

Brain Waves

THINKFIRST CANADA: A CHARITABLE ORGANIZATION DEDICATED TO PREVENTING BRAIN AND SPINAL CORD INJURIES

OFFICIAL NEWSLETTER: WINTER 2010

If you haven't heard about the burden of childhood injury in Canada, you're not alone. Many people would not be able to correctly identify the leading cause of childhood death in this country (injury), or that half of these deaths result from one form of injury (brain injury). This isn't news to ThinkFirst Canada, and we've made it our business to spread the word and reduce the burden of brain injury among Canadian children and youth.

One of the ways we combat childhood brain injury is through education; ThinkFirst Brain Day is one great example of injury prevention education at work. Brain Day is a half-day neuroscience-based program for kids in grades 4-6 taught by ThinkFirst Chapters and university student volunteers across the country. Ramping up Brain Awareness in March, each year hundreds of volunteer instructors guide students through fun lessons and hands-on experiments. We're more likely to reach students with engaging programming. Classrooms become laboratories and students become Sense Explorers, conducting scientific experiments involving the five senses that tie into lessons on neuroanatomy and highlight the fragility of this amazing system.

For example, the children study the lobes of the brain, learning that it has the same

consistency as gelatin, and is protected by a skull that's only as thick as a pencil. They also learn that damage to the brain can rarely be fixed. Kids are encouraged to imagine how damage to this vital, yet vulnerable, organ might change our perception of the world, as well as the ways we can protect it.

The aim of the program is to give students a better understanding of how their brains work, what happens in the event of damage to a particular area, and what they can do to protect themselves while participating in the healthy activities of childhood. Brain Day instructors are trained to help students make connections between their everyday actions, their brains, and how brain injuries can permanently affect the body.

Once these connections are made, students can better understand why it is important to *think first* – and protect themselves in play, sports and travel. Adopting life-saving injury prevention habits, including wearing a properly fitted bike helmet before cycling and following the rules of the road, like seat-belt use, saves lives.

ThinkFirst Brain Day now reaches over 10 000 kids and counting across Canada. One teacher raved that Brain Day “..was extremely educational, well planned and directed by wonderful volun-



teers who related very well with the students.”

Traumatic brain injury is an important issue in Canada - an invisible epidemic - responsible for a significant portion of preventable tragedies. But there is good news: researchers estimate that 90% of all injuries are predictable and preventable. The aim of ThinkFirst Brain Day is to close this gap by empowering kids to make safe, smart choices to prevent injury.

To learn more about ThinkFirst Brain Day and what you can do to prevent injury for Canada's kids, visit

thinkfirst.ca/programs/brainday.



We are grateful to our donors like the Krembil Foundation who make it possible for us to bring our Brain Day prevention message to kids across Canada

ThinkFirst Canada building Brain Awareness through Advocacy

ThinkFirst Canada and its Chapters continue to work collaboratively with governments, our national, provincial and municipal allies in prevention with industry and researchers to make Canada safer for kids.

Our advocacy work includes:

- Working throughout Canada to promote the Es of injury prevention including engineering, education and enforcement - for example advocating for helmet use for all wheeled activities
- Encouraging the public and the media to change the way they speak about incidents of preventable injury—kids can be healthy active *and* safe
- ATV safety—including advocacy for minimum rider age
- Drowning prevention—supporting safer pool fencing and smart diving
- Safer hockey—including education and concussion awareness and prevention
- Snow hill safety—including mandatory helmet use and education
- Municipal advocacy to create safer tobogganing hills and helmet use
- Working with every level of government to call for appropriate investment of attention and funds for effective injury strategy development and implementation with the goal of reducing the burden of injury in Canada.



ThinkFirst Brain Day Students get up close and personal with a gelatin brain. They learn it feels just like the real thing—and is just as fragile!

Making a Gelatin Brain

The gelatin brain is a great prop to use with students of all ages. This mold creates a lifelike brain with the texture and colour of the real thing!

Ingredients:

- Vegetable oil to grease the plastic mold
- 2 170g boxes of watermelon or peach gelatin (these flavours provide the most realistic colour)
- 266ml can of evaporated skimmed milk (*please do not substitute other types of milk.*)

Recipe:

Before each use, wash the brain mold with warm soapy water and a soft cloth or sponge.

Apply a small amount of vegetable oil inside the entire cavity of the plastic mold; then wipe out any excess.

Put flavoured gelatin in a mixing bowl and add the boiling water. Stir until dissolved.

Stir in $\frac{3}{4}$ cup of cold water.

Stir in evaporated skimmed milk. Stir for 2 minutes (include a few drops of food colouring

here, if desired).

The colour of the brain depends on the gelatin flavour you use and whether or not you want to add food colouring. To obtain the brain-ish pink tone pictured above, use watermelon flavoured gelatin and a few drops of green food colouring.)

Pour mixture into mold and refrigerate overnight.



Tips for a Perfect Gelatin Brain:

- Place the mold inside a bowl in the refrigerator for best results
- Transport the brain in its mold to your presentation
- To extract the brain from the plastic, gently shake it facing up, then facing down
- Don't forget to place it on a plate—the gelatin should pop right out!

For a downloadable copy of this recipe, visit thinkfirst.ca/downloads/resources

ThinkFirst Canada Brainiac of the Month—Brooke Acton

Name: Brooke Acton

Volunteer since: 2006

Currently: In a lab! She's there ALL THE TIME! I guess that's what PhD candidates do...




If there was a time when Brooke wasn't thinking about the brain, she can't remember it now. Brooke's been a graduate student in a neuroscience lab for about 2 years, but she's had her mind on minds for even longer.

Brooke's been working with ThinkFirst on Brain Day since 2006. She came to us through the University of Toronto's Neuroscience Association for Undergraduate Students (NAUS), where Brain Day was first developed and tested in 2005. As a member of this group, Brooke started deepening her interest in the brain, and applying her knowledge to injury prevention efforts through ThinkFirst Brain Day. Since its creation, Brain Day has been a favourite activity of NAUS; so much so that they created the *Brain Day Club of U of T* (now the ThinkFirst Brain Day Club) to formalize and draw attention to their activities. Brooke liked the idea of introducing more people to the wonders of the nervous system, and decided to help coordinate Brain Day after watching her friend Veronica Liang pull it off in 2008. By the time she committed to Coordination duties, she knew a lot of people involved in putting together Brain Day and was eager to take a larger role in making it a success!

It seems to have paid off: in 2009, the TF Brain Day Club of UofT (St. George Campus) – co-chaired by Brooke with fellow Brainiac Jessy Abi-Najem – reached 2529 elementary students through 138 volunteer instructors! That's 25% of the Canada-wide Brain Day outreach total! Never one to rest on her laurels, Brooke (with some help) wrote up her experiences with ThinkFirst Brain Day 2009 and its outcome in a poster presented at the 2009 meeting of the Society for Neuroscience in Chicago this past August. She plans to continue promoting community outreach – especially in elementary schools – as a neuroscientist and academic after she completes her doctorate in Neurobiology at U of T. ThinkFirst is certainly glad Brooke's got brains on the brain!

Brain Day Toronto 2009


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What is Brain Day?

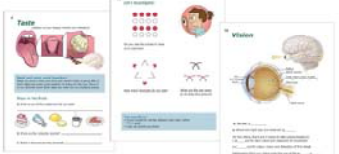
ThinkFirst Canada's *Brain Day* is a national outreach program involving scientists, university students, community volunteers and thousands of school children from across Canada. *Brain Day* is a neuroscience-based education session that elevates students' interest in the human brain and nervous system, and empowers them to always use their brains to protect their bodies.

During *Brain Awareness Week* in March every year, our *Brain Day Team* organizes a half-day program for junior elementary students. Using hands-on techniques, interactive discussion and fun experiments, students are engaged in discovering the science and wonders of the human brain, how it works, and how injuries can permanently affect the body.




In the Classroom

ThinkFirst Canada's *Brain Day* is dedicated to educating children in a fun and interactive manner! We provide our volunteers with all of the tools needed to teach students about the nervous system, while emphasizing the message of injury prevention.



Each student receives an interactive manual to follow the days lessons and participate in group activities.



The lessons are always accompanied by fun activities both on the lesson and finding a final goal.

The Brain Day Curriculum

Neuroanatomy. The human brain is made up of 100 billion cells called neurons.

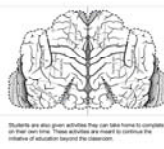
Smell and Taste Both smell and taste receptors can proliferate throughout our lives.

Vision. Sight is perceived by the occipital lobe.

Hearing. What is the basic mechanism for hearing?

Touch. The homunculus depicts the cortical organization of somatosensation in the body.

Injury Prevention. The importance of understanding risks wearing appropriate protective gear.



Students are also given activities that can take home to complete on their own time. These activities are meant to continue the initiative of education beyond the classroom.


Brain Day 2009

Brain Day 2009 was a massive success. The program was expanded to more than 386 classrooms in 11 cities across Canada. With the help of nearly 700 volunteers from universities, public health agencies, and our chapters, ThinkFirst Canada educated more than 10,000 elementary students, almost doubling the number reached in 2008.


Aviva Brain Day 2009 in Toronto entailed:
 138 university volunteers,
 55 schools,
 93 classrooms, and
2529 elementary students!!

Helmet Fitting and Injury Prevention

One of our most important messages is injury prevention. The students are taught proper use of helmets and the benefits of using the right helmet for different activities. We also provide students with information they can take home to their parents to promote parental involvement in injury prevention.



Brain Day Association of UofT



The Brain Day Association of U of T aims to raise awareness about traumatic brain injury through education. Students, staff, and alumni with an interest in neuroscience share their knowledge within the elementary school environment.

The executive committee organizes social events and fundraisers, and coordinates Brain Day presentations in local public schools. We also provide information and training sessions to get the volunteers set-up with the curriculum and supplies.



Brain Day Association of UofT Executive Members 2009:
 Executive Coordinators - Brooke Acton and Jessy Abi-Najem
 Secretary - Maria Eileen
 Internal Relations Facilitator - Nasir Shah
 External Relations Facilitator - Sonja Mirman and Russ Coo
 Administrative Facilitators - Anvika Kulkarni and Isabella Singh
 Volunteer - Enoch Ng

BrainWaves is brought to you by:

ThinkFirst Canada:

Executive Director:

Rebecca Nesdale-Tucker

Communications Manager:

Midori Miyamoto

Injury Prevention Program Manager:

Sandy Wells

National Office Coordinator:

Deirdre Dimitroff

Got a Brain? Get ThinkFirst Brain Day!

BRAIN DAY CITIES 2010



Yes, I want to help prevent brain and spinal cord injuries in Canadian children and youth. I would like to support ThinkFirst Canada in the amount of _____.

Name: _____

Address: _____

City: _____ Postal Code: _____

Telephone Number: _____

E-mail: _____

Method of payment:

Cheque enclosed

VISA

VISA Card number: _____

Cardholder's Name: _____

Expiry Date _____

Signature: _____

*All donations over \$10 are eligible for a charitable tax receipt. Please make all cheques payable to **ThinkFirst Foundation of Canada**.*

Since its humble, but promising, beginning in Toronto in 2004, ThinkFirst Brain Day has grown to include programs in 8 provinces across Canada, and 16 cities. To date, we've turned over 21,000 elementary students into certified Brainiacs! If you are a teacher, principal, or parent in one of our current Brain Day cities, and you would like to request a Brain Day presentation for your classroom of grade 4, 5, or 6 students, simply send an email to the National Injury Prevention Program Manager at: sandyw@thinkfirst.ca.

We'll connect you with information to help with the future Brainiacs in your life! ThinkFirst Brain Day is currently operating in 17 Canadian cities, listed above.

Special thanks to our Supporters including

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Ontario Neurotrauma Foundation

Tridel

Ontario Trillium Foundation

To subscribe to BrainWaves, or send us your feedback, please send an email to brainwaves@thinkfirst.ca