

## Warminster students get irrational on Pi Day

By Clayton Walsh, correspondent | Posted: Monday, March 14, 2016 6:00 pm

For fifth-grade teacher Joseph W. Pisacano at McDonald Elementary School in Warminster, Monday morning was as good a time as any to talk to the class about being irrational.

With some students playing with slices of pepperoni and shredded cheese at their desks while others wrapped round objects with cloth rulers, Pisacano knew he needed to convince everyone that some things in life just never end.

This was Pi Day after all. As he tends to do, Pisacano took March 14 as an opportunity to illustrate a 4,000-year-old concept and 2,200-year-old calculation while trying to create a lasting impression.

“My goal is to make learning a lifelong memory,” said Pisacano as students measured small, fresh out-of-the-oven pizzas at their seats amid the fun of getting to have greasy fingers and eating in class. “They need to know how to learn.”

An irrational number and a staple in geometry and introductory algebra, the calculation of a circle’s circumference divided by its diameter can easily become a topic that students might tune out.

With signs urging students to “Have an Irrational Day” hanging around the room, Pi Day gave Pisacano a chance to offer up something a little different, and students seemed excited to discuss a number that, when calculated, goes on forever. To a fifth-grader, wrapping their minds around infinity can be fun, especially with a mouthful of pizza.

“I don’t think there are many other numbers like it,” said 10-year-old Emma Castellano.

Cole Evans, who sits at the desk next to Castellano, shared her enthusiasm for their irrational experience.



McDonald Elementary School fifth-grade teacher Joseph Pisacano (left) assists his students (from left) Giovanna Panno, Sophia Nabuhotny and Adeline DiPaolo with placing place pizza onto a cooking sheet after demonstrating how to make pizzas Monday, March 14, 2016, at the Warminster school during National Pi Day. Students made a “pizza pi” while preparing for the upcoming PSSA math test. Teacher and students used the often misunderstood number pi while creating pizza from the stretching of dough to the addition of toppings and taking measurements of their creation. March 14, or  $(3/14)$ , is celebrated as Pi Day, in honor of the number pi (3.14), which is the numerical value of the ratio of the circumference of a circle to its diameter.

“We’ve been studying it since Friday, and it’s easy to get the hang of it,” said Evans, measuring a slice of pepperoni.

The trick of the pizza, Pisacano told students, was that the circumference of their pies was larger before going into the oven than it was coming out. This ratio of the diameter to circumference, as is the case in every measurement of pi, never changes, no matter the size of the circle.

“We want the kids to understand what pi means, and how it is derived,” said Pisacano.

Pisacano makes a habit out of turning the potentially mundane into an exciting experience during class time. Annual events like Pilgrim Fest, Mardi Gras, Earth Day and trout releases, during which the class raises several hundred minnows before returning them to streams, are all popular and often draw students from other classes.

Pi Day was another chance to turn the tables and give students a taste of math lessons to come. Discussing how pi applies to science, math and physics with associated measurements of radius, chord, area, acceleration and speed provided yet another opportunity for the students to dig into geometric and algebraic concepts that will undoubtedly pop up down the road.

Impressed by the number, 10-year-old Emily Figueroa Yanes echoed the classroom consensus of appreciation for something that never ends.

“Pi is really, really long, and it goes on forever,” said Yanes. “This is the only number we are taught that’s like that. Mr. Pisacano makes everything interesting.”

So as Pisacano, decked out in a chef hat, tie-dye pants and an apropos Rensselaer Polytechnical Institute sweatshirt, prompted the class through their measurements, he explained the joy of receiving feedback from older students through the years who have written to him with recollections of their time in class.

“Some of this stuff, for the kids, it becomes a long-term memory. I’m glad my illustrations can help them remember this stuff forever,” said Pisacano. “Once they start explaining it to other people, I know they have got it.”

Also impressed 10-year-old Emma Ferguson acknowledged that pi definitely deserved a day all its own.

“This number never stops, which probably makes it the largest number in the world. It’s an important number, that’s probably why it got its own Greek letter,” said Ferguson.