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WKU's Week of STEM sparks inspiration for teachers

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Picture this: You're a middle school science teacher searching for ways to get your students interested in studying physics. You have an idea for a long-term project that your students can really dig into, but ... coming up with the funding is a stumbling block.

Enter The National STEM Scholar Program. The annual summer initiative has brought dozens of middle school science teachers to Western Kentucky University's campus over the years for a week of "hands-on, minds-on" experiments and projects, insights from renowned leaders in STEM education and collaboration with other teachers from across the country.

"How do you take an idea and make it into something that's engaging, hands-on learning for students?" said WKU Biology Professor Kerrie McDaniel, posing the central question behind the program's Challenge Project, which tasks each participating teacher with implementing a self-designed project in their classroom.

Each STEM Scholar receives a Chromebook and funding made possible by the National Stem Cell Foundation to make their dream project possible. The STEM Scholars get

the support they need to bring their project to life, along with the opportunity to present the results at a National Science Teaching Association conference the following year.

Melissa Chesterfield, who teaches in Shelbyville, is among this year's class of STEM Scholars. Through her Challenge Project, Chesterfield aims to help her middle school students wrap their heads about how heat circulates, an abstract yet bedrock physics concept.

Chesterfield's students will prototype ways to maximize or minimize heat transfer and then study the result with special cameras that can detect thermal energy, according to her project's description on the National Stem Cell Foundation's website. The idea is to enable students to see how the energy moves and articulate whether their project design was successful or not.

"In my experience teaching this concept, I've realized there are many misconceptions around what happens when something cold comes in contact with something warm," Chesterfield said of her project. "Many students are blown away to realize that cold is just the absence of heat. They have a hard time understanding how heat is lost or transfers away from warm things into the cold."

Launching on Memorial Day, McDaniel said this year's STEM Scholars program was a week of inspiration for teachers, who are no doubt fed up with online classes and eager to get back to their classrooms and students.

“They all said they left energized,” McDaniel said, adding she gets as much out of the experience as her students. “I learn as much from the teachers as they learn from me.”

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