The students at Crestwood Primary School proved that they have what it takes to exercise their bodies and their minds. In an effort to support their teacher’s scientific expedition to Antarctica, students from kindergarten to second grade pledged to read books and do physical activity that equated to the 12,900 km (8,000-mile) journey to the bottom of the world. Students showcased their distances traveled in a school-wide display as their teacher blogged about her scientific travels around the globe. With support from families and teachers, these young learners tripled their goal by reading 2,000 books and moving “virtually” 38,600 km (24,000 miles) in the course of 10 weeks. Altogether, they strengthened not only their bodies, but also their understanding of science, geography, technology, and healthy living. This approach can be readily adapted for use in other schools looking to encourage a healthier lifestyle. Here is how we engaged families to try to improve our children’s exercise and reading habits not only at school but also in their homes. Though our project is unique due to its scientific and pioneering nature, there are many ways to conduct a similar project in your school, even if you do not have a connection to someone in a faraway place. Simply choose a meaningful destination with your students, perhaps one that connects with a reading or social studies lesson. Then, set a mileage goal to start your reading and walking adventure.
The Health Initiative: Childhood Obesity

Lack of physical activity and obesity are major problems facing our nation’s children. This problem is especially serious in Ohio, as its teenagers rank as the fourth most overweight in the nation. The positive relationship between physical activity and academic progress for school-age children is well documented. Research shows that physical activity stimulates the brain and increases academic performance. In a recent study by the Centers for Disease Control, researchers reported a positive relationship between physical education and academic success that included improvement in memory, verbal skills, and self-esteem (see Internet Resources). In South Carolina, test scores rose more than 13% for elementary school students who increased their exercise time using age-appropriate physical activities (see Internet Resources). The National Association of Sport and Physical Education recommends that elementary students receive 150+ minutes of physical education weekly in school and at least 60 minutes of physical activity each day.

As part of the Healthy Ohio initiative, Crestwood Primary teachers made it a goal to combat this epidemic of obesity. For these reasons and in addition to biweekly physical education instruction and daily recesses, teachers incorporated activities that require physical movement into their classrooms. Dr. Steve Mitchell from Kent State University’s School of Exercise, Leisure, and Sport and physical education teacher Kathleen Doneyko recommended yoga, dance, and other gross motor skills to increase physical activity in classrooms. Consequently, it seemed natural to connect healthy lifestyle practices into new projects, such as the Crestwood-Antarctica Connection.

Getting Started: Choose a Meaningful Destination

Antarctica is not exactly a balmy vacation spot, but students instantly connected to this destination since their very own teacher was traveling there with a research team to Palmer Station. First-grade teacher Natalie Harr departed with Miami University’s 2012 Antarctic Expedition in late December for seven weeks. Richard Lee’s team typically includes a K–12 educator who fully participates in the research on a wingless Antarctic fly and also assumes responsibility for the team’s educational outreach to schools. As the first primary teacher on the team, Harr created a kid-friendly interactive website and blog as part of her outreach plans called the Crestwood-Antarctica Connection (Figure 1), and enlisted help from her colleagues to plan valuable cross-curricular activities targeting the district’s youngest learners. Seizing the opportunity, Harr, Doneyko, and a small committee of teachers collaborated to launch a “Read and Walk to Antarctica” campaign to promote shared reading and movement activities for K–2 students and their families.

And We’re Off

The Read and Walk campaign was launched in early December at a
Read—and Walk—to Antartica

schoolwide assembly that kicked off the Crestwood-Antarctica Connection. Harr and Lee gave a visual presentation that described their upcoming eight-day journey by both plane and ship to reach the Antarctic Peninsula. During the assembly, students were invited to travel along and support the team. To do so, they would record their reading (books read) and exercise activities (walking, running, practicing a sport) at home on a paper footprint (Figure 2). Each student received two footprints along with a parent letter (see NSTA Connection; Figure 3) to take home to begin the project.

To complete a footprint, the students were asked to do three hours of physical activity AND read five books. The students colored a circle on the left side of the footprint after completing one full hour of movement. Each hour of activity could be divided into smaller amounts of time that add up to an hour, in order to make this goal easier to achieve. As students read books in their leisure, the book title was recorded on each of the five lines provided on the footprint. Students could choose books on any genre and topic to read independently or with a family member. Several children selected Antarctic-themed books to match the spirit of the project. Completed footprints were turned into the student’s homeroom teacher and additional footprints were sent home if requested. Although this was an optional home activity, students were also given time during their biweekly physical education classes to work on the project.

All footprints were then showcased on the walls of the cafeteria and tracked on the Crestwood-Antarctica Connection website. (We recommend securing a large sheet of background paper to your cafeteria walls first, and then taping or gluing the footprints on top to create a stable display.)

Doneyko calculated the distance traveled as new footprints were received at school (1 completed footprint = 200 km [125 miles]). The footprints were hung in rows, according to grade level. Along with the footprints, four signs were hung to mark each waypoint goal, which were spaced according to their distance. For example, the Miami, Florida, sign was close to the starting point since it was the shortest waypoint at 1,750 km (1,087 miles). However, the Miami and Santiago signs were spaced four times farther apart, since the distance was more than 6,500 km (4,000 miles). These waypoint goals helped the students to track their remarkable progress along the way and to better comprehend the distance to their final destination.

The goal was to collectively “travel to Antarctica” before Harr returned to Crestwood Primary School in mid-February. The students were so motivated by this project that they greatly exceeded our expectations. Instead of traveling 12,900 km, the students traveled the equivalent of more than 38,600 km! One child stated, “Where can we read and walk to next?” Another student said, “It was fun playing basketball with my dad!”

Students earned beads for Read and Walk bracelets during physical education class, which helped to motivate and monitor their progress. Each bead represented a marker achieved for waypoints to Antarctica: Miami (Florida),

Figure 2.

Footprints for recording hours of exercise and books read.
Santiago and Punta Arenas (Chile), and Palmer Station. Students proudly wore their bracelets at home and school, thus creating a strong sense of community for the project.

**Staying Healthy**

Antarctica is considered the windiest, driest, coldest, and most isolated continent on the planet. Antarctic researchers must undergo extensive medical examinations to be physically qualified to work in this challenging environment. Staying healthy is of the utmost importance, and it became a major focus of the Read and Walk initiative. Led by school nurse Karen Abruzzino, students created a large bulletin board depicting ways their teacher could stay healthy throughout her Antarctic journey. Photographs of Harr demonstrating good hygiene and healthy lifestyle choices, such as exercising, eating nutritious foods, brushing her teeth, and getting plenty of rest, were displayed at the school’s main entrance. Students worked together to label each photograph, which provoked thoughtful discussions about healthy lifestyle choices that can be made at home, school, or around the globe.

In addition to daily healthy living, students learned how environmental factors such as wind, temperature, and sunlight could affect one’s health and well-being. Antarctica is considered a polar desert, therefore extra health measures are necessary to live and work at Palmer Station. The research team worked in Antarctica during the austral summer, with an average temperature of 36˚F and nearly 24 hours of daylight. Dressing in warm layers was an obvious solution for the cold, but students were quite amused by the bulletin board depicting Harr wearing sunglasses, sunscreen, and lip balm for this winterlike environment. This prompted meaningful discussions about the dangers of ultraviolet sunlight, especially in Antarctica where the snow and ice strongly reflect the ultraviolet rays, which greatly increases the risk for severe sunburn and eye damage. Altogether, this health awareness activity added a valuable layer of learning to the Read and Walk initiative, and it was showcased on the Crestwood-Antarctica Connection website to promote health discussions at home among families.

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**Figure 3.**

**Letter to parents.**

Dear Families,

Students at [Insert School Name] are invited to participate in “Read and Walk to [insert destination].” Students are asked to read, read, read and move, move, move at home! As your child reads, please write the titles of the books on the attached paper footprint, and after each hour of activity, please put a check mark in a circle that is on the same paper footprint. Each hour of activity may be divided into smaller amounts of time that add up to an hour. After five books have been read and three hours of activity have been completed, please return the footprint to your child’s teacher.

The journey will take place from [insert start date] until [insert end date]. Therefore, all footprints should be returned by this end date. A schoolwide display of our footprints will showcase our journey to [insert destination] and our progress can be tracked at [insert school web address]. A token will be given to each student when their class reaches certain mile markers along the journey. Parents are asked to encourage independent reading each evening along with participation in moving activities and to congratulate your child when the goal is met. This is an optional activity open to all [Name of School] students.

—The Read and Walk Committee

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**Teaming Up With Technology**

The research team’s interactive blog (see Internet Resources) helped students connect firsthand with the geography, culture, and environments encountered on each step of the way to Antarctica. Harr personally interacted with the students by individually answering their questions, posting slideshows, maps, stories, and movies of the team’s epic travels through Spanish-speaking Chile, their ship ride across the infamous Drake Passage, and their exciting arrival at Palmer Station, Antarctica. A schoolwide Skype videoconference with Harr rewarded students for reaching the 12,600 km “Read and Walk” goal with a virtual tour of Palmer Station, the opportunity to meet local scientists at the research base, and a closing question-and-answer session. Altogether, the
blog and Skype session empowered the students to Read and Walk another 25,800 km, tripling the original goal.

**Conclusion**

The initiative was far more successful than we predicted, and it extended cross-curricular learning well beyond the classroom. The use of technology (i.e., the interactive website, blog, and Skype session), the visual display of paper footprints, and the Read and Walk bracelets greatly motivated students to participate and exceed our original goal. The timing of the Read and Walk campaign also contributed to its success, since it overlapped with winter break when students spend more time at home with their families.

The impact of this project is ongoing, as described by a parent below:

*Sometimes all it takes is a different perspective to change the way you and your kids see things. That is exactly what happened when Miss Harr embarked on her journey! In the spirit of discovery my seven-year-old twins and I committed to exploring more. Simple routines such as going to soccer took on a new approach. Instead of heading right to the car, we became explorers and took the walking trails behind our school. We saw deer, rabbits, and just had plain old fun. We continue our new roles as explorers everyday, by parking farther out and looking for new and exciting hiking and biking trails.*

—First-grade parent

The Read and Walk campaign created a strong partnership between schools and families to help combat the obesity epidemic that is affecting our children today. It inspired our young students to significantly increase their reading and physical activity at home and unified an entire school to reach a common goal.

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**Internet Resources**

Crestwood Primary Science Education site
[www.crestwoodexplorestheworld.org](http://www.crestwoodexplorestheworld.org)

Healthy Ohio Initiative
[www.healthyohioprogram.org](http://www.healthyohioprogram.org)

Physical Activity Found to Boost Test Scores, Brain Function

Physical Activity in Class Leads to Improved Test Scores
[http://blogs.edweek.org/edweek/schooled_in_sports/2011/05/study_physical_activity_in_class_leads_to_improved_test_scores.html](http://blogs.edweek.org/edweek/schooled_in_sports/2011/05/study_physical_activity_in_class_leads_to_improved_test_scores.html)

**Connecting to the Standards**

This article relates to the following National Science Education Standards (NRC 1996):

**Teaching Standards**

**Standard D:**

Teachers of science design and manage learning environments that provide students with the time, space, and resources needed for learning science.

**Content Standards**

**Grades K–4**

**Standard E: Science and Technology**

- Understandings about science and technology

**Standard F: Science in Personal and Social Perspectives**

- Personal health
- Changes in environments
- Science and technology in local challenges


**NSTA Connection**

Download the parent letter at [www.nsta.org/SC1209](http://www.nsta.org/SC1209).