



Madeira Board of Education, 7465 Loannes Drive, Cincinnati, OH 45243
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Madeira Middle Schooler Combines Science and Music

Student musicians in Madeira Middle School (MMS) band's trumpet section have colorful and unique new mouthpieces thanks to the volunteer efforts of one of its members.

The mouthpieces were made through 3D printing - the process of taking a digital model and constructing a three-dimensional object by laying down multiple layers of material. Sixth grade MMS student Jakob Robertson is interested in the process, and wanted to create a 3D mouthpiece for his trumpet. "I came up with this idea one day sitting down practicing my trumpet and I thought about how fun it would be to print my own mouthpiece," Jakob explained. "I then thought of the idea to bring a lot to my trumpet class and then it just went uphill from that."

His process involved the memory drive from his computer, orange and white printing filaments, and his Monoprice Cadet 3D printer. He printed them in batches of six, with each batch taking approximately five hours. He has printed close to 50 mouthpieces for his fellow trumpeters.

Madeira Middle School and Madeira High School Assistant Band Director Ryan Ervin was impressed that Jakob made the cross-curriculum connection with his educational interest. "Jakob reached out to us wanting to know if he could make his fellow trumpet players a 3D printed mouthpiece and we thought it was a very cool idea," Ervin stated. "The 6th Grade Band is set to perform a piece of music called "Creepy Crawlies" for their upcoming Spring Concert. The trumpet section will be acting as our "Creepy Crawlies" using the 3D printed mouthpieces to imitate buzzing bug sounds."

Jakob likes playing soccer and basketball, coding, and running – but thanks to this particular hobby his creations will have a role on stage when his middle school band performs this spring.

Pictured (l to r) Jakob Robertson and Ryan Ervin with trumpets sporting two of the new 3D printed mouthpieces

