The scene in teacher Becky Heck’s ’75 high school biology class mirrors classrooms across the country. Lab tables span the room, bookshelves hold aquariums teeming with fish and amphibians and taxidermied fowl fastened to ceiling tiles dangle overhead. A conglomeration of beakers, test tubes and anatomical models fill in the room’s remaining niches.

Heck is at the front of the room, patiently explaining biology concepts. Students frequently raise their hands to answer her questions or ask for help when they’re stuck. Like students in any other biology classroom, these teens study cells, perform dissections and reference the periodic table. They just go about the processes in nontraditional ways; they “see” with adapted equipment and learning tools.

Heck’s students are visually impaired. Some are blind; others have limited vision. Over the course of her 37-year career with Indiana’s School for the Blind and Visually Impaired in Indianapolis, Heck has boiled teaching the visually impaired down to a science.

What she hasn’t quite figured out, with just two weeks remaining until her retirement, is how to pack all the treasures accumulated in her classroom over the last three decades. Keeping tabs on the whereabouts of two copy paper-sized boxes is her top priority.

“These are my most precious boxes,” Heck said.

The boxes contain stacks of Heck’s handmade teaching aides, construction paper covered with geometric shapes — this one an onion cell, that one an amoeba — drawn in marker and outlined with a trail of glue and string. The combination of elements provides texture for students to trace with their fingers, allowing them to experience and, therefore, visualize shapes and sizes.

Heck also resorts to building scientific models, including DNA strands, with pipe cleaners or candy to give students a tactile learning experience.

“Whatever a sighted person can see I think is important for a visually-impaired person to experience, too,” said Heck.

Teaching aides with raised surfaces and multi-dimensions didn’t exist when Heck started her career so, as she’s witnessed her students do so many times over the years, she adapted. She made the tools she thought would help her students learn best.

“I invested a lot of time creating these, and the kids love them,” said Heck.
It’s especially rewarding for Heck to hear from former students, some now in their 40s, who still speak of the lasting impression she made as a teacher.

“It’s funny the things they can remember doing in class. Some are things I’d forgotten. It’s neat knowing I made a difference,” Heck said.

Students aren’t the only ones impacted by Heck’s teaching excellence. Colleagues recently nominated her for Panera Bread’s Top Teacher competition; Heck was selected the Indianapolis winner from 1,150 nominees.

An excerpt from the nomination letter reads: “Becky has made the world of science, in all its branches, totally accessible to her students. With her knowledge of braille and tactile manipulatives, Becky has not only enhanced the understanding and learning processes of the sciences but has shared her expertise with the public sector in workshops and training for paraprofessionals, teachers, parents and grad students. She was also instrumental in helping the American Printing House for the Blind to develop tactile models to use in science classrooms across the United States.”

What’s more impressive is that Heck, who double-majored in biology and education, didn’t know a bit of Braille when she received a job offer.

“I firmly believe the principal hired me because I graduated from Franklin College,” Heck said. “I think my background coming from a small-school environment that was personalized was important to him because that’s what he wanted to offer blind and visually impaired students. And, too, my being a person from Indiana and having Midwestern values was significant, I think.

“In the end, he convinced me I could learn Braille and that I could do this job well,” Heck said. “I’m so thankful for him.”

Heck said she learned the Braille alphabet quickly but learning shortcuts such as contractions and rules for letter combinations was challenging. Today she reads Braille effortlessly, by sight, quickly making sense of the dotted patterns students produce with specialized, six-key Braille writers or electronic BrailleNotes.

Heck’s own determination is a model for students.

“I want students to be as independent as they possibly can. I have high expectations for them,” said Heck.

Along the way, Heck also wants students to have fun, especially with science. Her own fascination with science has been lifelong.

“I always loved being outdoors. My father worked outdoors for his job, and I often went with him. My family also owned three tree farms, near Hanover (Ind.). I just developed a natural love of nature,” said Heck.

During her career, Heck’s love for nature and teaching has extended beyond the classroom. She created a downhill ski program for blind and visually impaired students, chaperoning trips for 18 years to Colorado and Michigan. She also teamed with a local university’s botany department in a cooperative program to identify trees on the school campus and create an audio identification system. Most recently, she led the installation of bee hives on school grounds to give her students an interactive learning experience plus fresh honey for fundraising.

“I think it’s important to integrate personal experiences into learning,” said Heck.

Heck credits her own travel-study experiences during college as inspiration for some of the programs she has helped developed for blind and visually impaired students.

“FC was a huge influence on me and my teaching career,” said Heck. “At Franklin I had the best of all worlds; I dated a fraternity guy, lived in Cline Hall with hippies and had all these biology friends. I went to football games and plays. I took classes in pottery and calculus. It was such a fun mix of social and academic opportunity,” said Heck.

Heck fondly recalls working in the student dining hall, where she spent nearly every Saturday morning scrubbing potatoes with the full-time staff.

“They were sweet and interested in my school work. In fact, I can remember a few of them arguing over the chance to help with my senior project. I needed to collect specimens, and they all wanted me to use their ponds!”

After working in the cafeteria, Heck said she and a group of 15 friends often joined their professor, Barry Knisley, for nature hikes through the woods of Camp Atterbury or on land owned by a friend of the college.

“Can you believe that?,” she asked rhetorically. “We’d take hikes on Saturday mornings!”

Knisley and his colleague, biology professor Jim Curry, both now retired, also took students on Winter Term travel trips to southern Indiana for spelunking and to the southwest for ecology studies and tiger beetle collections, among other adventures.

This summer, Heck is planning to reunite with Knisley, who was her college academic adviser, and several classmates in Arizona, where they’ll conduct field studies and have an informal Franklin College reunion.

“Dr. Knisley has written several previous papers on tiger beetles,” Heck said. “It’ll be fun to help him with research again.”

The remainder of Heck’s summer will give her a chance to begin enjoying the simple pleasures of retirement.

“I’ll finally have time to read National Geographic from cover to cover,” she quipped.