Dr. Allen Macfarlane – Middle School Science

"Kids learn best by doing," says Dr. Allen Macfarlane, when asked to sum up his teaching philosophy. That's why there are no textbooks in Middle School science. "My goal is to help kids understand that science is a process, that it's something they can do, and that it has some relevance to their everyday lives." It's really not that much of a stretch, he reasons, when you consider how we train doctors, for example. "The real training comes when they work in a medical setting and have to apply what they learned in the classroom."

That's why this hydrogeologist with a PhD in environmental health science leads seventh graders out of the classroom and into the field, to Lake Shawnee, where student scientists form teams to test water samples for turbidity, pH, temperature, and specific conductance, or dissolved substances. "We have a finite amount of water," he explains. "It's important that we understand not only how we interact with water, but how other living things interact with water."

So Allen Macfarlane, a scientist who spent 34 years investigating water problems for the Kansas Geological Survey, now investigates them with sixth, seventh and eighth graders. And loves it!

Dr. Macfarlane has taught college students but, he says, "by the time they're in college, their curiosity is gone. They're focused on getting a job." He likes Middle School students because of their energy and because, he says, "there is a spark of curiosity that I really enjoy and like to nurture as much as possible. It's that spark of that makes me want to get up in the morning and come here." Here, of course, is Topeka Collegiate. "Education is not a straight line process. It's almost a random process. The other day, for example, I planned to talk about plants with 7th graders but spent most of the period talking about weather," he says. "We can do that because there's a latitude here," he says, "that doesn't exist elsewhere. Here, we're catering to curiosity. We're able to take the time to explore."