



VIRTUAL VENTURES 2012 WORKSHOP PACKAGE



Carleton
UNIVERSITY

Faculty of
**Engineering
and Design**

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VIRTUAL VENTURES SCHOOL WORKSHOPS

Virtual Ventures is a not-for-profit organization run by Carleton University students who want to make a difference in the lives of today's youth. During the months of May and June, Virtual Ventures offers a variety of dynamic in-class workshops, at low cost to schools.

Each Virtual Ventures workshop is about 75 to 90 minutes in length, led by two university instructors, and intended for 20-30 students. Workshops are designed to be hands-on, fun, interactive, and developed with the Ontario curriculum in mind.

We have suggested grade levels and strands applicable for each workshop. However, please feel free to call us to discuss if a different workshop may be suitable for your class. We also strive to integrate subject areas outside of science and technology for a cross-curricular learning experience.

When and cost:

Workshops are offered from May 17th to June 25th. Many teachers use our workshops as a review of topics covered earlier in the year, to supplement current class work, or as a cost-effective alternative to a field trip (with much less paperwork!). Since we only offer these workshops during May and June, it's important to book early to ensure your choice of date and workshop.

We ask that teachers remain in the classroom for the duration of the workshop. Due to the high cost of transportation, we prefer to book a whole day of workshops at each school and we offer significant savings for schools that book multiple workshops in one day.

We can accommodate up to a maximum of four workshops at the same time. We can, however, offer more than four workshops if they are at different times (for example: four workshops in the morning and four workshops in the afternoon).

NUMBER OF WORKSHOPS	COST PER WORKSHOP	TOTAL COST TO SCHOOL
1	\$55	\$55
2 or 3	\$50	\$100 or \$150
4	\$42.50	\$170

CONTACT INFORMATION

Please feel free to contact us with any questions whatsoever.

To book workshops, please e-mail us with the date you would like us to visit your school, the workshops you would like, and at what times. We will reply confirming our availability for that date, and then will ask for more information (like number of students, etc...).

Address:

Virtual Ventures
C/O Dean of Engineering
Carleton University
1125 Colonel By Drive
Ottawa, Ontario
K1S 5B6

Phone: 613.520.2600 x5007

Fax: 613.520.7481

Email: workshops@vv.carleton.ca

TEACHER TESTIMONIALS FROM OUR 2011 WORKSHOPS:

“This workshop was awesome! Totally relevant, highly engaging and very informative!”

“...instructors were very knowledgeable, professional and fun!”

“The kids were extremely enthusiastic about the challenge. It provided great opportunities for collaboration and decision making”

“Wonderful program I would gladly introduce to my class again! Well done!”

“Excellent Activity – Great fun and very educational...”

AVAILABLE WORKSHOPS

The following workshops are available for May and June 2012. Please do not hesitate to call if you would like further details or would like to request modifications for your class.

CHEMISTRY

RECOMMENDED GRADES 1-8

Students will learn about important principles of chemistry with hands-on experiments using household materials. Experiments will include acid-base reactions, polymerization, and more – plus some chemistry “magic” performed by the instructors!

Curriculum Expectations* Gr. 2 - *ME 2.1, ME 2.2, ME 2.3, ME 3.1, ME 3.2, ME 3.3, ME 3.4, ME 3.5*; Gr. 5 - *ME 2.3, ME 2.4, ME 2.5, ME 3.2, ME 3.5*; Gr. 7 - *ME 2.1, ME 2.4, ME 3.1*; Gr. 8 - *ME 3.1, ME 3.3*

CLEAN WATER

RECOMMENDED GRADES: 2-8

Students will learn about water quality, its global importance, and the steps in municipal water treatment. Younger students (Gr. 2-6) will build their own water filters and participate in the cleanup of a simulated ocean oil spill. Older students (Gr. 7-8) will design and build their own water filters in an international water sanitation challenge! Please specify grade when booking.

Curriculum Expectations* Gr. 2 - *ES 1.1, ES 1.2, ES 2.5, ES 3.3, ES 3.4, ES 3.6*; Gr. 3 - *LS 3.1, LS 3.8, ES 2.5*; Gr. 4 - *LS 3.1, LS 3.3, LS 3.8, LS 3.10*; Gr. 5 - *LS 1.2, ES 1.1, ES 2.2*; Gr. 6 - *LS 3.2, LS 3.5*; Gr. 7 - *LS 3.1, LS 3.8, ME 1.1, ME 2.3, ME 3.5*; Gr. 8 - *SM 3.3, SM 3.9, ME 1.2, ES 1.1, ES 1.3, ES 2.2, ES 2.5, ES 3.2*

DNA

RECOMMENDED GRADES 5-8

Students will learn about DNA and its role in all forms of life. The students will extract real, visible DNA from a specimen using ordinary household materials!

Curriculum Expectations* Gr. 5 - *LS 3.3, ME 3.3*; Gr. 6 - *LS 2.3, LS 3.1*; Gr. 7 - *ME 2.2, ME 2.4, ME 3.6, ME 3.10*; Gr. 8 - *LS 2.5, LS 2.6, LS 3.1, LS 3.2, LS 3.3*

ENGINEERING: STRUCTURES

RECOMMENDED GRADES 3-8

Students will learn about the forces that act on a structure and how civil engineers work to create strong, stable structures. The students will participate in an engineering challenge: they will build a bridge with provided materials and test it to its limit!

Curriculum Expectations* Gr. 3 - *SM 1.1, SM 2.2, SM 2.3, SM 3.1, SM 3.3, SM 3.5, SM 3.7, SM 3.10*; Gr. 5 - *SM 1.2, SM 2.2, SM 2.3, SM 2.4, SM 2.5, SM 3.4*; Gr. 7 - *SM 2.2, SM 2.3, SM 2.4, SM 3.4, SM 3.6*; Gr. 8 - *SM 2.4*

GEODESIC DOMES

RECOMMENDED GRADES: 1-8

Students will learn about basic architectural principles and the forces that buildings undergo on a daily basis. The students will work in groups using blueprints and geometry to build stable geodesic structures. A fun teamwork activity!

Curriculum Expectations* Gr. 1 - *SM 3.2, SM 3.5*; Gr. 2 - *SM 2.4, SM 2.6*; Gr. 3 - *SM 1.1, SM 2.3, SM 3.1, SM 3.2*; Gr. 5 - *SM 3.1, SM 3.2, SM 3.4*; Gr. 7 - *SM 1.1, SM 2.5, SM 3.4, SM 3.5, SM 3.6*; Gr. 8 - *SM 2.5*

POP BOTTLE ROCKETS RECOMMENDED GRADES: 1-8

Students will make and launch their own pop bottle rockets while learning about aerodynamics and propulsion. This workshop is designed to teach students basic engineering principles. Particularly recommended for the Grade 6 "Flight" unit!

Curriculum Expectations* Gr.1 - *SM 2.4, ME 2.3*; Gr. 2 - *SM 2.2, ES 2.2, ES 2.3, ES 3.1*; Gr. 3 - *SM 3.9, ME 2.2, ME 2.4, ME 3.1*; Gr. 5 - *SM 3.1, ES 2.3, ES 2.4, ES 3.3, ES 3.5*; Gr. 6 - *SM 2.2, SM 2.3, SM 2.5, SM 3.3, SM 3.6*; Gr. 7 - *SM 3.3*; Gr. 8 - *SM 2.6, SM 3.2, SM 3.4, ME 2.4, ME 3.4, ME 3.8*

SIMPLE MACHINES RECOMMENDED GRADES: 2-8

Simple machines (e.g. pulleys, levers, and screws) are everywhere! In this workshop, students will learn about the six different types of simple machines, and will have the chance to experiment with and make simple machines of their own!

Curriculum Expectations* Gr. 2 - *SM 1.1, SM 2.3, SM 2.5, SM 3.2, SM 3.3, SM 3.4, SM 3.5*; Gr. 3 - *ME 2.2, ME 2.4*; Gr. 5 - *SM 2.2*; Gr. 6 - *SM 2.4*; Gr. 8 - *SM 3.4, SM 3.5*

*Curriculum expectations are taken from the Ontario Science and Technology Curriculum document, revised 2007. Abbreviations given are for the strands Life Systems (LS), Matter and Energy (ME), Structures and Energy (SE), and Earth and Space Systems (ES). Workshop activities may also touch on curriculum expectations from other subject areas not noted, e.g. mathematics.

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