



**WISE Kid-Netic Energy**  
ENGINEERING FOR SCIENCE



# Annual Report

2013–2014



UNIVERSITY  
OF MANITOBA



## OUR MANDATE

WISE Kid-Netic Energy works to ignite an interest and life-long passion of science and engineering in all Manitoba youth.



UNIVERSITY  
OF MANITOBA

A member  
organization of  
[www.actua.ca](http://www.actua.ca)

**actua**

Learning for Change...  
Découvrir pour demain.

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## INTRODUCTION

In 1990 WISE (Women in Science and Engineering) Kid-Netic Energy, the University of Manitoba's largest outreach initiative, was formed. At WISE Kid-Netic Energy we envision the youth of Manitoba inspired and empowered by the possibilities of science, engineering and technology. We envision a Manitoba where all youth, regardless of background, gender or socio-economic status are enriched in their science, math and technology education. To make our

vision a reality, our organization offers science and engineering workshops, clubs, and camps to youth from Kindergarten to Grade 12 throughout the entire province. Annually we see between 20 000 and 30 000 kids. These young people of today will become Manitoba's vibrant and diverse workforce of leaders tomorrow; these youth will be empowered by their knowledge and appreciation for science, engineering and technology.





WISE is a very child friendly program that keeps the students engaged.

**Meaghan Turpin,**

Grade 1 teacher at Jack River School, Norway House, MB



## OUR INSTRUCTORS

Our instructors are our champions. All of our instructors are pursuing engineering or science-related degrees. We are an equal opportunity employer, and pride ourselves on hiring undergraduate students that reflect the diversity of students throughout Manitoba. Each is trained to deliver all of our Manitoba science curriculum-based workshops. They also receive classroom management and Indigenous cultural training. We provide meaningful employment for our instructors to develop strong leadership and presentation skills.

During the fall and winter our instructors work part-time and deliver outreach close to Winnipeg to accommodate their classes and labs. In

spring and summer they work full-time and travel extensively to all corners of our province including northern Manitoba (Churchill, Dauphin, Flin Flon, etc.), southern Manitoba (Steinbach, Killarney, Morden, etc.) and First Nations communities (Hollow Water First Nation, Skownan First Nation, Norway House Cree Nation, etc.). We teach our instructors to consciously consider the grade level they are presenting to so students are able to easily understand, and relate. We also believe having underrepresented peoples as ambassadors of science and engineering in classrooms dispels barriers associated with underrepresented groups excelling in technical fields.





# OUR WORKSHOPS

Showcasing a variety of science and engineering topics, our workshops are highly interactive, and bring technology and hands-on activities to classrooms.

[wisekidneticenergy.ca/workshops](https://wisekidneticenergy.ca/workshops)

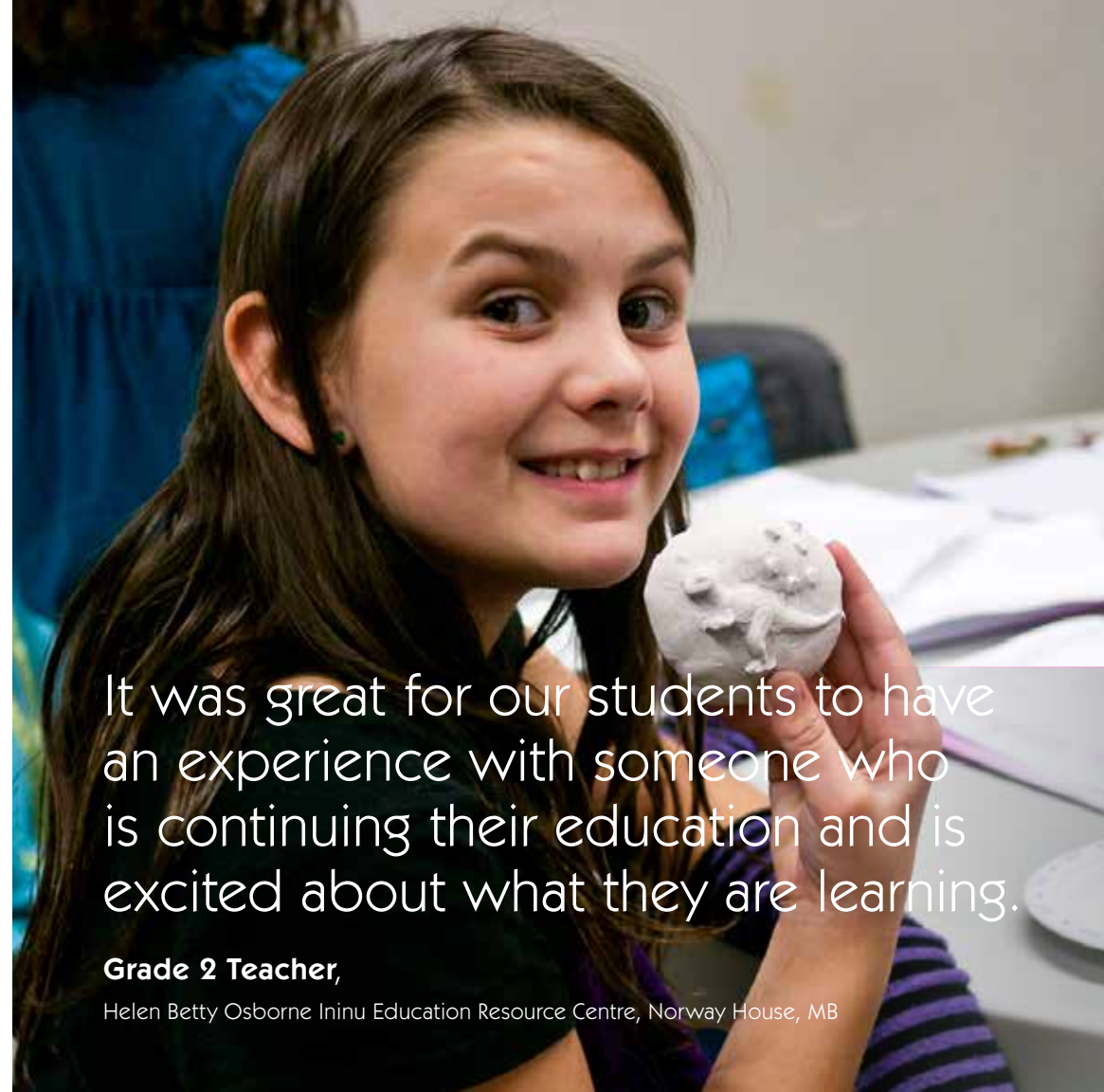
## OUR WORKSHOPS

We offer over 20 different hands-on workshops and we had another tremendous year in workshop delivery. Between April 1, 2013 and March 31, 2014 we saw an outstanding 23 742 students. Our hands-on, Manitoba science curriculum-based workshops for Kindergarten to Grade 12 are a hit in classrooms all over the province of Manitoba. Teachers have enthusiastically invited us into their classrooms and we could not be more excited to be working with passionate educators. We offer a wide variety of choices for budding scientists and engineers. We facilitate dissections, design-build-test challenges and plenty of fun educational games. We bring all the supplies and clean up

afterwards. We charge minimally and offer the same rates for schools within and outside the city of Winnipeg. We strive to spark curiosity and build momentum towards positive experiential learning. In fact, many schools fund our workshops using the Manitoba Experiential Learning grant. Please go to our website to view our current workshop catalogue in French and English.

### FUN FACTS ABOUT WORKSHOPS

- Total audience of 23 742 from Kindergarten to Grade 12
- 1 048 workshops delivered



It was great for our students to have an experience with someone who is continuing their education and is excited about what they are learning.

**Grade 2 Teacher,**

Helen Betty Osborne Ininu Education Resource Centre, Norway House, MB



## WORKSHOP DELIVERY BROKEN DOWN BY SCHOOL DIVISION

| DIVISION             | KIDS PER DIVISION | DIVISION              | KIDS PER DIVISION |
|----------------------|-------------------|-----------------------|-------------------|
| Border Land          | 125               | Seine River           | 784               |
| Brandon              | 134               | Seven Oaks            | 656               |
| DSFM                 | 361               | Southwest Horizon     | 243               |
| Flin Flon            | 99                | St. James-Assiniboina | 1 196             |
| Fort La Bosse        | 195               | Sunrise               | 722               |
| Frontier             | 1 384             | Swan Valley           | 265               |
| Garden Valley        | 100               | Turtle Mountain       | 154               |
| Hanover              | 2 092             | Western               | 438               |
| Interlake            | 43                | Winnipeg              | 2 302             |
| Lord Selkirk         | 298               | Pembina Trails        | 1 737             |
| Louis Riel           | 751               | Portage la Prairie    | 682               |
| Mystery Lake         | 1 463             | Prairie Rose          | 567               |
| Red River Valley     | 160               | Prairie Spirit        | 174               |
| River East-Transcona | 1 072             | Other/Private         | 4 688             |
| Rolling River        | 139               |                       |                   |
|                      |                   | <b>TOTAL STUDENTS</b> | <b>23 742</b>     |

Excellent presentation!  
Students loved it.  
They were motivated.

**Rosalie Muswagon,**

Grade 3 teacher at Helen Betty Osborne  
Innu Education Resource Centre, Norway House, MB





## OUR CAMPS

Camp programming is fun, interactive, hands-on, indoors and outdoors and incorporates everything from large muscle group physical activities, to creative designing and building activities.

[wisekidneticenergy.ca/camps](http://wisekidneticenergy.ca/camps)

## OUR CAMPS

We run week-long science and engineering camps in northern Manitoba (e.g. Churchill, Flin Flon, Dauphin), southern Manitoba (e.g. Steinbach, Morden, Killarney), First Nations communities (e.g. Hollow Water First Nation, Skownan First Nation, Norway House Cree Nation, Sapotaweyak Cree Nation), and within Winnipeg through the Boys and Girls Club of Winnipeg (Helping Hands Immigrant Resource Center). Each day, boys and girls within

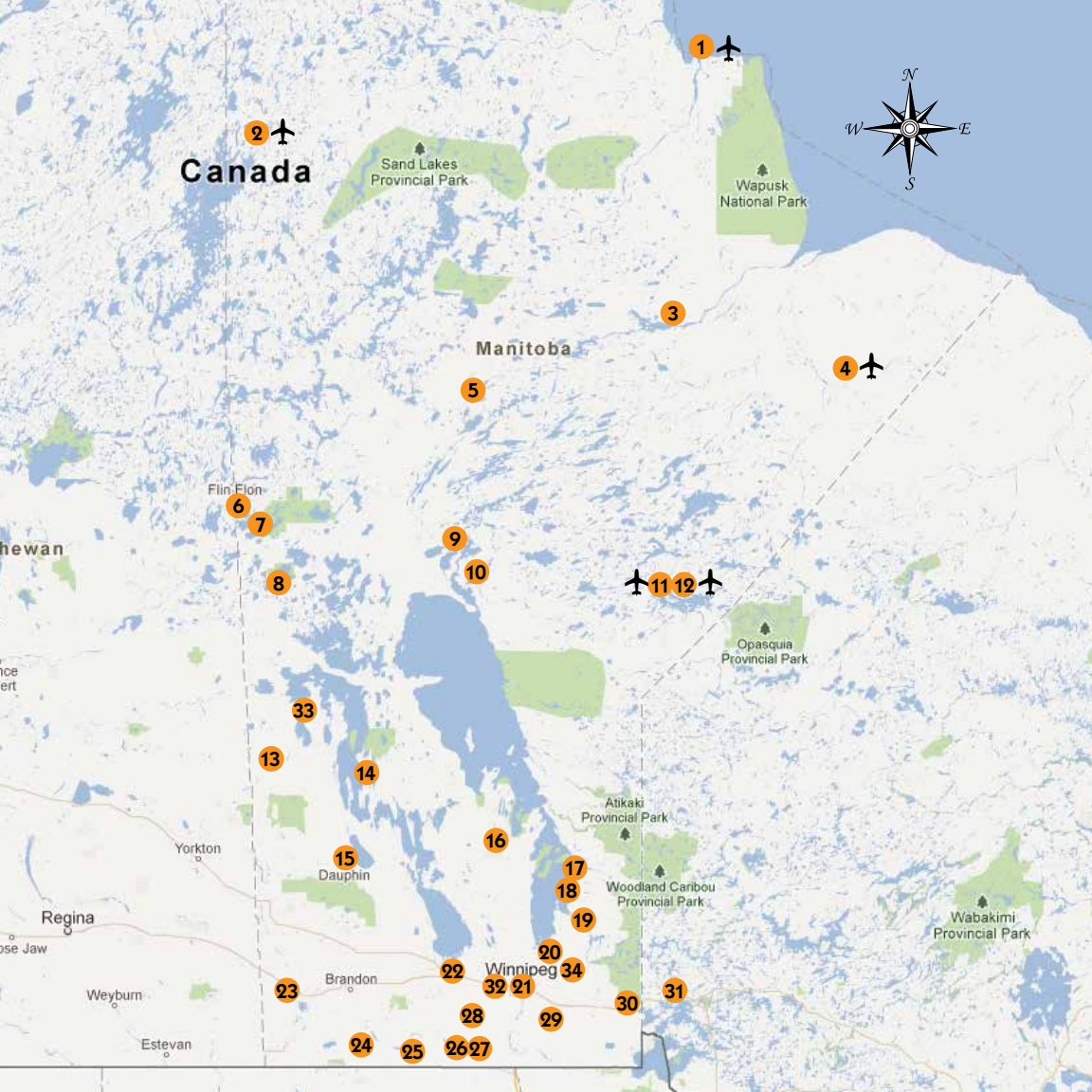
Grades 4, 5, and 6 experience a new career path. In summer 2013 participants were exposed to different themes in mining, genetics, medical science, space discovery, and sustainability. Campers participated in activities such as creating a model lung, cast, telescope, bottle rockets, solar oven, wind turbine, and doing activities like cookie mining and genetic mafia. Our lesson plans maximize hands-on learning.

Having opportunities for kids in the north to learn about science and engineering is so great! This is my daughter's second year and we will be enrolling her and her sister next year! Great program.

**Flin Flon parent of camper**







## CAMP LOCATIONS SINCE 2001

- |                                        |                                     |
|----------------------------------------|-------------------------------------|
| 1. CHURCHILL                           | 18. LITTLE BLACK RIVER FIRST NATION |
| 2. BROCHET                             | 19. PINAWA                          |
| 3. GILLAM                              | 20. TYNDALL                         |
| 4. SHAMATTAWA                          | 21. WINNIPEG                        |
| 5. THOMPSON                            | 22. PORTAGE LA PRAIRIE              |
| 6. FLIN FLON                           | 23. VIRDEN                          |
| 7. FRONTIER SCHOOL DIVISION'S CAREER X | 24. KILLARNEY                       |
| 8. THE PAS                             | 25. CLEARWATER                      |
| 9. CROSS LAKE                          | 26. MORDEN                          |
| 10. NORWAY HOUSE                       | 27. WINKLER                         |
| 11. WASAGAMACK                         | 28. CARMAN                          |
| 12. GARDEN HILL                        | 29. STEINBACH                       |
| 13. SWAN RIVER                         | 30. FALCON LAKE                     |
| 14. SKOWNAN                            | 31. KENORA                          |
| 15. DAUPHIN                            | 32. ST. FRANCOIS-XAVIER             |
| 16. PEGUIS                             | 33. SAPOTAWEYAK                     |
| 17. HOLLOW WATER FIRST NATION          | 34. BEAUSEJOUR                      |

Highlighted locations received week-long camps in Summer 2013

 fly-in location



## SPACE ADVENTURE CAMP

WISE Kid-Netic Energy continues to provide the promotional and administrative support for the Manitoba Space Adventure Camp, a Manitoba Aerospace initiative. The enrichment camp designed for students in Grades 9-11 explores various aerospace, flight, physics and space topics. Students participate in hands-on activities such as rocket builds, extensive lab tours in the Faculty of Engineering and drive a race car—a simulator of course!







## OUR CLUBS

Each week exciting hands-on activities, tours, field trips and mentor events are hosted. Club members have the opportunity to interact with professionals, see the “heart” of the University of Manitoba, and explore science and engineering on a more in-depth level.

[wisekidneticenergy.ca/clubs](http://wisekidneticenergy.ca/clubs)

## OUR CLUBS

Offering quality extra-curricular science and engineering programs is crucial to the development of Manitoba's future scientists and engineers, and we offer two girls clubs that run throughout the school year to support local interest. Every week the girls meet with their instructors, and develop their skills and interests through participation in competitions, field trips and mentorships.



Girls Club was more than I ever imagined. The quality was wonderful and the diversity of the topics was great.

Sharon Sankar (parent)







# OUR OUTREACH

WISE Kid-Netic Energy is dedicated to inspiring all youth to Science and Engineering. We have special initiatives to provide outreach to underrepresented groups.

[wisekidneticenergy.ca/outreach](http://wisekidneticenergy.ca/outreach)

## ADOPT-A-CLASS

By far the most meaningful new project we started in September 2012 was our Adopt-a-Class program. We recognized that we could do more to make our workshops accessible in areas of Winnipeg with socio-economic challenges. We asked the Boys and Girls Club of Winnipeg, and ENGAP (Engineering Access Program for Indigenous students) to nominate schools which would receive our workshops at no cost. The schools are Children of the Earth, David Livingstone, Dufferin, Elmwood High, Gordon Bell, Niji Mahkwa, Norquay, Sisler, St. John's and

William Whyte. Between September 2013 and March 2014 we had already seen 1 444 students. We are passionately developing this project further. We are so grateful to Actua and NSERC Chair of Women in Science and Engineering (Prairie Region) Dr. Annemieke Farenhorst for supporting this new initiative. Mr. Robert Kennedy, a philanthropist, and University of Manitoba alumnus has committed funds to this project for four years. Find out more online. We hope you are as excited as we are.







## INDIGENOUS OUTREACH

In the fiscal year of 2013-2014 we were very engaged on First Nations reserves. We delivered our science and engineering camps in Skownan First Nation, Norway House Cree Nation, Hollow Water First Nation, and Sapotaweyak Cree Nation. Prior to the camps, in spring, we delivered hands-on science and engineering workshops to these communities as well. In total we saw almost 2 000 Indigenous youth on their home reservations.



## INNER-CITY GIRLS CLUB

In the fall of 2012 we started our second girls club in partnership with the Boys and Girls Club of Winnipeg at their Freight House location. During the school year, on Saturday afternoons, 17 girls met to prepare and share healthy meals with female students pursuing science and

engineering and mentors already practising as professionals in those fields. The girls also played sports and participated in science and engineering activities each and every week. It was a safe and fun environment for all participants.

I've never done a dissection before, I didn't think it would be so easy!

11-year-old club member







## MAKE YOUR MOVE

Make Your Move is a unique annual outreach opportunity that invites young female leaders in Grade 8 to a special event designed to challenge and to inspire them. Engineers Canada has set the ambitious goal of 30 per cent female participation in engineering by the year 2030. In support of this goal, we hope to influence young women attending the event to choose the correct science and math courses for admission into the faculty in the future. At the event each

team is matched up with a female engineer mentor. Together they participate in a design-build-test challenge that encourages teamwork, creativity, and ingenuity. Last year 54 girls attended the event sponsored by KGS, Magellan, Hatch, MTS, Standard Aero, Price, Friends of Engineering, APEGM, Faculty of Engineering, NSERC Chair of Women in Science and Engineering – Prairie Region, Manitoba Hydro, Bockstael, and Maple Leaf Construction.

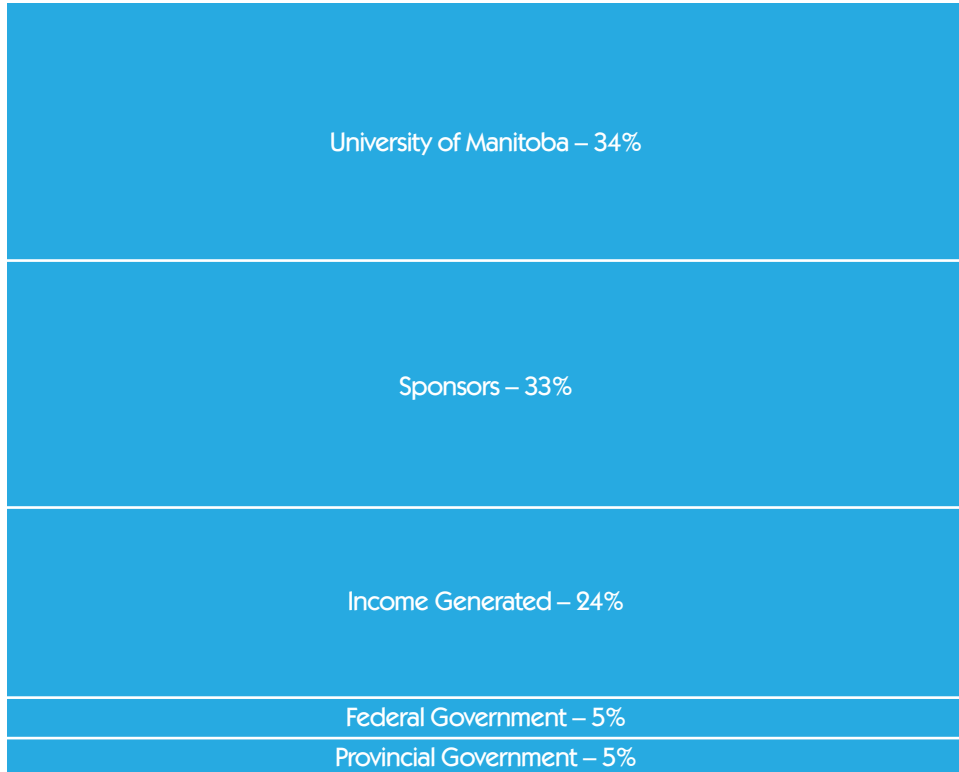
I loved how we were able to express our creative sides in the things we designed. Having a mentor was also really great!

**Student Participant**

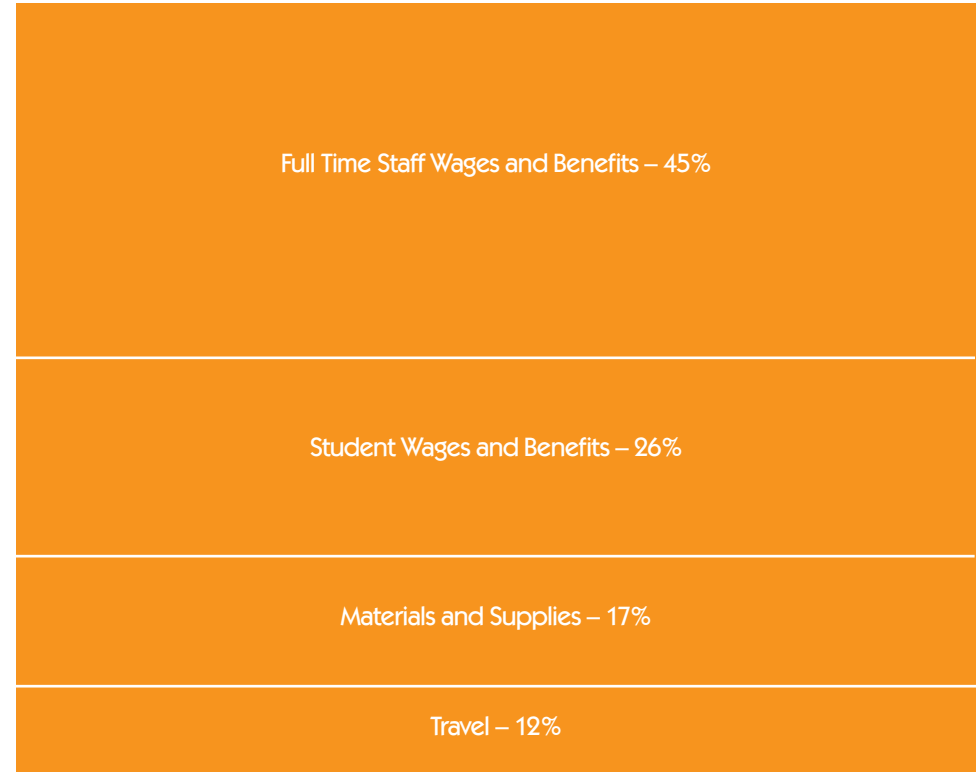
# OUR FINANCES



## REVENUE: \$400 000



## EXPENSES: \$400 000





It was a fun engaging opportunity that has inspired students in science!

**Grade 4/5 Teacher**, Van Walleggem School, Winnipeg, MB





## OUR SUPPORTERS

### 2013-2014 FISCAL YEAR FUNDERS

We have many generous supporters that make our work possible.



## 2013 ACTUA NATIONAL FUNDERS

Actua provides training, resources and support to a national network of local organizations offering science and technology education programs. Actua members reach over 200 000 youth per year. Please visit Actua on the web at [www.actua.ca](http://www.actua.ca)



SUNCOR  
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## OUR FUTURE

WISE Kid-Netic Energy looks forward to maintaining close ties with the Faculty of Engineering and the Faculty of Science at the University of Manitoba, and aligning ourselves closely with their strategic outreach objectives. We look forward to strengthening our ties with teachers and schools within the province so we can continue to support efforts to attract more youth into careers in Science, Technology, Engineering and Math. Our province has a bright future ahead and we know our talented youth are the conduits to our joint success.







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