



TORONTO STUDENT EDUCATIONAL PROGRAMS

COMPANY NAME: iFLY Toronto Indoor Skydiving

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BRIEF DESCRIPTION OF ATTRACTION

An epic experience! Come defy the law of gravity at iFLY Toronto. Imagine a 14-foot cylindrical diameter vertical tube that is 45 feet tall in which the airstream is passing at a speed of 175 km per hour. Once inside the wind tunnel, you will have a real sense of what skydivers experience during the free-fall portion of their jump, which is generally done from 13,500 to 3,500 feet of altitude at a speed of 200 km per hour. All of that in an environment that is so secure that it is even accessible to children aged of 4 years and up.

DESCRIPTION OF EDUCATIONAL PROGRAMS

The iFLY Toronto Education Program is designed to teach students the fundamentals of flight science and engineering through a combination of visual presentation, quantitative experimentation, and follow-up activities - including an individual flight experience in the iFLY Toronto vertical wind tunnel!

Our half-day program uses iFLY’s unique vertical wind tunnel facility to teach students about “drag” forces exerted on solid objects by a moving fluid. Understanding how drag is influenced by the shape and size of an object and the velocity of the fluid stream is important in engineering of aircraft, ships, cars, bridges, and buildings; in sports such as swimming, running, cycling, and skiing; and in earth sciences such as meteorology and oceanography.

The program includes various curriculum matching sessions as outlined below in addition to the iFLY Toronto flight experience.



EDUCATIONAL PROGRAM DETAILS

Name of educational program: **iFLY Toronto STEM Education Program**

Season(s) the educational program offered: **All year round**

Minimum/ maximum group size: **Minimum 12 - Max 96**

Available languages of program: **English & French**

Cost(s) of your educational program(s): **\$49.95 + tax for groups of 30+ participants / \$59.95 for groups under 30 participants**

Estimated time required for program: **Half day field trip min 3.5 hours (total time dependent on group size)**

Cancellation policy details: **All purchases are final sale, however if a member of your event does not attend the day of, their flight can be redistributed among the attendees.**

Comp policy details: **No complimentary passes accepted for this program. Educators evenings are run several times throughout the year contact kristen@iflytoronto.com for more details.**

Offer student friendly dining options on site?: **Groups are welcome to arrange their own catering or bring food, use of the party room to store eat/store food will be at an additional cost of \$85 + tax. Catering arranged by iFLY attracts 15% turnkey**

Offer both lunch & dinner? (Provide price range): **Pricing starts from \$8 + tax per person, options include Subway, Boston Pizza, Olive Tree Deli Café, Alice Fazoolis and more.**

Offer vegetarian, vegan or gluten-free menu items?: **These are available, please see individual restaurant websites for full details.**

Group dining area available?: **Yes, several private rooms including catering areas are available for booking at an additional cost Spaces range in size and pricing from \$85 +tax to \$125 + tax for four hours.**

Wheelchair accessible? Please provide details on accessibility: **Our facility and flight chamber is completely accessible. The facility has access ramps, elevators and wheelchair accessible washrooms. We have also designed a Limited Mobility Harness system to assist specific individuals' body position during their flight experience.**

Motor coach parking available on site?: **Yes**

If Yes, is there a charge?: **No**

EDUCATIONAL PROGRAM – CURRICULUM MATCHING

Recommended age/ grade for program: **Three programs available Grades 1 - 4, Grades 5 - 7, Grades 8 - 12**

Canadian Primary Category: **Grades 1-4: concepts presentation, object flight demo with minimal mathematics and a simple parachute experiment**

Canadian Secondary Category: **Grades 5-7: concepts presentation and weighted ball experiment, with emphasis on proportional relationships and graphical analysis. 'Design' and 'test' parachute experiment with comparative analysis'**

Canadian Secondary Category: **Grades 8-12: qualitative presentation, weighted ball, and human drag coefficient experiments with appropriate graphical and mathematical analysis (including statistics)**



American Primary Category: Texas Essential Knowledge and Skills (Science and Math standards alignment documents can be provided)

American Secondary Category: Under development

EDUCATIONAL PROGRAM STANDARDS

Canadian National Standard: Content A-C

Provincial Standard: Ontario Curriculum Science and Technology Grades 1 through 12

U.S. National Standard: N/A

U.S. State Standard: (Texas Essential Standards alignment document available upon request)

Canadian STEM Curriculum Learning objectives

- Understand the nature of fluids and how they are distinct from solids
- Understand what causes fluid forces on moving objects (or stationary objects in moving fluids)
- Apply grade-appropriate mathematical principles to wind tunnel measurements to deduce quantitative relations between fluid drag and other relevant parameters
- Recognize important applications of the science of fluid dynamics

Grade level appropriateness

- Grades 1-4: concepts presentation, object flight demo with minimal mathematics and a simple parachute experiment
- Grades 5-7: concepts presentation and weighted ball experiment, with emphasis on proportional relationships and graphical analysis. Design and test parachute experiment with comparative analysis
- Grades 8-12: qualitative presentation, weighted ball, and human drag coefficient experiments with appropriate graphical and mathematical analysis (including statistics)

The Education Program includes all gear rental, flight instruction, physics demonstration, experiment materials and debriefing with their instructor. iFLY Toronto will provide teachers with guides, resources and presentation material necessary to educate students prior to arrival. Student manuals including worksheets and instructions are also provided at no additional cost.

Each Education Program is specifically tailored to grade level curriculum.

- 3rd Grade: Matter and Energy – Forces

Concepts presentation and demo with minimal mathematics.

- 6th Grade: Structures and Mechanisms - Flight

Concepts presentation and parachute design experiment, with emphasis on proportional relationships and graphical analysis.

- 8th Grade: Matter and Energy – Fluids

Qualitative presentation, weighted ball, and human drag coefficient experiments with appropriate graphical and mathematical analysis.