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MESD Heading to Physics in a Box

By Glen Rosales
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When Edgewood Middle School teacher Alicia Haynes saw the new materials she and other science teachers would get to use with their students in the fall, she wanted to just dig right in.

The “Physics in a Box,” program, developed by Dr. Anatoliy Glushchenko, a physicist who was frustrated with the lack of integrated science training his daughter was receiving in middle school, is a comprehensive, hands-on curriculum designed to engage students while teaching the relationship between science, math and the real world, said

Natalie Romero, Moriarty-Edgewood School District director of learning services.

The district recently purchased more than 250 of the boxes for sixth, seventh and eighth graders specifically targeting each age group with curriculum objectives.

“It’s hands-on, engaging activity that teaches physics,” Romero said. “When I say physics, it meets all of our science standards.”

Science teachers from Edgewood and Moriarty middle schools just got their first look at the wooden boxes packed with nuts, bolts, gears, tools and all manner of gizmos and gadgets.

— See **PHYSICS** on page 2





The new Physics in a Box program for Moriarty-Edgewood School District middle schools contains more than 100 grade-specific lesson plans. Courtesy Moriarty-Edgewood School District



Hands-on learning is the theory behind the new Physics in a Box curriculum at the Moriarty-Edgewood School District middle schools. Courtesy Moriarty-Edgewood School District



Science teachers in the Moriarty-Edgewood School District check out the new Physics in a Box. Courtesy Moriarty-Edgewood School District

—PHYSICS from page 1

“To be honest, I was a little disappointed I didn’t get a chance to grab a box and start playing,” Haynes said with a chuckle, referring to her first exposure to the program.

“I think it is a game changer for science in New Mexico,” said Haynes, who teaches both seventh and eighth grade. “The thing that is beautiful about it is its hands-on and absorbing. I’m a big believer that students learn more about science playing with it than reading about it. This gives every single student the chance to get their hands on it on a daily basis.”

The district has about 525 middle school students and they will share the boxes in pairs, Romero said. And if it works the way school officials believe, the district could be adding elementary or high school boxes in the future.

Each box contains more than 100 lesson plans – complete with detailed instructions, and can also be integrated with materials science departments already have on hand, said Edgewood sixth-grade teacher George Smithson.

“We can look at how can we make it adaptable for us and improvise new experiments,” he said. “It’s very versatile and adaptable and that’s another good thing about it. There are enough experiments that you can do and you can bring in other things that we’ve already got, things that we already have on hand.”

Romero admitted the boxes “are expensive. But we are using these things. We’re just going to do it because it’s right for kids. That’s what’s needed for our kids and what’s best for our kids.”

Additionally, she said, the boxes

have a shelf life of 10-15 years, meaning the significant investment will more than pay off over time.

“We’re very excited to bring it to our middle schools,” Romero said. “Teachers have been very engaged. It’s been a long time since teachers are so excited by new curriculum and what it can do for student potential.

Indeed, the teachers are certainly on board.

“I think it’s going to promote a lot more interest in science and (science, technology, engineering and math) so that later in their educational careers, they will have a desire to want to learn more,” Smithson said. “Learn more than what they can learn here, which is the goal.”

The sixth grade boxes focus on mechanical and measurements, seventh grade focuses on optics and eighth grade on electrical and circuits, Romero said, but Physics in a Box successfully integrates the underlying math behind the science to provide a basis for students as they progress.

“The impact of the boxes will help enhance the elegance of Algebra 1 as they move into high school and will give them the ability to become more proficient and increase their math skills,” she said. “Recently in education, we have been using more project-based learning and hands on. And this definitely has unlimited potential for students to just learn by doing. That’s what we want. We want our kids to be engaged. The future is science and technology and we want our students to be prepared. This will give our students a head start into the science fields and technology fields. Maybe we can have a hand in training future physicists and scientists in our world.”