

New Youth Center at American Indian Museum Focuses on Invention

By Laurel Graeber

May 18, 2018

Who invented zero?

This concept, so vital to modern math, was understood by the Maya, one of the first civilizations to use it. But that wasn't the only innovation of indigenous peoples. Consider snow goggles. Or chocolate. Or suspension bridges. Or, in a way, sneakers.

"Native people did not invent Chuck Taylors," said Duane Blue Spruce, project manager for the Smithsonian's National Museum of the American Indian, referring to the classic athletic shoe. "But," Mr. Blue Spruce added, "we are responsible for the chemical process of creating rubber."

These discoveries and many more form the heart of the imagiNATIONS Activity Center, a permanent bilingual (English and Spanish) installation for youth and families that opened on Thursday in the museum's New York City branch. Part of an approximately \$9 million renovation, whose cost includes vast new retail space as well as heating and ventilation, the 4,500-square-foot center is the Lower Manhattan museum's largest design undertaking since its founding in 1994.

Although the museum already has an imagiNATIONS center, for 4- to 8-year-olds, in its Washington building, this one is for students in grades 4 through 12. It also has an entirely new direction.

"People, generally, when they think about Native Americans, don't think of math, engineering and science," Kevin Gover, the museum's director, said in a telephone interview. In addition to countering the old stereotypes of American Indians as primitive, the center fills what Mr. Gover, a Pawnee, sees as a gap in school curriculums.



Visitors can examine objects on display in the center's discovery room. 5th Avenue Digital

“The underlying theme in education about Native Americans is that these are people who used to be there, and they’re gone now,” he said. “We’re saying, not only are they not gone, but their ancient accomplishments still influence our modern life.”

This message greets center visitors in the form of a large map of the Americas, studded with symbols of about 30 native innovations. The theme continues in sections on math, nutrition, medicine, engineering, physics and architecture that were all developed with Native American scientists. This weekend, more native experts will appear at the museum’s annual Children’s Festival, which will celebrate the center’s opening. Designed by EwingCole, the space includes a classroom and a discovery room, where children can handle objects ranging from a toothpick made from a walrus whisker to a 10-pound ball used in the Aztec game ulama.

“This is probably the oldest game that uses a rubber ball that is still played today,” said Gaetana DeGennaro, the center’s manager, who is of the Tohono O’odham Nation, and led me on a tour with Mr. Blue Spruce, who belongs to the Laguna Pueblo tribe.

Visiting imagiNATIONS is a humbling experience, even for an adult. The math section offers problems in the Maya’s symbols and numerical system — based on the number 20 — and culminates with a head-scratcher of a “superchallenge.” A computerized multiple-choice quiz game tests general knowledge

with frequently tough questions, like “Which tribe first bred the Appaloosa horse?” (Spoiler: the Nez Perce.)

“Native people were genetically modifying food 7,000 to 10,000 years ago,” Ms. DeGennaro said, pointing to corn exhibits in the nutrition section. Here, children can play Crop-etition, a digital game involving early Native Americans’ agricultural challenges. Planting virtual crops of beans, squash and corn varieties, competitors battle natural disasters and learn to farm.

“The purpose of this game is to plant the correct mix,” Mr. Blue Spruce said. He added with a laugh, “Kids quickly learn that if they plant all popcorn, they’re not going to make it through the year.”



A topographical map of the Western Hemisphere highlights native innovations across the Americas. 5th Avenue Digital

Young visitors can step into the role of Native American healers, too, using what is now known as the Codex de la Cruz-Badiano. Compiled in 1552 as a gift to the Spanish king, it summarizes the Aztecs’ plant-based medicine. In an interactive exhibit, children choose a malady and try to select the codex’s remedy.

“We tried to choose things that were fun for kids, like intestinal worms,” Mr. Blue Spruce said. A medicine cabinet with products like aspirin — a precursor, salicin, is in native healers’ willow bark — shows the ancient knowledge still in use.

The center also demonstrates that it was not unusual for Indian technology to trump European. To illustrate the strength of plant-fiber suspension bridges — a Peruvian example hangs overhead — one of the engineering exhibits, “Make It, Shake It,” invites visitors to build a model European-style arch bridge next to a string suspension bridge. They then create an “earthquake” by pushing and pulling handles. Guess which bridge collapses first. Now many, including the George Washington, are steel suspension designs.

Children will find other deceptively complex structures in the architecture section, where they can assemble a small model igloo. This “is not a semicircular dome, as most people think,” Mr. Blue Spruce said. Employing what is known as a catenary arch, the Inuit give igloos resilience by building them on a spiral.

The physics section offers more Arctic ingenuity, as well as pure fun. Children can try to stay balanced in a mechanized kayak model — a kayak stays upright after capsizing — that imitates a craft in rough waters. (I managed about four seconds.) Another display illustrates how Inuit hunters use the sound conductivity of water: Put your ear to the handle of a partly submerged oar, and you’ll hear — in this case, through technology — a bearded seal’s mating call.

Mr. Gover said he hoped the center would help the museum become more of a destination for local families. Not to mention another benefit: “We hope it will turn them on to math and science.”

A version of this article appears in print on May 25, 2018, on Page C2 of the New York edition with the headline: To Appreciate Native Peoples, Do the Math