of Liquids and Solids</p> <ul style="list-style-type: none"><li>• NEW! Mix It Up! 🖐️ ÷</li></ul>	<p>Forces Causing Movement</p> <ul style="list-style-type: none"><li>• Pushing &amp; Pulling 🖐️ ÷</li><li>• Light, Forces and Energy in Space 💰</li><li>• NEW! Energy Everywhere! ⭐</li></ul>	<p>Light &amp; Sound</p> <ul style="list-style-type: none"><li>• Light, Forces and Energy in Space 💰</li></ul>	<p>Properties of and Changes in Matter</p> <ul style="list-style-type: none"><li>• NEW! Solids and Liquids and Gases, Oh My! ⭐</li></ul>	<p>Electricity &amp; Electrical Devices</p> <ul style="list-style-type: none"><li>• Let’s Get Electric! 🖐️</li></ul>	<p>Pure Substances and Mixtures</p> <ul style="list-style-type: none"><li>• The Flow of Science ⭐</li></ul>	<p>Fluids</p> <ul style="list-style-type: none"><li>• The Flow of Science ⭐</li></ul>
Earth & Space Systems							
<p>Daily &amp; Seasonal Changes</p> <ul style="list-style-type: none"><li>• Seasons 💰</li></ul>	<p>Air and Water in the Environment</p> <ul style="list-style-type: none"><li>• The Changing Climate Show 👁️</li><li>• Legends of the Great Lakes 👁️</li></ul>	<p>Soils in the Environment</p> <ul style="list-style-type: none"><li>• Our Planet, Our Climate! 🖐️</li></ul>	<p>Rocks &amp; Minerals</p> <ul style="list-style-type: none"><li>• Lapidary 🖐️</li><li>• Nature Exchange 🖐️</li></ul>	<p>Conservation of Energy and Resources</p> <ul style="list-style-type: none"><li>• Our Planet, Our Climate! 🖐️</li><li>• The Changing Climate Show 👁️</li><li>• Wildfires! A 3D Firefighting Adventure 👁️</li></ul>	<p>Space</p> <ul style="list-style-type: none"><li>• Our Place in Space 🖐️</li><li>• Meet the Neighbours 💰</li><li>• NEW! Under the Same Stars: Minwaadiziwin 💰</li></ul>	<p>Heat in the Environment</p> <ul style="list-style-type: none"><li>• NEW Content! Warm &amp; Cold Blooded Animals 🖐️ ÷</li><li>• The Changing Climate Show 👁️</li><li>• Planetary Science 🖐️ ÷</li></ul>	<p>Water Systems</p> <ul style="list-style-type: none"><li>• Planetary Science 🖐️ ÷</li><li>• NEW! Under the Same Stars: Minwaadiziwin 💰</li></ul>
Other							
<ul style="list-style-type: none"><li>• Healthy Me 🖐️</li><li>• NEW! Ready, Set, Move! 👁️</li><li>• NEW! For the Fun of Science! ⭐</li></ul>	<ul style="list-style-type: none"><li>• NEW! Ready, Set, Move! 👁️</li><li>• NEW! For the Fun of Science! ⭐</li></ul>	<ul style="list-style-type: none"><li>• NEW! Ready, Set, Move! 👁️</li><li>• NEW! For the Fun of Science! ⭐</li></ul>	<ul style="list-style-type: none"><li>• Healthy Living 🖐️ ÷</li><li>• NEW! Ready, Set, Move! 👁️</li><li>• NEW! For the Fun of Science! ⭐</li></ul>	<ul style="list-style-type: none"><li>• Healthy Living 🖐️ ÷</li><li>• NEW! Ready, Set, Move! 👁️</li><li>• NEW! For the Fun of Science! ⭐</li></ul>	<ul style="list-style-type: none"><li>• Healthy Living 🖐️ ÷</li><li>• NEW! Ready, Set, Move! 👁️</li><li>• NEW! For the Fun of Science! ⭐</li><li>• How to Create a Science Fair Project 🖐️</li></ul>	<ul style="list-style-type: none"><li>• Healthy Living 🖐️ ÷</li><li>• NEW! Ready, Set, Move! 👁️</li><li>• How to Create a Science Fair Project 🖐️</li></ul>	<ul style="list-style-type: none"><li>• Healthy Living 🖐️ ÷</li><li>• NEW! Ready, Set, Move! 👁️</li><li>• How to Create a Science Fair Project 🖐️</li></ul>



# SCIENCE NORTH SCHOOL PROGRAM DESCRIPTIONS



## Grade K BUTTERFLIES

Through play-based learning, students discover the world of butterflies, plants and other insects. The F. Jean MacLeod Butterfly Gallery will be transformed into their very own living laboratory!

## Grade K I TOUCH & I DISCOVER ANIMALS

By touching both real and replica parts of different animals, students will explore the wonderful world of animals. Students will also have an opportunity to see and interact with live animals.

## Grade K SHAPE IT UP!

This program offers students the chance to investigate and compare two-dimensional shapes using hands-on tools and technology. Students will experiment with these shapes to identify and create colourful patterns and sequences.

## Grades K1 HEALTHY ME

Students will use movement-based activities and hands-on tools to explore the importance of healthy food choices for supporting the body's health and energy.

## Grades K1 NEW! THE NEEDS OF BEES AND PLANTS

In this program, students will explore the needs of living things with a focus on plants and bees. Students will participate in fun activities about pollination and learn about the different roles each bee plays within the whole colony. Students will come away with how they can positively impact bees and their environment.

## Grades 123 NEW! NUMBERS IN NATURE

Math is found all around us, especially in nature! Students will explore animals and plants by counting, measuring and investigating symmetry found in the natural world.

*Allergy alert: This program uses shellfish and fish specimens.*

## Grades 12 NEW! MIX IT UP!

In a series of hands-on activities, students will use scientific tools and methods to investigate the properties and interactions of various solids and liquids.

## Grades 234 INSECTS IN THEIR ENVIRONMENT

Using live insects and interactive activities, students will delve into how different insects adapt to their environments. There will also be a focus on the human impact on natural environments and human's use of animals in daily life.

## Grades 245 PUSHING & PULLING

Using tools and technology, students will build and investigate different types of pulley systems and evaluate how pulleys affect the amount of force required to lift a load.

## Grade 3 NEW! POWER PLANTS

Students will explore the mysteries of photosynthesis through a hands-on experiment using live plant matter. In addition, they will learn how the parts of a plant help with the process of photosynthesis. They will also discover how humans use plants for food, clothing and a variety of everyday objects.

## Grades 345 TREMENDOUS TOWERS

During this interactive program, students will design and build various structures to test their load-bearing function and ability to resist forces of wind.

## Grades 345 OUR PLANET, OUR CLIMATE

Through hands-on science activities, students will learn how the changing climate of Earth is affecting biomes and animal habitats, why conservation matters, and the surprising role of the soil in combatting climate change.

## Grades 456 NEW! PREDATORS

Students will discover some of the adaptations that predators use to hunt and kill their prey by examining animal skulls and by dissecting an owl pellet.

## Grades 456 HUMAN ORGAN SYSTEMS

Students will investigate the structure and function of the respiratory and circulatory systems using hands-on science tools. Students will also identify the interrelationships between these body systems and investigate the changes in these systems as a result of physical activity.





Grades 4 to 6

## ANIMAL SUPER-SENSES

Through engaging with live animals and hands-on experiments, students will learn about how animals thrive in their habitats and communities through special adaptations. Students will also learn how energy moves through food chains and food webs.

Grades 4 to 6

## NEW! OCEAN ECOSYSTEMS

Students will examine how humans are affecting ocean ecosystems by observing the relationships between fishing, economics, and species at risk.

Grades 4 to 8

## HEALTHY LIVING

Using hands-on tools, students will analyze the nutritional content of common food products to develop strategies for making healthier food choices.

Grades 5 to 6

## LET'S GET ELECTRIC!

In order to explore concepts of electrical energy and energy conservation, students will construct circuits using a variety of tools.

Grade 6

## OUR PLACE IN SPACE

Immersive activities will allow your students to discover how Earth fits into the solar system and cosmos. They will experiment with tools and techniques scientists use to learn about places they have never been.



Grades 7 to 8

## PLANETARY SCIENCE

Through hands-on activities and illustrative comparisons with other planets, students will explore the Earth's climate system including inputs, outputs, and feedback loops involving heat and water.

Grades 7 to 8

## NEW! CELLULAR MYSTERY

An unsolved mystery has occurred at Science North and we are looking for the best detectives to solve it! Cellular evidence has been left behind at the crime scene and students will take samples, create slides, and compare against pre-prepared slides to solve the case.

Grades 7 to 8

## NEW CONTENT! WARM AND COLD BLOODED ANIMALS

Students will explore how both warm-blooded and cold-blooded animals regulate heat production and loss. Students will experiment with heat radiation, conduction and thermo-regulation while also interacting with live animals.

Grades 7 to 8

## MAKE A MECHANISM

In this program, students will build and test structures and mechanisms that support and transport loads through fun challenges. They will work with real tools to explore how structure relates to function and to investigate factors that affect a mechanism's performance.

# ADDITIONAL EDUCATIONAL EXPERIENCES

2 HOURS

## NATURE EXCHANGE

Grades 3 to 8

Students gain an appreciation for plants, insects, rocks and minerals, and their role in the ecosystem by trading items found and collected from their backyard or abroad.

*Note: Students must locate and acquire their items for trading before their visit to Science North.*



2 HOURS

## LAPIDARY

Grades 4 to 12

From capping to faceting and etching, students learn about different lapidarist techniques for cutting, shaping, and polishing rocks and minerals. Learn why various rocks handle differently and why some are used for certain purposes.



90 MINS

## HOW TO CREATE A SCIENCE FAIR PROJECT

Grades 6 to 8

Learn what steps are involved in completing a successful science fair project, from choosing a great topic, designing and executing the experiment, to presenting it. Students complete a small, but interesting project that illustrates the main steps of a scientific experiment and could be a jumping-off point for further investigation.





# DISCOVERY THEATRE

Grades  
K  
1

## NEW! SCIENCE WONDERS!

Through exciting demonstrations your students will be inspired by science. This show will cultivate their sense of wonder in the world around them.

Grades  
2  
3  
4

## NEW! ENERGY EVERYWHERE!

This live science show guides students in discovering the basic principles of energy and forces. Engaging demonstrations illustrate forces as they transfer and transform energy.

Grade  
5

## NEW! SOLIDS AND LIQUIDS AND GASES, OH MY!

Students will explore matter in all its forms through live science demonstrations that highlight amazing physical and chemical reactions!



Grades  
1  
2  
3  
4  
5  
6

## NEW! FOR THE FUN OF SCIENCE!

Pique your students' scientific curiosity as we have fun with some of our favourite experiments.

Grades  
5  
6

## FLIGHT!

How does that 400,000 kg aircraft fly in the air!? Through awe-inspiring demonstrations, your students will learn all about the physics of air and flight.

Grades  
7  
8

## THE FLOW OF SCIENCE

What is a fluid? What are fluids made of? With the help of our scientists' explosive demonstrations, students investigate the different properties of fluids.

Grades  
9  
10  
12

## CHEMISTRY 101

Students will - Experiment! Investigate! Discover! They will be amazed at the elemental science that is Chemistry. From atoms, to elements, to periodicity, to rates of reactions, and gases, this show has it all.



# SPECIAL SCHOOL EVENTS



## SCIENCE OLYMPICS

Grades  
9  
10  
12

Science North November 1, 2017 (French)  
November 2, 2017 (English)

Science North is excited to offer an action-packed experience for secondary schools. The seventh annual Science Olympics will provide the opportunity for teams of students from grades 9 to 12 to experience science challenges competing against the clock. Science Olympics is a series of problem solving events that provide hands-on learning and requires students to apply their knowledge of science in creative ways. There will be Intermediate (grades 9 and 10) and Senior (grades 11 and 12) divisions, with students competing in teams of four.

\$12 per student (plus applicable taxes).



## NEW! SPACE WEEK

Grades  
5  
6

February 20-23, 2018

Take your students on a Mission to Mars! During this full-day program, students will learn about the Canadian contributions to space exploration, technological advances in space adaptation, and how space exploration contributes to life on Earth.

Let your students enjoy everything the centre has to offer, or extend their space experience with one of two options:

### 1 - A Beautiful Planet (3D IMAX film)

Visit the International Space Station in 3D to receive a unique perspective on stewardship

\$6 per student (plus applicable taxes)

### OR 2 -Planetarium Show

Visit the whole Solar System in our upgraded digital Planetarium to solve problems related to the size, position and motion of bodies in space and gain an understanding of Earth as part of a larger system.

Member schools \$3 per student  
Non-member schools \$5 per student  
(plus applicable taxes)

## NEW CONTENT!

## ANIMAL KINGDOM WEEK

Grades  
2  
3  
4  
5  
6

November 20-24, 2017

This full-day event will have your students immersed in the animal world. Through 3 specially designed workshops, your students will interact with animals, discover fascinating creatures, and explore their amazing and unique adaptations and habitats. Using tools and hands-on science your students will explore the animal kingdom.

Register online at [sciencenorth.ca/schools](http://sciencenorth.ca/schools) or by calling 705.523.4629. For questions about these experiences, contact the Education Staff Scientist at 705.522.3701 ext. 295.

Note: Workshops are adapted for the appropriate grade level.

Book early!  
Space is limited.





Book early!  
Space is limited.



## NEW CONTENT! ENGINEERING WEEK

Grades **7** March 19-23, 2018

During this full-day event, students will be challenged to plan, engineer and build unique projects. While working in teams, students will use their critical thinking skills and various scientific concepts to craft a Rube Goldberg machine.

## BUTTERFLIES AND GARDENING

Grades **1 2 3** May 14-18, 2018

Students will be engaged in a full-day of butterfly related topics, from gardening, to migration to conservation efforts.

This full-day event will focus on Monarch butterflies. Your students will learn about their taxonomy, migration and threats to their survival, as well as Science North's participation in the tagging program. They will also learn how to create an outdoor space for monarch butterflies, while learning about their habitats and feeding. Students will be fully engaged and get to visit our Lakeshore restoration site, Northern garden and Northern Forest.



## ROBOTICS WEEK

Grades **4 To 8** May 7-18, 2018

This full-day event will have your students engaged from start to finish. Using EV3 Lego robots and iPads, your students will be immersed in programming. They will be given challenges and will need to use their problem solving skills, their teamwork skills and their inquiry skills to complete the task!



# SECONDARY SCHOOL EXPERIENCES

Grades **9 To 12**

These ALL-DAY EXPERIENCES are fully planned for you. Simply book into the full-day experience and let our booking agents schedule your day.

## ECOLOGY DAY

*Note: This program is available through the month of September until the second week of October and from the first week of May until the end of the school year.*

Bring your students to Science North's outdoor classroom! Students will visit a wetland to learn about its importance to local and global biodiversity. They will use scientific equipment (dip nets, microscopes, binoculars) to collect and observe wetland organisms, and will learn how to determine the quality of an aquatic ecosystem. This exciting day will also give students the chance to meet a variety of Ontario's reptiles at risk and learn about factors that threaten them, their habitats and ways they can help species at risk.

*Note: Students must bring rubber boots.*

## GENETICS DIVERSITY DAY

Have your students engaged with the science of genetics and evolution! Through the lens of historic scientific experiments, students will examine the structure and function of DNA, RNA and proteins that led to their discovery, and will have the opportunity to examine their own genetic traits in the context of heredity. Students will work with scientific tools to investigate how agarose gel electrophoresis can be used to separate molecules such as nucleic acids and proteins. Using specimens, students examine the evolutionary history of fish by examining modern day samples. Students will gain an understanding of evolutionary processes using fish as a visual and tangible example.

## ELECTRICITY DAY


It's electrifying! Your students will spend the day exploring the different aspects of electricity, including the properties of static and current electricity, sources of electricity and the practical use of electricity in our daily lives. Hands-on activities will give your students a better understanding of the importance of energy-saving habits and the future of renewable sources of energy generation.

## CLIMATE & OPTICS DAY

Through the prism of the properties of light and geometric optics, students will deepen their powers of critical thinking with a series of inquiry-based challenges. Moving into climate science, students will investigate natural and human factors that influence our climate and climate change; including the greenhouse effect, and heat transfer through air and water.

## ASTRONOMY DAY

Students will embark on an interactive Bluecoat-led tour of the universe in the digital Planetarium and complete two space-related programs. Through engaging hands-on activities, students will explore the Big Bang theory and its implications on the structure and evolution of the universe and the characteristics and properties of the celestial objects visible in the night sky. In teams, students will build their own space-tech project, while learning about Canada's contributions to space exploration.

 *Note: there is an additional cost (plus applicable taxes) for this program due to the addition of the planetarium experience.*

Register online at [sciencenorth.ca/schools](http://sciencenorth.ca/schools) or by calling 705.523.4629. For questions about these experiences, contact the Education Staff Scientist at 705.522.3701 ext. 295.

*Note: Workshops are adapted for the appropriate grade level.*



# SPECIAL EXHIBITIONS

## GENOME UNLOCKING LIFE'S CODE

Grades 7 to 12 October 10 – December 22, 2017



DNA literally is the 'stuff of life' - it is the set of instructions for making everything from you to zebras, strawberries, and even yeast. Understanding what the language of DNA means will revolutionize your understanding of yourself, your health, and your connections to life on Earth. *GENOME: Unlocking Life's Code* will take students deep inside their own bodies to explore the mysteries of the human genome. They will learn what genomic science tells us about human disease, where we fit into the natural world, and how humans populated the world. Through physical and computer interactives, media experiences, specimens and artifacts, replicas, *GENOME: Unlocking Life's Code* will reveal the thrilling nature of genomic science and what it means to us as humans.

Produced by  Smithsonian National Museum of Natural History  National Human Genome Research Institute Department of Health and Human Services

## BEYOND HUMAN LIMITS

Grades K to 12 March 3, 2018 to June 29, 2018



In this high-energy exhibition, students experience the thrill of extreme sports in exciting, interactive exhibits and immersive environments. They explore the technology, creativity and innovation inherent in these sports. They meet passionate athletes and hear their incredible stories, and take in the artistry, motivation and thoughtfulness that goes into everything they do.

# MULTIMEDIA EXPERIENCES

Grades 1 to 12 **NEW! READY, SET, MOVE!**

Get your class moving in Science North's newest object theatre! This fully immersive, active and interactive theatre will take you on a journey into the world of healthy living. Movement-sensing technology allows your students' own activity to contribute to the story. Students will jump, dodge, twist and play throughout the show, their actions helping our heroine Anna and her quest to save her family from an ominous, dark fog. This experience will be complemented by Bluecoat-led movement activities in the BodyZone.



Grades 1 to 12 **THE CHANGING CLIMATE SHOW**

Sheepy has enlisted the help of "Fleece-Net", a global network of informed sheep, to gather vital information about current climate situations worldwide. Together, they present a picture of our vulnerabilities while also highlighting innovative solutions that are being implemented around the world.

Grades 5 to 12 **BETWEEN THE STARS**

Journey deep into space and deep underground as we look for the big picture behind the universe's greatest mystery: dark matter. Along the way, students will learn about our solar system, our galaxy, our universe -- and Canada's best-kept scientific secret, a world-class physics lab right here in Sudbury! Students will hear about why scientists travel 2 km underground to study the most common substance in outer space, and what their discoveries could mean for our understanding of the cosmos.

Grades 1 to 12 **LEGENDS OF THE GREAT LAKES**

Voyage through the Earth's greatest freshwater ecosystem and discover the breathtaking scenery of the Great Lakes, and the species that call it home. Join a father and daughter camping trip on the shore of Lake Superior, and experience the remarkable stories of three key species and the significance of the Great Lakes on their past and future.

Grades 2 to 12 **WILDFIRES! A 3D FIREFIGHTING ADVENTURE**

*Wildfires!* takes you into the heart of a major forest fire and gives you an unforgettable look at how fires are created and ultimately controlled. The adrenaline rushes through your body as you witness the unfolding drama. Ride with pilots of the Bird Dog as they direct operation from high above the blaze, and watch as the world's most sophisticated water bombers swoop in. Discover the sense of relief and accomplishment that forest fire crews feel when they've brought one of nature's most fearsome adversaries under control.





# ADD-ON EXPERIENCES

## PLANETARIUM

Extend your educational experience by adding this value-priced attraction that is curriculum linked.

Students will be engaged in the science of the universe through this multi-media experience. This immersive experience is led by our scientists and is designed to complement the space curriculum while sparking an interest in the world beyond our planet. Using high quality imagery and audio, the Planetarium brings to life your journey through space.

*Program can start as early as 9 a.m.*



### Grades 1-2 SEASONS

Investigate daily and seasonal changes by observation of the relationship between the earth, the sun and the night sky. This presentation, geared to a younger audience, is mixed with music and lights.

### Grades 3-5 LIGHT, FORCES AND ENERGY IN SPACE

Examine our closest celestial neighbours and the night sky to learn what scientists know about space through the study of light and its properties. Investigate forces that cause movement in space and how energy is transformed and conserved among the planets.

### Grade 6 MEET THE NEIGHBOURS

Discover the association between the sun, the planets and other celestial objects that are located in our own 'stellar backyard.'

NEW!



**Grades 4-8** The First People were scientists and innovators, carefully tracking and moving with the seasons and creating inventions that allowed them to survive in the northern forests of our country. With this close connection to the natural world, the Indigenous People of Canada developed a strong culture, rooted in respect for the environment. This special presentation helps students learn about the Indigenous worldview and sit at the fire with two people who are connected to the traditional ways.

### Grades 9-12 SPACE LEXICON

Explore the major components of the universe through proper use of scientific units and terminology.

**\$** Planetarium fee applies. Special price for member schools.

## IMAX® THEATRE

The Science North IMAX Theatre is only the third in Canada to offer the world's most state-of-the-art advanced cinema technology – IMAX with Laser. The new system represents a quantum leap forward in cinema technology – providing audiences with the sharpest, brightest, clearest and most vivid digital images ever, combined with a whole new level of immersive audio (sound and light levels are adjustable upon request). The IMAX Theatre now offers the best cinematic programming available, whether the film is in the classic IMAX or IMAX 3D format for both documentaries as well as feature-length Hollywood films. Escape into a huge wave of intense color, contrast, brightness, and sound. IMAX with Laser engages your senses and ultimately captivates your heart. It's the science of cinema raised to the level of magic.

**\$** \$6 per student and supervising adult within the recommended ratio, \$11 per additional supervising adult (plus applicable taxes).

Book your visit now so your class can experience the upgraded IMAX Theatre!



New IMAX films are coming! Stay tuned and visit our website often for updates.

Available weekday timeslots for school bookings are 10 a.m. and 11 a.m. A minimum of 30 students is required for these showtimes. Science North has a full library of films for you to choose from for morning timeslots. Schools may also book into regularly scheduled films in the afternoon public schedule. IMAX is a registered trademark of IMAX® corporation.



Grades 10-12

## CAN YOU ESCAPE?

Looking for a unique team building experience for a school club or committee? Science North's escape room is an interactive way to think outside the box with your students or colleagues! Players are locked in a room where they must solve a series of puzzles and crack codes to uncover clues to unlock the doors and escape in 45 minutes! Capacity per hour is set at 8 people.

**\$** Additional costs apply.



# CURRICULUM CONNECTIONS

These tables match Dynamic Earth's educational programs with the Ontario Science and Technology Curriculum strands and topics for kindergarten to grade 8.

Grade K

**Science & Technology**

- Crater Maker! 🖐️ (30 mins)
- Walking with Dinosaurs 🖐️
- **NEW!** Erosion Exploration 🌸

Life Systems							
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Needs and Characteristics of Living Things • Fresh Air Fables 🖐️	Growth and Changes in Animals • Fresh Air Fables 🖐️	Growth and Changes in Plants • <b>NEW Content!</b> Rhythm of the Globe 🖐️ • Fresh Air Fables 🖐️	Habitats & Communities • <b>NEW!</b> Canadian Renewable Energy Systems 🖐️ • <b>NEW!</b> Down to Earth 🌸	Human Organ Systems	Biodiversity • <b>NEW!</b> Down to Earth 🌸	Interactions in the Environment • Meteoric Science! 🖐️	Cells
Structures and Mechanisms							
Materials, Objects & Everyday Structures • Underground Tour 👁️	Movement	Strong & Stable Structures • Underground Tour 👁️	Pulleys & Gears	Forces Acting on Structures & Mechanisms • <b>NEW Content!</b> Shaking it Up! 🖐️ • <b>NEW!</b> Down to Earth 🌸 • Underground Tour 👁️	Flight	Form and Function • Meteoric Science! 🖐️ • Mining Design, Past, Present and Future 🖐️ ÷ • Underground Tour 👁️	Systems in Action • Meteoric Science! 🖐️ • Mining Design, Past, Present and Future 🖐️ ÷ • Rocks to Riches 👁️ • Underground Tour 👁️
Matter & Energy							
Energy in our Lives • <b>NEW!</b> Erosion Exploration 🌸	Properties of Liquids and Solids • <b>NEW!</b> Erosion Exploration 🌸	Forces Causing Movement • <b>NEW!</b> Erosion Exploration 🌸	Light & Sound	Properties of and Changes in Matter • <b>NEW Content!</b> Shaking it Up! 🖐️ • <b>NEW!</b> Down to Earth 🌸	Electricity & Electrical Devices • Underground Tour 👁️ • <b>NEW!</b> Canadian Renewable Energy Systems 🖐️	Pure Substances and Mixtures • <b>NEW!</b> Fantastic Fluids 🌸 ÷	Fluids • <b>NEW!</b> Fantastic Fluids 🌸 ÷
Earth & Space Systems							
Daily & Seasonal Changes • <b>NEW Content!</b> Rhythm of the Globe 🖐️	Air and Water in the Environment • <b>NEW Content!</b> Rhythm of the Globe 🖐️	Soils in the Environment • <b>NEW!</b> Dig This! 🖐️ • Fresh Air Fables 🖐️ • <b>NEW!</b> Erosion Exploration 🌸	Rocks & Minerals • <b>NEW Content!</b> Shaking it Up! 🖐️ • Rockin' Detectives 🖐️ • Money, Money, Money 🖐️ ÷ • <b>NEW!</b> Down to Earth 🌸 • Nickel City Stories 👁️ • Rocks to Riches 👁️ • Underground Tour 👁️	Conservation of Energy and Resources • <b>NEW!</b> Canadian Renewable Energy Systems 🖐️ • Rockin' Detectives 🖐️ • <b>NEW!</b> Down to Earth 🌸	Space • Rockin' Detectives 🖐️	Heat in the Environment • Discovering Canadian Diamonds 🖐️	Water Systems
Social Studies							
Canada & World Connections • Coins, Coins, Coins! 🖐️ ÷ • Nickel City Stories 👁️ • Underground Tour 👁️	Canada & World Connections • Nickel City Stories 👁️ • Underground Tour 👁️	Canada & World Connections • Nickel City Stories 👁️ • Underground Tour 👁️	Canada & World Connections • Money, Money, Money 🖐️ ÷ • Nickel City Stories 👁️ • Underground Tour 👁️	Heritage and Citizenship • Money, Money, Money 🖐️ ÷ • Nickel City Stories 👁️ • Underground Tour 👁️	Canada and World Connections/Heritage and Citizenship • Money, Money, Money 🖐️ ÷ • Nickel City Stories 👁️ • Underground Tour 👁️	History/Geography • Discovering Canadian Diamonds 🖐️ • Nickel City Stories 👁️ • Underground Tour 👁️	History/Geography • Discovering Canadian Diamonds 🖐️ • Nickel City Stories 👁️ • Underground Tour 👁️

# DYNAMIC EARTH SCHOOL PROGRAM DESCRIPTIONS



## Grade K NEW! WALKING WITH DINOSAURS

Students will travel back in time to 245 to 65 million years ago when dinosaurs ruled the world! As junior paleontologists, students will uncover the secrets of fossils that tell the dinosaurs' stories. Students will learn about the latest dinosaur discoveries, with a focus on Canadian dinosaurs and use real tools to work on a simulated dig site to make a discovery!



## Grade K CRATER MAKER!

Take a look back in time! Discover the long-lasting effects from the 10 km meteor that impacted the Sudbury region 1.85 billion years ago and ultimately shaped our landscape. Get your hands on real meteorites to find out how impacts have shaped the Earth, including in your own community!

## Grades 1-3 NEW CONTENT! RHYTHM OF THE GLOBE

Let's investigate the Earth's cycles from an "out of this world" perspective! Students will explore how the sun influences air masses and bodies of water on our planet. How do our ecosystems, plants and animals adapt to these daily and seasonal cycles?

## Grades 1-3 COINS, COINS, COINS!

Uncover the secrets of the Big Nickel and the evolution of the Canadian 5-cent coin. Students will use scientific tools to solve the mystery of the metal content in a variety of coins. Then, sharpen their financial literacy skills by working with coinage to solve math addition challenges. After learning unique and proper coin terminology they may be inspired to become a budding coin collector.

Grades 3-5

## FRESH AIR FABLES

Imagine your own environment! Students create mini-ecosystems using miniature soils, rocks and minerals, animals, plants and other resources. As their environment changes throughout the activity, they craft a unique story about daily life in these habitats. Students consider how human impact and effects from climate change may alter their landscape, and ultimately discover how living things adapt.

Grades 3-5

## NEW! DIG THIS!

Dig up the dirt on soils! Why are soils important? What do they do for us and the environment? In this fun-filled program, students take the role of soil scientists, exploring a variety of samples and learning their characteristics. Help us to discover the mysteries of soils and why they are essential to life on Earth!

Grades 4-6

## NEW! CANADIAN RENEWABLE ENERGY SYSTEMS

Canada is a leader among countries in producing and utilizing renewable energy. In this program, students will learn about the benefits of renewable systems that are in use in Canada today and the impacts they have on the environment. We will also look at ways to mitigate issues caused by less efficient energy sources.

Grades 4-6

## NEW CONTENT! SHAKING IT UP!

Students will become amateur seismologists! They will examine the forces that not only shape our planet, but can also shake up our lives. Students will experiment with the systems and instruments that help to locate and measure the force of earthquakes.

Grades 4-6

## ROCKIN' DETECTIVES!

Students become budding exploration geologists in this hands-on workshop. What is the difference between a rock and mineral? Where are they found in Ontario, Canada and the world? Students will learn how to solve a mineral mystery and determine its role in our everyday lives with key identification skills. Along the way, they discover the distinction between an open pit mine, an underground mine and a quarry as a source of valuable resources.





Grades 4 to 5

## MONEY, MONEY, MONEY

Students will celebrate Canada while uncovering the secrets of the Big Nickel and the historical evolution of Canadian coinage. They will use scientific tools to solve the mystery of the metal content in a variety of coins. Students will sharpen their financial literacy skills by working with coinage to solve math addition challenges. Learning unique and proper coin terminology they may be inspired to become a coin collector!

Grades 7 to 8

## MINING DESIGN, PAST, PRESENT AND FUTURE

Students step into the role of a mine engineer and tackle the challenge of transporting an underground load. They will put their creativity, design and math skills to the test to develop a hoisting system that will move the most ore with the greatest efficiency. Understanding mining systems and their evolution is the key to success!

Grades 7 to 8

## METEORIC SCIENCE!

Take a look back in time! Students discover the long-lasting effects from the 10 km meteor that impacted the Sudbury region 1.85 billion years ago and ultimately shaped our landscape. Students explore real meteorites, create their own impact craters, discover scientific evidence of the surrounding Sudbury Impact Structure and brainstorm its role in shaping our mining community.

Grades 7 to 8

## DISCOVERING CANADIAN DIAMONDS

Put your geologist hat on! Students delve into real data to learn about Northern Ontario's diamonds and Canada's diamond bearing deposits. They will uncover the secrets of the Earth's evolution and structure through their understanding of diamond formation. Students pop back into the future to see how modern technology is being applied to the discovery, extraction and processing of some of the world's highest quality diamonds!



# SECONDARY SCHOOL PROGRAMS

Grades 9 to 12



## NEW! A GREEN STORY

Celebrate 40 years of greening with us! In this program, students dive into the Story of Sudbury, including its unique geology and how we progressed to the beautiful city you see today. Learn about the impact that occurred 1.85 billion years ago, the eventual mining influence on the landscape and the greening efforts to restore our natural environment. Venture out on Dynamic Earth's property to take in unique sights and geological features (weather permitting).



## SUBTERRANEAN MATH

The ability to precisely estimate a given quantity is arguably one of the most useful mathematical life skills. In this program, students will travel underground and use our mine as part of unique workshop to determine unknown lengths, areas, volumes, heights and other surprises. Throughout the experience, they will learn techniques to quickly structure a mathematical estimation and judge the plausibility of their answers.



## NEW! HUMAN EVOLUTION

6 million years of human evolution includes ancient apes, early humans and the constant evolution of *Homo sapiens*. Students will be immersed in this story by working with replicas of some of the world's most famous ancient skulls. To find out how we have evolved from our ancestors, students will create a wax bite of their own dentition and compare it to skulls of the past. After exploring the *Ardipithecus*, *Australopithecus*, *Paranthropus* and *Homo* groups and learning how geographical spread influenced human evolution, students may come away as budding paleoanthropologist!



## NEW! INTRODUCTION TO BIOASSAYS

Students will develop and refine essential laboratory techniques including: sample preparation, serial dilutions, pipette use and sterile techniques to test toxicity while using unique tools and equipment. By the end of the workshops students will have used key STEM learning initiatives like Initiating & Planning, Performing & Recording, Analyzing & Interpreting, and Communicating to find solutions while better appreciating the essential interrelationship between mining and the environment.



# SPECIAL SCHOOL EVENTS

Book early!  
Space is limited.



## NEW CONTENT! CANADIAN DINOSAUR WEEK

Grades **K to 1** A special all-day program!  
November 27-December 8, 2017

Be a dinosaur explorer for the day! Step into the role of a paleontologist to explore Canadian dinosaurs and prehistoric landscapes, use scientific tools to reveal their secrets and unearth the latest discoveries made in this exciting field.

## CANADA'S HERITAGE WEEK

Grades **4 to 8** A special all-day program!  
February 5-9, 2018

Join us for this special all-day program and get ready to celebrate Canada's Heritage! Students will build their knowledge about Canada's past, present and future during Heritage Week and on Heritage Day at Dynamic Earth! In 2017, Canada celebrated its 150<sup>th</sup> anniversary of confederation, that took place on July 1<sup>st</sup>, 1867.



## ULTIMATE STRUCTURES

Grades **1 to 3** A special all-day program!  
January 15-26, 2018

Put your engineer hat on as Dynamic Earth challenges your students to build structures and learn the engineering behind simple machines that help us in everyday life.



## MODERN MINING & TECHNOLOGY SUDBURY (MMTS) WEEK

Grades **4 to 12** All-day event!  
April 23-27, 2018

As an annual event, Dynamic Earth joins forces with Modern Mining and Technology Sudbury (MMTS) to create experiences that promote mining and the variety of rewarding careers that the industry has to offer. Join us during this week for full day experiences including our annual MineOpportunity Games, Discover Sudbury Days, as well as Teacher Training with Student programming Days. Visit our website for full details of all the events.

*Registration, lunch and bussing are included!*

*This program is supported by*



## NEW CONTENT! EARTH WEEK

Grades **K to 12** All-day event!  
April 9-13, 2018

Join us at Dynamic Earth for our annual Earth Week celebration that features unique school programming, an underground tour and a visit to our special exhibition. This distinct week of programming promotes an understanding of the impact that we all have on the surrounding environment and the challenges we face in a changing climate.

*This program is supported by*







## NEW! SHSM – MINING AROUND US!

**Grades 9 to 12** 2-day special event!

Specialist High Skills Major (SHSM) students in Mining and the Environment are invited to join us for a special 2-day event.

### DAY 1 November 23, 2017 9:30 am - 1:30 pm

Join Dynamic Earth for a day of discovery as we embark on an underground adventure. Students will get to experience what it is to go underground and mine for Sudbury ore. They will learn about different techniques and new technology being utilized in the mining industry.

### DAY 2 May 31, 2018 9:30 am - 1:30 pm

Pack a lunch...it's Excursion Day! During this program, students board a bus at Dynamic Earth and spend the day on a guided field trip to key geological, historical and research facilities, including the Vale Living with Lakes Centre and the Northern Centre for Advanced Technology Inc. (NORCAT). After meeting Sudbury's leading scientists and innovators, students will leave this day inspired to continue in their pursuit of careers in the SHSM stream, while having learned substantial new science content linked to the Greater Sudbury Region.

**\$** Member schools \$8 per student, non-member schools \$18 per student (plus applicable taxes).



## UNDERGROUND TOUR – IN THE FOOTSTEPS OF SUDBURY'S MINERS

**Grades K to 12** Experience Dynamic Earth's iconic underground tour, featuring multimedia and special effects that bring Sudbury's mining heritage and innovation to life. Walk in the footsteps of thousands of miners, from the early days of mining until present time!

Your students can look forward to:

- Viewing historic footage of Sudbury miners using manual labour and simple technology to extract ore.
- Hearing the ore cascading down to lower levels of the mine.
- Experiencing the vibrations, sights, sounds and smells of an underground blast.
- Taking a break in a modern refuge station.
- Operating a remote-controlled rockbreaker.
- Seeing examples of modern mining equipment.

## DISCOVER SUDBURY FIELD TRIP



**Grades 4 to 12** September 2017 and April – June 2018 only

1.85 billion years ago, a meteorite struck our region creating a structure now known as the Sudbury Impact Structure. On the Discover Sudbury bus tour participants will walk through time to see how this 10 km-wide meteorite has shaped our landscape!

This 2-hour guided tour explores the stories buried in the rocks under our feet, showcases various geological and historical mining sites, and highlights how the local 'geology and mining has shaped Greater Sudbury. Make sure to download the Discover Sudbury GPS-enabled smart phone app to accompany you on the tour!

*You provide the bus; our scientist leads your tour!*

**\$** \$200 plus applicable taxes.



## MULTIMEDIA EXPERIENCES

**Grades 1 to 12** NICKEL CITY STORIES

Step into the Generations Barbershop, an engaging multi-media setting, and listen in as "Louie", curator of Sudbury's oral history, recounts the fascinating historical events that shaped the last 125 years of Sudbury's history.

## FIRST LEGO LEAGUE

Saturday, December 2<sup>nd</sup>, 2017

All-day event! Register your team now for the 13<sup>th</sup> annual F.I.R.S.T. LEGO League tournament.

On your mark, get set, flow! Drink in the 2017 HYDRO DYNAMICS season and learn all about water – how we find, transport, use, or dispose of it. In the 2017 FIRST® LEGO® League Challenge, students age 9 to 14 from 80 countries will make a splash with HYDRO DYNAMICS. What might become possible when we understand what happens to our water?

**\$** Registration is \$190 per team (plus applicable taxes).

*For more information or to register, visit [scienorth.ca/fll](http://scienorth.ca/fll) or 705.522.3701 ext. 250.*



**Grades 4 to 12** ROCKS TO RICHES

This walk-through theatre experience features state-of-the-art presentation technology that takes you step-by-step through the processing of nickel and copper, from the 'mill' to the 'smelter' and then the 'refinery.' You'll never see your kitchen sink or plumbing pipes the same way again!



## ATLAS COPCO THEATRE

The Atlas Copco Theatre is the only digital theatre of its kind in Northern Ontario. Equipped with high quality HD educational films this makes a great addition to your school visit and is all included with your admission. Choose a film from our library that will best suit the interest of your students.



## OUTDOOR SCIENCE PARK

September 6, 2017 - September 24, 2017  
May 1, 2018 - June 29, 2018

Weather Permitting

Planning for free exploration time on your visit? Join us outdoors at the foot of the famous Big Nickel! Our new Science Park is an outdoor gallery open seasonally. Featuring large-scale exhibits and science-themed interactive structures, students of all ages will enjoy this outdoor experience. Interpretive Exploration Trails tell the stories of Sudbury's re-greening initiatives, geological history, our mining heritage, human history and the cultural development of the city.



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## SPECIAL EXHIBITION



March 3 to September 3, 2018

*Engineering Earth* offers students a hands-on building experience with different types of grains, soils, clay, mud, and sands used in green construction. Applied science and material science are taught through interactive stations where students can manipulate the earthen materials, physically experience their unique qualities, engage in multimedia explorations of using earth to build, and play games illustrating their forces and properties.

Brought to you by La Cité in Paris.



## NEW! SPECIAL SCHOOL PROGRAMS

### Grades K to 3 EROSION EXPLORATION

Erosion and weathering are naturally occurring processes that have shaped the landscapes we see today. Students will learn why erosion occurs, how different types of earthly materials are influenced by these forces and try their hands at activities that examine these powerful forces.

### Grades 4 to 6 DOWN TO EARTH

Rediscover what lies beneath our feet - earth! How did early humans survive for thousands of years, building only with raw earth materials? In this program, students will explore the ways we work with the most common materials on the planet.

### Grades 7 to 8 FANTASTIC FLUIDS

We live in a world of water. From our atmosphere, oceans and core, we breath, drink and use fluids every day. Students will learn how water work within our environments and all about the amazing properties of water, all the while completing some very cool experiments!

### Grades 9 to 12 MINE DEVELOPMENT (FOCUS ON CAREERS)

The skills required to locate, develop and operate a mine are all very different from each other. As such, the Mining Sector is associated with a multitude of careers. Each taking on a distinct role, students will work together to manage a mine site and turn it into a successful investment!





TAKE PART IN AN **ALL-NIGHT EXTRAVAGANZA** WITH A SCIENTIFIC TWIST.

Grades  
**4**  
TO  
**12**

# Sunset to Sunrise Camp-in



There's no other program like it! Our enthusiastic and energetic Bluecoats keep your group busy from 7 p.m. to 7 a.m.

Kick-off the school year with a scientific twist! Use our Sunset to Sunrise Camp-in experience as a grade 9 and 10 icebreaker and help your students see the value and 'cool' factor of science!

## SCIENCE STAFF LEAD THE DISCOVERIES IN A SAFE AND FUN ENVIRONMENT THROUGH:

- ✓ Educational and exciting hands-on science programs
- ✓ Unique multimedia theatres
- ✓ A captivating live science show
- ✓ A visit to the *F. Jean MacLeod* Butterfly Gallery
- ✓ Exciting science challenge
- ✓ Science centre exploration
- ✓ A giant-screen IMAX® film complete with pop & popcorn
- ✓ Choice of breakfast bento box

**\$** All this for only  
\$73 per student,  
\$34 per supervising adults  
(within the recommended  
ratio), and \$39 each for  
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