## SUCCESS STORY

**KEY FINDINGS**

- *National Geographic Science* students increase vocabulary, science content, and inquiry skills
- *National Geographic Science* meets diverse student needs, including English language learners
- Students build nonfiction reading and writing skills while learning science

# *National Geographic Science* Improves Students' Scientific Literacy Skills



## Challenge

School leaders at Emiliano Zapata Academy, a public school in Chicago, IL, with a high percentage of English language learners (ELLs), were focused on building a strong academic program for their students, many of whom came to school with limited background knowledge in the content areas. They recognized the importance of teaching science content and process skills beginning in the early grades to nurture students' curiosity and build a foundation for future science learning.

Ms. Garcia, Zapata's Principal, and Ms. Breitberg, Lead Science Teacher, sought a core program that covered grade level science standards. They also needed a program with strategies and materials that helped teachers reinforce and make the science concepts and skills accessible so all students could achieve mastery.

## Solution

Zapata piloted **National Geographic Science** with second grade classes during the 2009–2010 school year. Teachers appreciated how the engaging graphics and real-world connections made science more accessible for ELLs—and helped teachers explain the science Big Ideas. The differentiated instruction supports also ensured that students with limited background knowledge and English language skills could master grade-level science objectives. Ms. Breitberg noted, "This program was easy for teachers to use with the range of students in a classroom, so even when the teacher wasn't a science 'expert', their students were able to have strong science experiences."

**National Geographic Science** materials and hands-on inquiry lessons generated excitement and discussion among students. "The content is age-appropriate and fun, yet contains strong, direct science concept building and true inquiry activities," explained Ms. Breitberg. "It's also great that while students are learning science they are also strengthening their reading and writing skills; a high priority for our school."

The informational text lessons in **National Geographic Science** reinforced each unit's Big Ideas while engaging students with high interest content. "The leveled texts reinforced students' science vocabulary and built their nonfiction literacy skills," noted Ms. Breitberg. "Students really enjoyed reading about science and then sharing what they learned with other groups that studied about a different topic." ELLs especially benefited from the many opportunities to use academic talk as they learned science.

## Results

To gauge the impact of **National Geographic Science** at Zapata, all second grade classes were assessed in vocabulary, science content, and science inquiry skills. Students using **National Geographic Science** outperformed their peers who did not use the program. After one school year, **National Geographic Science** students: gained 9 scale score points more in Word Knowledge on the Gates MacGinitie Reading Test (GMRT), performed 10% higher on a science content assessment (NG Science = 70%, Control = 60%), and demonstrated significantly more 'informed' views on the Nature of Science and Science Inquiry on the Young Children's Views of Science (YCVS).

Zapata has since expanded **National Geographic Science** to all first and second grades and next year will add grades three through five. Ms. Garcia explained, "I am so encouraged by how well our students performed with **National Geographic Science**; Zapata students will be more prepared to meet state science standards."

**National Geographic Science students outperform peers after one school year**

| National Geographic Science | 70% | Control | 60% |
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*Second grade students' average percent correct on Science Content Knowledge test*
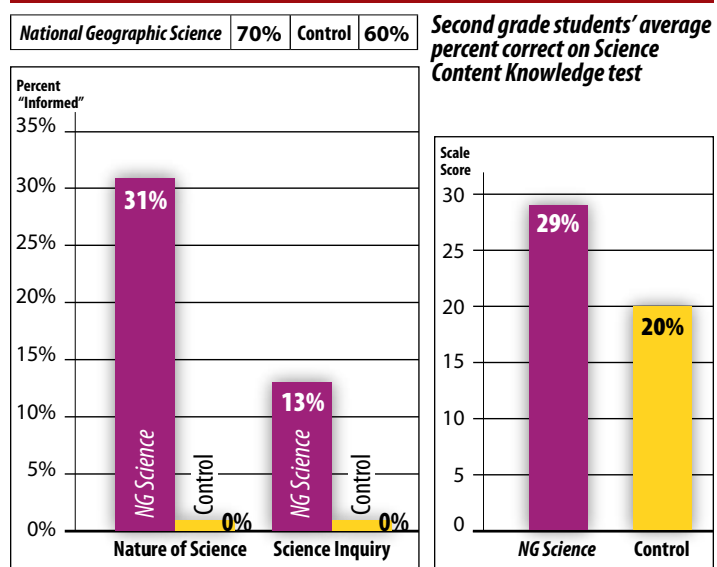


*Percentage of second grade students' with "Informed" views of science on the YCVS*

*Second grade students' average scale score growth in Word Knowledge on the GMRT*