Creative Encounters with science

Workshop Package

What is Creative Encounters?

Creative Encounters is an entirely student run, not for profit Science, Engineering and Technology organization run out of the University of Guelph's School of Engineering. Our main objective is to provide a fun, safe, non-discriminatory and stimulating environment that inspires young people to explore their love of science in an interactive and hands-on manner.

In the months of May and June, Creative Encounters travels to deliver workshops to elementary schools in Guelph and the surrounding area. Creative Encounters also offers a variety of Science, Engineering and Technology summer day camps for students entering grades 2-9. Additionally, we are happy to announce that our workshops are now also taught in French!

What is a Creative Encounters workshop?

Each workshop is presented by 2 of our enthusiastic science instructors (University of Guelph Undergraduate students) and includes a curriculum based presentation followed by a fun hands-on project! There is a **maximum of 30 students** per workshop. Creative Encounters is offering **12 different workshop topics** in 2015.

Cost: $65

- Only $65.00 per workshop, except Robotics 101 ($85)
- Payment is due **before or on** the day of the workshops

How to Register:

At the back of this package is a registration form for our workshops and more detailed instructions on how to register! Alternatively you can visit www.creativeencounters.info and sign up online!

Workshops

- Google Codemakers: Gr. 1 – Gr.6
- Small Scientists: JK – Gr.1
- Enriching our Environment: JK – Gr.3
- Building Buddies: JK – 3
- Physical Wonders: JK – Gr.8
- Make it Matter: Gr. 2 - 5
- Kids Kinetics: Gr.3 – 5
- Exciting Engineering: Gr.3 - 8
- Fun with Forces: Gr. 4 – 5
- Let's Get Energized: Gr.4 - 7
- Robotics 101: Gr. 4 – 8
- Mission to Outer Space: Gr.5-6
- Environmental Engineering: Gr.5-8

When are Creative Encounters workshops offered?

- May 9th to June 24th

Workshop Times:

- Workshop slot 1: before morning recess
- Workshop slot 2: after morning recess
- Workshop slot 3: before afternoon recess
- Workshop slot 4: after afternoon recess

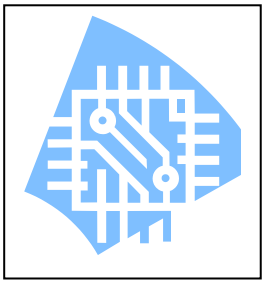
* Note: You will be asked to specify the times your school follows

Google's Codemakers Workshops

Codemakers is a 3-year project, powered by a grant from Google, that will transform the way youth think about computer science and technology. Understanding how to use computer science principles to connect, build and problem-solve are fundamental skills for tomorrow's leaders, innovators and creators. By 2017 the Codemakers project will have engaged 100,000 youth in hands-on computer science experiences, providing the skills necessary to become Canada's next generation of technology builders.

Grades Gr. 1 - 3 Computer Science Unplugged

Computers are everywhere, but did you know they power your car, your toaster, and even the games we play? In this Codemakers workshop students will recognize just how important computers are to making the world a better place. Students will learn how to speak the language of computers and are sure to become producers, not just users of technology! No computers required! This workshop has been adapted to fit all grades.



Grades 4 -6 Computer Science

Unplugged From Binary to beyond! In this Codemakers workshop students will use their math skills to de-code computer science! Each student will take home their very own item made with code! Zero, One, Ready, Code! No computers required!

/code:makers_

actua Google

Creative Encounters is proud to be participating in Codemakers, a national program powered by Actua and Google. Actua's network members at post-secondary institutions across Canada will empower 100,000 youth with critical computer science skills and prepare them for their future roles as innovators in technology.www.actua.ca/codemakers.

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A member organization of www.actua.ca
actua
Learning for Change
Découvrir pour demain

Small Scientists
(GR. JK- 1)

Students will learn about different types of sciences while discussing examples that show how science is all around us. Students will have a chance to conduct experiments while discussing the important steps required such as safety, planning, observing and communicating their findings. This workshop is designed to introduce younger kids to the basic concepts involved in science while showing them that science can be fun!

Curriculum Ties

Safety, Science Experiment, Types of Sciences, Materials

Building Buddies
(JK – Gr. 3)

Students will have the chance to experiment and problem solve with different materials and designs in order to gain a better understanding of how certain structures have different purposes. There will be discussions on the properties of different materials and why they would be useful in specific situations.

Curriculum Ties

Structure and Materials, Safety when using Materials, Shapes and Forms

Enriching our Environment
(JK – GR. 3)

Students will learn about different components of the environment and what we need to do to keep our environment healthy. We will discuss how everything around us affects how we live and we affect everything around us as well.

Curriculum Ties

Plants and Animals, Environment, Human Impact

Physical Wonders
(JK- Gr.8)

Always a hit with any age group, the Physical Wonders workshop is a combination of the coolest chemical and physical science demonstrations available to classrooms. Concepts will include fluids, pure substances and mixtures, chemical reactions and physics of light and sound. Students will learn about the different scientific phenomena they see by level-appropriate explications and real-life example of these concepts. This exciting workshop will really get the kids stoked about science!

Curriculum ties

energy and matter; properties of liquids & solids; forces causing movement; conservation of energy, pure substances and mixtures

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Make it Matter
(Gr. 2 – 5)

Students will understand that matter is all around us and that it can change states. We will show examples of chemical and physical changes while we discuss the differences between them.

Curriculum Ties

Properties of Matter, Physical and Chemical Change, Liquids and Solids

Kid Kinetics
(GR. 3-5)

Students will get active while learning about the different systems in their body and how they create forces to make movement. We will test and analyse our bodies by doing weird tricks that seem heard to believe.

Curriculum Ties

Human Body, Forces, Movement

Fun with Forces
(GR. 4-5)

We will discuss different examples of everyday uses for levers, pulleys and gears while explaining their uses and functions. Students will learn about the different types of forces that affect structures and mechanisms and how energy is transferred in these systems. There will be a chance to build structures and feel some of the forces at work!

Curriculum Ties

Forces, Simple Machines, Levers, Gears and Pulleys, Energy

Exciting Engineering
(Gr. 3- 8)

Teamwork and problem solving are the keys to this workshop! Just like real engineers, students will team up and go through the design process necessary to complete the building challenge, all while taking into account different constraints and criteria! This workshop is a great opportunity for students to think critically and be creative!

Curriculum Ties

Forces Causing Movement, Energy in Movement, Structure and Function, Systems in Action

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Let's Get Energized
(GR. 4-7)

Students will learn about different forms and sources of energy including heat, electrical, light and sound, and how they can transfer from one to another. There will be discussions on how our use of energy affects the environment and what we can do to conserve energy.

Curriculum Ties

Types of Energy, Transformation and Conservation of Energy

Mission to Outer Space
(GR. 5-6)

Students will prepare to go on a journey to outer space by learning about the different planets in our solar system and how they interact with each other. We will discuss key factors and characteristics of outer space while mentioning properties of matter and changes of states that occur.

Curriculum Ties

Space, States of Matter, Forces

Environmental Engineering
(GR. 5-8)

Students will discuss the importance of the environment and learn about ways of protecting it through environmental engineering. Students will engage in hands-on learning design projects that teach them about their connection to their community.

This workshop incorporates traditional Indigenous teaching practices and content related to the environment.

Curriculum Ties

Environment, Materials, Forces

Robotics 101
(Gr. 4-8)

Whether it is to change the TV channel remotely or quickly assemble a car, robots play a vital part in our ever-changing world. But what exactly constitutes a robot? Students in this workshop will dissect this question in detail to better understand the inner-workings of these machines. They will then apply this knowledge by building their very own Lego NXT robots from the ground up!

*note: there is a **maximum of 30 students**, due to LEGO kits. Workshop duration is 3 hours and school breaks will be accommodated.

Curriculum Ties

electricity and electrical devices, systems and interactions, technology

Electricity and Magnetism
(GR. 5-7)

Students will learn what electricity is while acting as electrical engineers to explore different ways of creating electricity. We will explain the advantages and disadvantages of renewable and non-renewable energy resources as well as discuss different ways that we could control our impact on the environment.

Curriculum Ties

Electricity, Environment, Circuits, Energy Sources

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Creative Encounters Workshops

(If you require additional space, please duplicate this form)

How to Register:

Simply fill out the registration form and email or fax it to us. Once the form is received you will be contacted to confirm your requests. Shortly after confirmation, your school will be sent an invoice. There is a rolling acceptance for all workshop registrations, but **workshops should be booked at least a week in advance of the actual workshop date**.

School Name: _____

Full Address: _____
(Number & Street City Postal Code)

Phone Number: _____ Contact Person: _____
(all workshop calls directed to this person)

E-mail Address: _____ Fax: _____

Workshop Date Requested: _____

Second Choice if this date is unavailable: _____

1st Workshop:
Workshop Title: _____
Teacher's Name: _____
Grade Level: _____
Number of Students in Class: _____
Workshop Slot (please circle one and mark time of this period below:

1 (before morning recess) 2 (after morning recess) 3 (before afternoon recess) 4(after afternoon recess)

Time this slot falls at: _____
(Start Time – End time*)

2nd Workshop:
Workshop Title: _____
Teacher's Name: _____
Grade Level: _____
Number of Students in Class: _____
Workshop Slot (please circle one and mark time of this period below:

1 (before morning recess) 2 (after morning recess) 3 (before afternoon recess) 4(after afternoon recess)

Time this slot falls at: _____

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3rd Workshop:

Workshop Title: _____

Teacher's Name: _____

Grade Level: _____

Number of Students in Class: _____

Workshop Slot (please circle one and mark time of this period below:

1 (before morning recess) 2 (after morning recess) 3 (before afternoon recess) 4(after afternoon recess)

Time this slot falls at: _____

(Start Time – End time*)

**** Please note that all workshops run for ONE (1) hour, excluding Exciting Engineering which has a duration of ONE AND A HALF (1.5) hours. Also, up to THREE (3) workshops can run simultaneously.

Please don't hesitate to email us at cse@uoguelph.ca , visit www.creativeencounters.info or give us a call at 519-824-4120 ext 53045 if you have any questions!

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