Sometimes it’s hard for “word people” or “artistic types” to understand what they can get out of math and science. That’s especially true for students who don’t plan on a career directly related to those subjects.

But Boise State professors Louis Nadelson and Henry Charlier say that the parents of a student who “isn’t a numbers person” should know that a basic understanding of science and math does far more than open doors to technical careers in engineering, technology and laboratory sciences. With encouragement from home, K-12 students who study math and science are developing skills and a foundation in topics that fuel curiosity about the world and create innovators, thought-leaders and good citizens.

“These really are life skills that serve one well no matter the chosen career path,” said Nadelson, an assistant professor of education who has spent much of his career instructing teachers on the most effective ways to help students learn math and science.

Of all the skills science and math training offer, Nadelson said the skill of inquiry is perhaps the most significant. He said few people truly understand how to ask the right questions and gather correct information through a thoughtful and methodical inquiry process.

“It seems like a simple thing, but it’s often difficult for people to do because they don’t have much experience with it,” Nadelson said. “Most people just haven’t been taught how to do it properly.”

The ability to ask “why,” he said, sets the stage for a deeper understanding of any topic, as well as the invaluable and inevitable learning tool of discovering an error in one’s own thinking.

For Charlier, an associate chemistry professor, the ability to dissect an issue and think about options represents nothing less than the foundation of democratic society. And given today’s technical society and pervasive issues steeped in scientific jargon (like climate change), having even an informal scientific interest gives people the tools they need to make informed decisions based on their own perceptions.

“If we can begin the process early enough, we’re giving them a great head start on life,” said Charlier, whose alter ego, “Dr. Pickelstein,” spends much of his time among young people debunking the myth that science is beyond the reach of those without a knack for trigonometry or physics. “People are scientists as soon as they start asking questions about the world around them. Science and math both equip you to learn new things and figure them out on your own.”
Nadelson said parents play invaluable roles in facilitating this kind of non-confrontational questioning. That can happen through discussion of scientific and mathematical topics at home or informal learning opportunities offered by organizations like the City of Boise’s Foothills Learning Center and the Discovery Center of Idaho.

“It’s critical for parents to model an interest in these topics and show how important it is for their children,” Nadelson said.

So even if your young student “isn’t a numbers person,” the knowledge and skills offered by math and science are invaluable.

“Don’t shy away from those classes, because even if a student isn’t going to pursue a career directly related to math or science, they will be constantly confronted by mathematical and scientific situations throughout their life,” Nadelson said.

Charlier agreed, saying, “It’s useful even if they’re going to be a music major.”